

Department of  
Homeland Security

United States  
Coast Guard

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# Food Service Specialist, Third Class Performance Qualification Guide



## Sanitation and Safety Student Pamphlet

U.S. Coast Guard  
Pamphlet No. P35103  
(05/05)



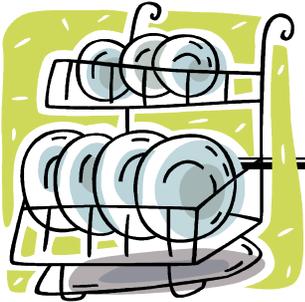
# **Sanitation and Safety**

**Creation Date: April 1986**

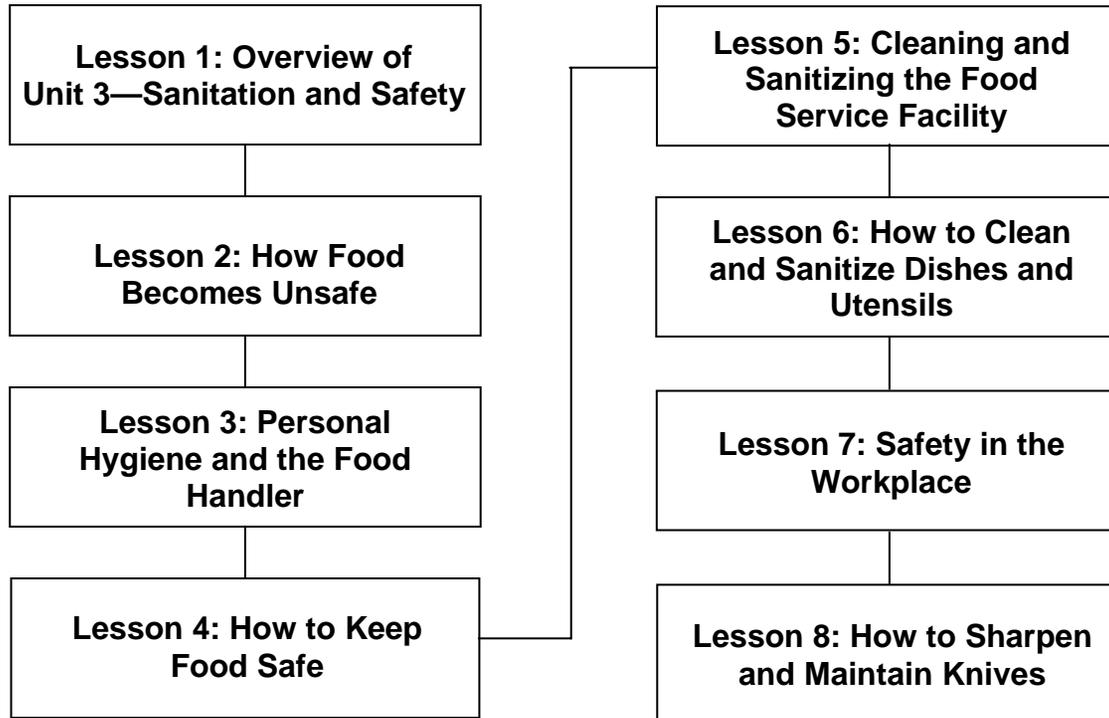
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**QUESTIONS ABOUT THIS TEXT SHOULD BE  
ADDRESSED TO THE SUBJECT MATTER SPECIALIST  
FOR THE FOOD SERVICE RATING.**



# Unit 3: Sanitation and Safety



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# LESSON 1

## Overview of Unit 3—Sanitation and Safety

### Introduction

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**Overview**

Lesson 1 of Unit 3 “sets the stage” for the other lessons of Unit 3. It introduces the terminology, tools and references used for learning about sanitation and safety in food service.

This section of the lesson includes:

- Performance qualifications
  - Objectives
  - Performance evaluations
  - Tools and references
  - Topics covered by this lesson
- 

**Performance Qualifications**

There are no Enlisted Performance Qualifications (EPQs) for this lesson. Refer to the “Unit Preview” section for the EPQs for this unit.

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**Objectives**

Upon completion of this lesson, you will be introduced to the:

- Unit structure
  - Lesson contents
  - Enlisted Performance Qualifications that are covered in the unit
- 

**Performance Evaluations**

This lesson does not require a Performance Evaluation. However, a Performance Evaluation is required for Lessons 4, 5, 6, and 8. Refer to the “Unit Preview” section for the Performance Evaluations for this unit.

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**Tools and References**

The following tools and references are required to successfully complete this unit:

- Food Service Sanitation Manual, COMDTINST M6240.4 (series) [http://cgweb.uscg.mil/q-c/q-ccs/q-cit/q-cim/directives/CIM/CIM\\_6240\\_4A.pdf](http://cgweb.uscg.mil/q-c/q-ccs/q-cit/q-cim/directives/CIM/CIM_6240_4A.pdf)
- Professional Cooking*, by Wayne Gisslen

Continued next page

## Introduction, continued

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### Tools and References, contd.

- ❑ Armed Forces Recipe Service (AFRS), NAVSUP Publication 7
  - ❑ Coast Guard Food Service Manual, COMDTINST M4061.5 (series)  
[http://cgweb.uscg.mil/G-C/G-CCS/G-CIT/G-CIM/DIRECTIVES/CIM/CIM\\_4061\\_5.pdf](http://cgweb.uscg.mil/G-C/G-CCS/G-CIT/G-CIM/DIRECTIVES/CIM/CIM_4061_5.pdf)
  - ❑ Food Service Management Manual, NAVSUP P-486, Appendices K and N
  - ❑ Student Pamphlet for Unit 3
  - ❑ Unit 1, Appendix C, Glossary of Key Terms
  - ❑ Handouts
- 

### Topics Covered by This Lesson

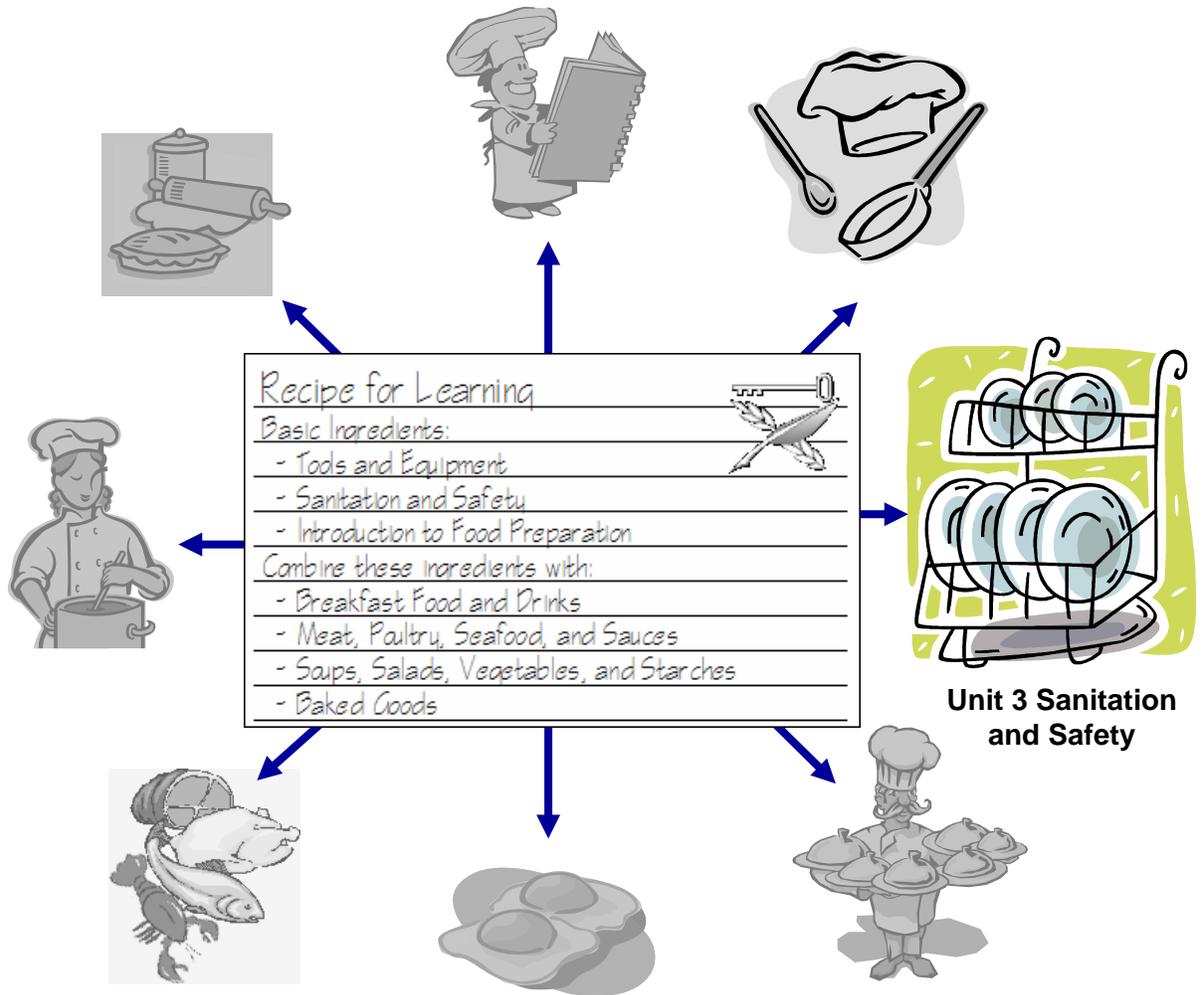
This lesson covers the following topics:

- ❑ Recipe for learning
  - ❑ Unit preview
    - Unit overview
    - Unit map
    - Enlisted Performance Qualifications
    - Unit matrix
-

# Recipe for Learning

## Recipe for Learning

This unit introduces sanitation and safety procedures. It is the third of the basic ingredients called for in the Recipe for Learning.



## Unit Preview

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### Unit Overview

This unit is divided into eight lessons and will introduce you to:

- How food becomes unsafe
- Personal hygiene and the food handler
- How to keep food safe
- Cleaning and sanitizing the food service facility
- Cleaning and sanitizing dishes and utensils
- Safety in the workplace
- Sharpening and maintaining knives

As an FS3, you will need to be able to keep yourself and the food you prepare safe; you will need to keep the equipment and the facilities you use clean and sanitary; and you will need to maintain the tools and equipment you use.

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### Unit Map

The table below summarizes the content of the lessons of this unit.

| THE LESSONS OF UNIT 3 |                                       |                                                                                                                                                                                                                                                              |
|-----------------------|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NO.                   | TITLE                                 | DESCRIPTION                                                                                                                                                                                                                                                  |
| 1.                    | Overview of Unit 3                    | This lesson provides an overview of the entire unit, the “big picture” of sanitation and safety in food service.                                                                                                                                             |
| 2.                    | How Food Becomes Unsafe               | In this lesson, you will learn about: <ul style="list-style-type: none"> <li>• The dangers and costs of unsafe foods</li> <li>• Food safety factors such as time-temperature abuse and cross-contamination</li> <li>• Potentially hazardous foods</li> </ul> |
| 3.                    | Personal Hygiene and the Food Handler | In this lesson, you will learn about: <ul style="list-style-type: none"> <li>• How food may be contaminated by food handlers</li> <li>• Personal hygiene practices</li> <li>• Health and safety standards</li> </ul>                                         |
| Continued next page   |                                       |                                                                                                                                                                                                                                                              |

## Unit Preview, continued

### Unit Map, contd.

| NO. | TITLE                                             | DESCRIPTION                                                                                                                                                                                                                                                            |
|-----|---------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4.  | How to Keep Food Safe                             | In this lesson you will learn how to handle food in a manner that keeps it safe. This includes: <ul style="list-style-type: none"> <li>• Safe serving temperatures</li> <li>• Storing leftover food</li> </ul>                                                         |
| 5.  | Cleaning and Sanitizing the Food Service Facility | In this lesson you will learn about methods for cleaning and sanitizing the food service facility. This includes: <ul style="list-style-type: none"> <li>• Identifying areas that need cleaning</li> <li>• Matching tools and equipment with cleaning needs</li> </ul> |
| 6.  | How to Clean and Sanitize Dishes and Utensils     | In this lesson you will learn how to clean and sanitize dishes and utensils. This includes: <ul style="list-style-type: none"> <li>• Dinnerware</li> <li>• Pots, pans, and containers</li> <li>• Tools and equipment</li> </ul>                                        |
| 7.  | Safety in the Workplace                           | In this lesson you will learn about workplace safety, including: <ul style="list-style-type: none"> <li>• How to recognize unsafe conditions</li> <li>• How to respond to unsafe conditions</li> </ul>                                                                 |
| 8.  | How to Sharpen and Maintain Knives                | In this lesson you will learn how to sharpen and maintain knives. This includes the three most commonly used knives: <ul style="list-style-type: none"> <li>• The chef's knife</li> <li>• The boning knife</li> <li>• The paring knife</li> </ul>                      |

## Unit Preview, continued

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### Enlisted Performance Qualifications

Enlisted performance qualifications for this unit are listed below. Following this section is a Unit Matrix, which depicts the EPQs and their respective lessons.

**4.B.01 Maintain** safe serving temperatures utilizing the following IAW the Food Service Sanitation Manual, COMDTINST M6240.4 (series) and Food Service Management General Messes, NAVSUP Publication 486:

- Steam Table
- Chilled Salad Bar

**4.B.02 Maintain** the following knives using a sharpening stone and steel IAW “Professional Cooking” by Wayne Gisslen:

- Chef’s knife
- Boning knife
- Paring knife

**4.C.01 Store** leftover food IAW the Food Service Sanitation Manual, COMDTINST M6240.4 (series).

**4.C.02 Clean/Sanitize** all food and non-food contact surfaces within food service spaces IAW Food Service Sanitation Manual, COMDTINST M6240.4 (series).SupGuide: Ensure trashcans are included while performing this task.

**4.C.03 Wash** dishes utilizing a dishwashing machine IAW the Food Service Sanitation Manual, COMDTINST M6240.4 (series) and Food Service Management General Messes, NAVSUP Publication 486.SupGuide: The member will assemble operate, de-scale, and disassemble the dishwashing machine.

**4.C.04 Wash** dishes utilizing manual dishwashing procedures IAW the Food Service Sanitation Manual, COMDTINST M6240.4 (series) and Food Service Management General Messes, NAVSUP Publication 486.

**4.C.05 Clean/Sanitize** ice machines IAW Food Service Sanitation Manual, COMDTINST M6240.4 (series) and Food Service Management General Messes, NAVSUP Publication 486.

**4.C.06 Clean/Sanitize** reefers/freezers IAW Food Service Sanitation Manual, COMDTINST M6240.4 (series) and Food Service Management General Messes, NAVSUP Publication 486.

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## Unit Preview, continued

### Unit Matrix

This unit covers eight EPQs. For your convenience, the matrix below will help you to identify the lessons in which these EPQs are addressed. Every lesson that introduces an EPQ also contains a Performance Evaluation for that EPQ. Those lessons that are not marked introduce critical information required for the performance of EPQ tasks in other lessons.

| EPQ'S FOR UNIT 3                            |          |          |          |          |          |          |          |          |
|---------------------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|
| EPQs                                        | LESSON 1 | LESSON 2 | LESSON 3 | LESSON 4 | LESSON 5 | LESSON 6 | LESSON 7 | LESSON 8 |
| 4.B.01<br>(SERVING<br>TEMPERATURES)         |          |          |          | X        |          |          |          |          |
| 4.B.02<br>(MAINTAIN<br>KNIVES)              |          |          |          |          |          |          |          | X        |
| 4.C.01<br>(STORE<br>LEFTOVERS)              |          |          |          | X        |          |          |          |          |
| 4.C.02<br>(CLEAN AND<br>SANITIZE)           |          |          |          |          | X        |          |          |          |
| 4.C.03<br>(MECHANICAL<br>DISHWASHING)       |          |          |          |          |          | X        |          |          |
| 4.C.04<br>(MANUAL<br>DISHWASHING)           |          |          |          |          |          | X        |          |          |
| 4.C.05<br>(ICE MACHINES)                    |          |          |          |          | X        |          |          |          |
| 4.C.06<br>(REFRIG-<br>ERATORS/<br>FREEZERS) |          |          |          |          | X        |          |          |          |

## Lesson Summary

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### Summary

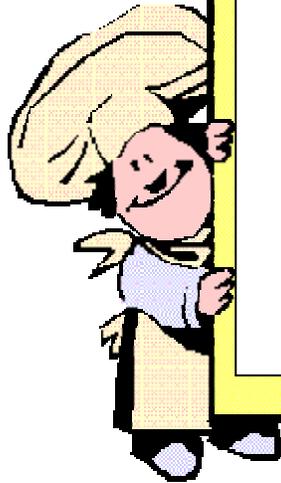
Having completed this lesson, you have learned about the:

- Unit structure
  - Lesson contents
  - EPQs covered in Unit 3
- 

### Next in this Unit

Following this lesson, you will learn about how food becomes unsafe. Specifically, you will learn to:

- Identify the microorganisms that can cause foodborne illness or food spoilage
- Identify the foodborne illnesses that can result from biological contamination
- Recognize the types of chemical and physical contamination



## LESSON 2

### How Food Becomes Unsafe

#### Introduction

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##### Overview

In this lesson you will learn about microorganisms, such as bacteria, and the diseases they cause. In addition, you will learn about common food contaminants, including biological, chemical, and physical food hazards.

You will use the information learned from this lesson in other lessons of Unit 3 as you learn to clean and sanitize the work environment. You will also use it in Units 5–8 as you learn to prepare and serve food.

This section of the lesson includes:

- Objectives
- Tools and References
- Recommended Reading
- Topics Covered by This Lesson

There are no Enlisted Performance Qualifications (EPQs) for this lesson.

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##### Objectives

Upon completion of this lesson, you will:

- Identify the microorganisms that can cause foodborne illness or food spoilage.
  - Identify the foodborne illnesses that can result from biological contamination.
  - Recognize the types of chemical and physical contamination.
- 

##### Tools and References

References for this lesson include:

- Professional Cooking*, by Wayne Gisslen
  - Food Service Sanitation Manual, COMDTINST M6240.4A
  - NAVSUP P-486 – Food Service Management
  - Unit 1, Appendix C, Glossary of Key Terms
-

## Introduction, continued

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### Recommended Reading

To get the most out of this lesson, be sure to read the following:

- ❑ *Professional Cooking*, “Sanitation and Safety” (Chapter 2).
- 

### Topics Covered by This Lesson

This lesson covers the following topic areas:

- ❑ Microorganisms
  - ❑ Foodborne illness
  - ❑ Foodborne illness tables
    - Intoxications
    - Infections
  - ❑ Foodborne contamination
-

## Microorganisms

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### Overview

This section will help you learn about microorganisms. The section includes:

- What are microorganisms?
  - Kinds of bacteria
  - Conditions for bacterial growth
  - Barriers to bacterial growth
  - Time-temperature abuse
  - Viruses
  - Parasites
  - Fungi
  - A case study for your consideration
- 

### What Are Micro-organisms?

Microorganisms are small, single-celled living beings that can only be seen with a microscope. They are carried by food, water, humans, and insects, and can reproduce rapidly under the right conditions. They are the most prevalent type of biological food hazard.

There are four groups of microorganisms that can contaminate food and cause illness.

- Bacteria
  - Viruses
  - Parasites
  - Fungi
- 

### Kinds of Bacteria

There are many different kinds of bacteria. In food service work, we classify these into four different kinds:

- Harmless bacteria
- Beneficial bacteria
- Undesirable bacteria
- Disease-causing bacteria, or pathogens

Continued next page

## Microorganisms, continued

### Kinds of Bacteria, contd.

The table below describes these four kinds of bacteria.

| <b>KINDS OF BACTERIA</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>TYPE</b>              | <b>DESCRIPTION</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Harmless                 | This type of bacteria is neither helpful nor harmful to us. We are not concerned with this type of bacteria in food service. Most bacteria fall into this category.                                                                                                                                                                                                                                                                                                                                         |
| Beneficial               | This type of bacteria is helpful to us. Many of this type live in our intestinal tracts, where they fight harmful bacteria, aid in digestion, and produce nutrients. This type of bacteria makes possible foods such as yogurt and cheese.                                                                                                                                                                                                                                                                  |
| Undesirable              | <p>This type of bacteria causes food spoilage. These bacteria may or may not cause disease, but they announce their presence loudly. The food is discolored, the texture changes, or it smells; sometimes all three indications are present.</p> <p>Food spoilage costs money, and it is a sign that the food hasn't been properly handled. This makes it more likely for bacteria from the next group, disease-causing bacteria, to be present.</p>                                                        |
| Disease-Causing          | <p>This type of bacteria, also known as pathogens, is the most dangerous type. Eating food contaminated with bacteria or their toxins is the leading cause of foodborne illness. Unfortunately, pathogens cannot be seen, smelled, or tasted in food. Here is a partial list disease-causing bacteria:</p> <ul style="list-style-type: none"> <li>■ Staphylococcus</li> <li>■ Botulism</li> <li>■ Clostridium Perfringens</li> <li>■ Salmonellosis</li> <li>■ Listeriosis</li> <li>■ Shigellosis</li> </ul> |

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## Microorganisms, continued

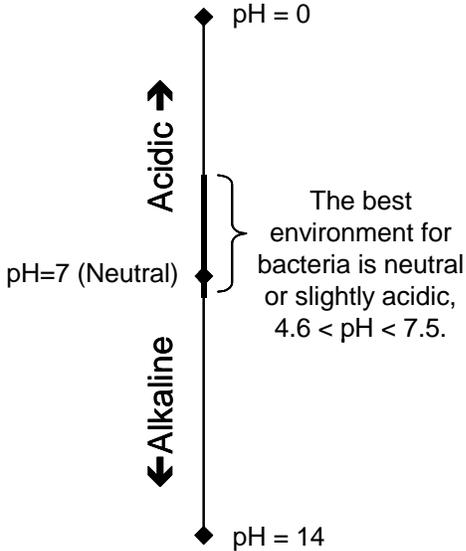
### Kinds of Bacteria, contd.

To control bacteria we need to understand the conditions in which they grow and multiply. The next section will help you understand these conditions.

### Conditions for Bacterial Growth

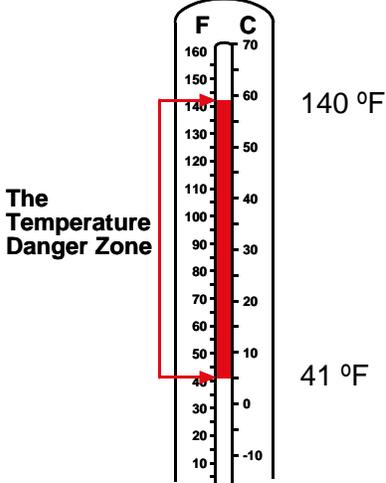
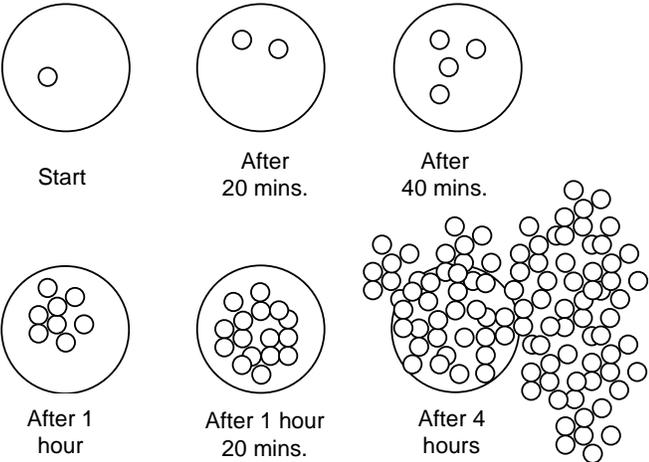
Bacteria multiply by splitting in half. Under ideal conditions for growth, they can double in number every twenty minutes. That’s an astounding speed. Consider this: in about 6 hours (roughly the time it takes to drive from San Francisco to Los Angeles) one bacterium can multiply to over a million.

To help you remember the conditions that encourage growth of bacteria, you can use the acronym FATTOM. It stands for Food, Acidity, Temperature, Time, Oxygen, and Moisture.

| CONDITIONS FOR BACTERIAL GROWTH   |                                                                                                                                                                                                                           |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CONDITION                         | DESCRIPTION                                                                                                                                                                                                               |
| Potentially Hazardous Foods (PHF) | Bacteria require some sort of food in order to grow. They need nutrients, specifically proteins and carbohydrates. Potentially Hazardous Foods (PHFs)—meats, poultry, fish, eggs, etc.—contain these necessary nutrients. |
| Acidity                           | <p>Harmful bacteria prefer a neutral or slightly acidic environment. They grow well when the pH is between 4.6 and 7.5.</p>           |
| Continued next page               |                                                                                                                                                                                                                           |

### Microorganisms, continued

**Conditions for Bacterial Growth, contd.**

| CONDITION           | DESCRIPTION                                                                                                                                                                                                                                                              |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Temperature         | <p>Most bacteria grow best in the Temperature Danger Zone (TDZ) between 41 °F and 140 °F.</p>                                                                                          |
| Time                | <p>Bacteria can double their population every twenty minutes. If a PHF remains in the TDZ for four hours or more, pathogens can grow to levels high enough to make someone ill.</p>  |
| Continued next page |                                                                                                                                                                                                                                                                          |

## Microorganisms, continued

| Conditions for Bacterial Growth, contd. | CONDITION | DESCRIPTION                                                                                                                                                                                                               |
|-----------------------------------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                         | Oxygen    | Some bacteria need oxygen to grow; they are called aerobes. Others cannot tolerate oxygen at all. Some can grow with or without the presence of oxygen; they are called facultative germs.                                |
|                                         | Moisture  | Bacteria need a certain level of moisture to grow. The amount of water available for germ growth in food is called water activity, or $A_w$ . Bacteria need at least $A_w$ of 0.85.<br><br>$A_w$ of distilled water = 1.0 |

### Barriers to Bacterial Growth

If we can control some of these six conditions in our food-making process, then we can lessen the chances of foodborne illness outbreaks occurring.

Here is a list of barriers that can limit the growth of microorganisms.

- Make the food more acidic
- Lower the water activity
- Raise or lower the temperature of the food
- Lessen the time in the TDZ

We have the most control over the last two. We can adjust cooking temperatures and reduce the time we hold food. Doing this will reduce the amount of pathogenic bacteria that can contaminate food.

### Time-Temperature Abuse

Food has been time-temperature abused any time it has been allowed to remain too long in a state favorable to the growth of foodborne microorganisms.

A foodborne illness can result if food:

- Is not held or stored at the required temperature
- Is not cooked or reheated to temperatures that kill microorganisms.
- Is not cooled properly.
- Is prepared a day or more in advance.

Continued next page

## Microorganisms, continued

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### Time-Temperature Abuse, contd.

One of the keys to food safety is controlling time and temperature throughout the flow of food.

***No more than 4 hours TOTAL in the TDZ***

Food should not be in the temperature danger zone more than four hours. This includes the time you spend unloading and storing the food, the time it sits on the counter waiting to be prepared, and the time it is being served. As you go through your lessons you will learn techniques to carefully manage this time.

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### Viruses

While bacteria are the most dangerous of the microbial contaminants, viruses are the smallest. They are not a complete cell and cannot reproduce by themselves. They rely on a living host. Once in a human host they can reproduce abundantly. Food only serves as a transport that moves them from person to person. Viruses usually contaminate food through a foodhandler's improper personal hygiene. They may be able to survive freezing and cooking.

Practicing good personal hygiene is an important way to prevent the contamination of food by foodborne viruses.

Minimize bare-hand contact with ready-to-eat food.

Hepatitis A and Norovirus Gastroenteritis are examples of viruses that cause foodborne illness.

Key points about viruses:

- They cannot reproduce outside a living cell.
  - They do not require a potentially hazardous food (PHF) to be transmitted.
  - They usually contaminate food through poor personal hygiene.
  - They may survive freezing and cooking.
  - They contaminate food and water.
- 

### Parasites

Parasites are organisms that feed and grow off a living host inside or outside the body. They grow naturally in many animals and can be transmitted to humans. A tick is an example of a parasite, as it feeds externally off the blood of an animal. Trichinosis and Anisakiasis are two foodborne illnesses caused by parasites.

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## Microorganisms, continued

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### Fungi

Fungi range in size from a single cell organism to large multicellular organisms. Molds can be seen with the naked eyes as a fuzzy growth. They cause food spoilage and sometimes produce toxins that can cause illness. Some good molds are used in making cheese.

Yeasts require sugar for survival. They may appear as a pink slime in food like cottage cheese and can have a recognizable alcoholic smell. Yeast is a fungi also used in making bread.

Fungi are responsible for food spoilage and do not usually cause foodborne illness in the same way as bacteria and viruses.

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### A Case Study for Your Consideration

Consider this story and how you might respond to minimize the growth and spread of microorganisms:

Chef Étouffée is new to her craft and is preparing to make Chicken Cordon Bleu for 250 people. She's come to you for advice. She has 250 portions of chicken breast to butterfly. This is likely to take her about two hours. She then has to lay a piece of ham and a slice of cheese on each chicken breast and then bread it. This is likely to take her an additional two hours...and all this before she can start cooking. You note that if she prepares the chicken in this manner it will have been out in the TDZ for roughly four hours before it's cooked and served. Given what you know so far about microorganisms, what recommendations can you make to help her prevent the growth and spread of bacteria?

Write your recommendations here, and then turn to the end of the lesson to compare your response to an expert's opinion.

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## Foodborne Illness

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### Overview

This section covers the following:

- What is a foodborne illness?
  - Classifying foodborne illnesses
  - Foodborne illness tables
  - Foodborne intoxications table
  - Foodborne infections table
  - Summary of prevention methods
- 

### What is a Foodborne Illness?

A foodborne illness is an illness acquired as the result of the consumption of contaminated foods. Foodborne illness is caused by consuming food contaminated with pathogenic bacteria, toxins, viruses, or parasites. This kind of contamination usually arises from improper handling, preparation, or storage of food. Foodborne illness can also be caused by adding pesticides to food, or by accidentally consuming naturally poisonous substances like poisonous mushrooms or reef fish. Contact between food and pests, especially flies, rodents, and cockroaches, is a further cause of contamination of food.

See the following sections for details on some of the most common foodborne illnesses.

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### Classifying Foodborne Illness

Foodborne illnesses can be divided into two different types: infections and intoxications. See the table below for further explanation of these.

| <b>CLASSIFYING FOODBORNE ILLNESS</b> |                                                                                                                                                                                                        |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>TYPE</b>                          | <b>DESCRIPTION</b>                                                                                                                                                                                     |
| Infection                            | <p>A person eats food containing a pathogen, and the pathogen grows in the intestinal tract, making the person ill.</p> <p>Symptoms may take a few days to appear.</p>                                 |
| Intoxication                         | <p>The pathogen in the food gives off toxins as the pathogen grows. A person gets ill, not from the microorganism, but from the toxin that is produced.</p> <p>Symptoms appear within a few hours.</p> |

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## Foodborne Illness, continued

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### Foodborne Illness Tables

The next few pages list some of the most common foodborne illnesses and what you can do to prevent them. This content is divided into two tables:

- ❑ Foodborne intoxications
- ❑ Foodborne infections

Intoxications are caused by poisons (toxins) the bacterium produce while growing in food. It is the poisons, not the bacteria themselves, which cause the illnesses. Names of intoxications are often followed by the phrase *food poisoning*.

Infections are caused by the bacterium (or other organisms) that get into the intestinal system and attack the body.

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### Foodborne Intoxications Table

The table on the next few pages describes the following foodborne intoxications:

- ❑ *Bacillus cereus*
- ❑ Botulism
- ❑ *Clostridium perfringens*
- ❑ *Escherichia coli* / *E. coli*
- ❑ Staphylococcus (Staph)
- ❑ *Vibrio parahaemolyticus*

One of the diseases in this table, *Escherichia coli* also known as *E. coli*, can be both an intoxication and an infection.

For more on these, refer to *Professional Cooking* and *NavSup P 486*, pp. N-4 – N-10. (Sources used for creation of this table include *Professional Cooking*, *NavSup 486*, and publications available through the Department of Health and Human Services, Centers for Disease Control and Prevention (<http://www.cdc.gov>)).

Continued next page

## Foodborne Illness, continued

**Foodborne  
Intoxications  
Table, contd.**

| <b>FOODBORNE ILLNESSES (INTOXICATIONS)</b>                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>ILLNESS</b>                                             | <b>DESCRIPTION</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <i>Bacillus cereus</i><br>Food Poisoning<br>(intoxication) | <p>Symptoms: <i>B. cereus</i> has two forms, (1) an emetic form with severe nausea and vomiting, and (2) a diarrheal form with abdominal cramps and diarrhea.</p> <p>Sources of bacteria: Cooked (fried) rice is the most common source. Often caused by inadequate refrigeration and subsequent reheating of foods that have already been cooked.</p> <p>Foods most usually involved: Rice (particularly fried rice), vegetables, and meat dishes.</p> <p>Incubation time: 30 minutes to 6 hours where vomiting is the symptom, 6 to 16 hours where diarrhea is the symptom.</p> <p><b>Prevention: Good personal hygiene with frequent handwashing, as well as careful use of time-temperature control when holding, cooling, and reheating.</b></p> |
| Botulism<br>(intoxication)                                 | <p>Symptoms: Attacks the nervous system and is usually fatal; classic symptoms include double vision, blurred vision, drooping eyelids, slurred speech, difficulty swallowing, dry mouth, and muscle weakness.</p> <p>Sources of bacteria: Soil on vegetables and other foods</p> <p>Foods usually involved: Home-canned vegetables, fruits, meats, baked potatoes, pot pies, usually low acid or alkaline.</p> <p>Incubation time: 12 to 36 hours, usually 18 to 36 hours.</p> <p><b>Prevention: Use only commercially canned foods. Discard <i>without tasting</i> any bulged or damaged cans or foods with off odors.</b></p>                                                                                                                      |
| Continued next page                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

## Foodborne Illness, continued

| Foodborne Intoxications Table, contd. | ILLNESS                                                                     | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------------------------|-----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                       | <p><i>Clostridium perfringens</i> Food Poisoning (intoxication)</p>         | <p>Symptoms: Nausea, cramps, stomach pain, and diarrhea.</p> <p>Sources of bacteria: Soil, fresh meats, and human carriers.</p> <p>Foods usually involved: Meats and poultry, stews, meat pies, reheated or unrefrigerated gravies and sauces. These bacteria are hard to destroy because cooking does not always kill them.</p> <p>Incubation time: 8 to 22 hours, usually 10 to 12 hours</p> <p><b>Prevention: Use careful time-temperature control when holding, cooling, and reheating—keep foods hot (above 140 °F) or cold (below 41 °F).</b></p>                                                                                                                                                                                                                                      |
|                                       | <p><i>Escherichia coli</i> / <i>E. coli</i> (intoxication or infection)</p> | <p>Symptoms: Severe illness. When present as intoxication, symptoms include abdominal pain, nausea, vomiting, diarrhea, and other symptoms. As an infection, symptoms include intestinal inflammation and bloody diarrhea.</p> <p>Sources of Bacteria: Intestinal tracts of humans and some animals, especially cattle; contaminated water.</p> <p>Foods usually involved: Raw or undercooked red meats, unpasteurized dairy products, sometimes fish from contaminated water, prepared foods such as mashed potatoes and cream pies.</p> <p>Incubation time: 1 to 10 days</p> <p><b>Prevention: Cook foods, including red meats, thoroughly; avoid cross-contamination. Practice good hygiene.</b></p> <p><b>Note:</b> You will learn more about cross-contamination in future lessons.</p> |
| Continued next page                   |                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

## Foodborne Illness, continued

### Foodborne Intoxications Table, contd.

| ILLNESS                                               | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Staphylococcus Food Poisoning (intoxication)          | <p>Symptoms: This is a common type of food poisoning characterized by nausea, vomiting, stomach cramps, diarrhea, and prostration.</p> <p>Source of bacteria: Usually food workers.</p> <p>Foods usually involved: Cream-filled pastries, custards, and desserts made with dairy products, potato salad, protein salads, meats, and meat products, hollandaise sauce, and many other high-protein foods.</p> <p>Incubation time: 1 to 7 hours, usually 2 to 4 hours</p> <p><b>Prevention: Practice good hygiene and work habits. Do not handle foods if you have an illness or infection. Clean and sanitize all equipment. Keep foods hot (above 140 °F) or cold (below 41 °F).</b></p> |
| Vibrio Parahaemolyticus Food Poisoning (intoxication) | <p>Symptoms: Watery diarrhea, often with abdominal cramping, nausea, vomiting, fever, and chills; can also cause an infection of the skin when an open wound is exposed to warm seawater.</p> <p>Sources of bacteria: Usually raw or undercooked shellfish, particularly oysters.</p> <p>Foods usually involved: Seafood, any food cross-contaminated with raw seafood, food rinsed with contaminated seawater.</p> <p>Incubation time: 4 to 96 hours, usually 12 to 24 hours.</p> <p><b>Prevention: Most infections can be prevented by thoroughly cooking seafood, especially oysters. Avoiding exposure of open wounds to warm seawater can prevent wound infections.</b></p>         |

## Foodborne Illness, continued

### Foodborne Infections Table

The table on the next few pages describes the following foodborne infections:

- Anisakiasis (Parasite)
- Hepatitis A (Virus)
- Listerosis
- Norwalk Virus Gastroenteritis (Virus)
- Salmonella
- Shigellosis
- Trichinosis (Parasite)

Note that the infections anisakiasis and trichinosis are caused by parasites; the infections Hepatitis A and Norwalk are caused by viruses.

| FOODBORNE ILLNESS (INFECTIONS)    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ILLNESS                           | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Anisakiasis (infection, parasite) | <p>Symptoms: Tingling sensation in the throat, vomiting up worms, abdominal pain, and nausea.</p> <p>Sources of contamination: Ocean fish, especially bottom-feeding fish.</p> <p>Foods usually involved: Raw or undercooked fish, such as cod, haddock, fluke, Pacific salmon herring, flounder, monkfish, and fish used for sashimi.</p> <p>Incubation time: A few hours to one week.</p> <p><b>Prevention: Cook fish properly. Fish to be eaten raw should be frozen at -4 °F or lower for 7 days or 31 °F or lower for 15 hours in a blast freezer.</b></p> |
| Continued next page               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

### Foodborne Illness, continued

**Foodborne Infections Table, contd.**

| ILLNESS                                                  | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Hepatitis A/<br>Viral Hepatitis<br>(infection,<br>virus) | <p>Symptoms: Jaundice, fatigue, abdominal pain, loss of appetite, nausea, diarrhea, and fever.</p> <p>Sources of contamination: Contaminated water or ice, shellfish from polluted waters, raw fruits and vegetables, milk and milk products, and infected food workers.</p> <p>Foods usually involved: shellfish eaten raw, any food contaminated by an infected person.</p> <p>Incubation time: 10 to 50 days, average 30 days.</p> <p><b>Prevention: Practice good health and hygiene. Use only certified shellfish from safe waters.</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Listeriosis<br>(infection)                               | <p>Symptoms: Fever, muscle aches, and sometimes gastrointestinal symptoms such as nausea or diarrhea. If infection spreads to the nervous system, symptoms such as headache, stiff neck, confusion, loss of balance, or convulsions can occur.</p> <p>Sources of bacteria: Soil and water; infected animals; meats and dairy products; raw foods, such as uncooked meats and vegetables; processed foods that become contaminated after processing, such as soft cheeses; unpasteurized (raw) milk or foods made from unpasteurized milk.</p> <p>Foods usually involved: Unpasteurized milk and cheese, ice cream, frozen yogurt, raw vegetables, poultry and meats, seafood.</p> <p>Incubation time: 3 to 21 days, maybe longer</p> <p><b>Prevention: Practice good personal hygiene, proper food storage and handling, and insect and rodent control. Wash hands and sanitize all equipment and cutting surfaces after handling raw poultry. Avoid unpasteurized (raw) milk or foods made from unpasteurized milk.</b></p> |
| Continued next page                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

### Foodborne Illness, continued

**Foodborne Infections Table, contd.**

| ILLNESS                                                 | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Norwalk Virus Gastroenteritis (infection, virus)</p> | <p>Symptoms: This is a disease that affects the digestive tract. Its symptoms include nausea, vomiting, stomach cramps, diarrhea, and fever.</p> <p>Sources of contamination: Human intestinal tract, contaminated water.</p> <p>Foods usually involved: Water, shellfish from polluted waters, raw vegetables, and fruits.</p> <p>Incubation time: 24 to 48 hours, usually 12 to 36 hours.</p> <p><b>Prevention: Practice good health and hygiene. Use only certified shellfish from safe waters. Use sanitary, chlorinated water. Cook foods to safe internal temperatures.</b></p>                                                                                                                                        |
| <p>Salmonella (infection)</p>                           | <p>Symptoms: Nausea, vomiting, stomach cramps, diarrhea, and prostration.</p> <p>Source of bacteria: Contaminated meats and poultry; fecal contamination by food workers.</p> <p>Foods usually involved: Poultry, meats, raw (especially cracked) eggs and egg products, poultry stuffings, gravies, raw foods, raw milk and milk products, shellfish from polluted waters. (Most poultry carry this bacterium.)</p> <p>Incubation time: 6 to 48 hours, range 12 to 36 hours.</p> <p><b>Prevention: Practice good personal hygiene, proper food storage and handling, and insect and rodent control. Wash hands and sanitize all equipment and cutting surfaces after handling raw poultry. Use certified shellfish.</b></p> |
| <p>Continued next page</p>                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

**Foodborne Illness, continued**

| <p><b>Foodborne Infections Table, contd.</b></p>      | <p><b>ILLNESS</b></p>                                           | <p><b>DESCRIPTION</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------------------------------------|-----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                       | <p>Shigellosis/<br/>Bacillary<br/>Dysentery<br/>(infection)</p> | <p>Symptoms: Diarrhea (often bloody), fever, and stomach cramps.</p> <p>Sources of bacteria: Contaminated food or water, vegetables harvested from a field with sewage in it, flies.</p> <p>Foods usually involved: Any food or water contaminated by feces from a patient or carrier. Any direct or indirect fecal-oral transmission from a patient or carrier. Water, milk, cockroach, and fly-borne transmission may occur from direct fecal contamination.</p> <p>Incubation time: 1 to 7 days, usually 1 to 3 days.</p> <p><b>Prevention: Wash hands with soap carefully and frequently, especially after going to the bathroom, and before preparing foods or beverages; use sanitary food and water sources.</b></p> |
| <p style="text-align: right;">Continued next page</p> |                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

## Foodborne Illness, continued

| Foodborne Infections<br>Table, contd. | ILLNESS                           | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------------------------------|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                       | Trichinosis (infection, parasite) | <p>Symptoms: This disease, often mistaken for the flu, can last for a year or more. It is caused by a tiny worm that becomes embedded in the muscles. Its symptoms include nausea, diarrhea, vomiting, fatigue, fever, and abdominal discomfort followed by headaches, fevers, chills, cough, eye swelling, aching joints and muscle pains, itchy skin, diarrhea, or constipation.</p> <p>Sources of contamination: infected pork from hogs that ate unprocessed garbage. Modern farming practices have eliminated most, but not all, of this problem.</p> <p>Foods usually involved: pork products.</p> <p>Incubation time: 2 to 28 days, depending on the number of larvae ingested.</p> <p><b>Prevention: Trichinosis organisms are killed if held at a temperature of 137 °F for 10 seconds. To be safe, cook all pork products to an internal temperature of at least 150 °F. Some authorities recommend an even higher temperature (165 °F).</b></p> |

### Summary of Prevention Methods

You may have noticed while reviewing the tables above that there are themes among the methods for prevention. Of these the most common are:

- Minimize the time food spends in the food temperature danger zone (TDZ).
- Cook and store food at proper temperatures.
- Practice good personal hygiene.
- Avoid cross-contamination during the food preparation process.
- Purchase foods only from known, approved sources.

## Foodborne Contamination

### Overview

Food is considered contaminated when it contains hazardous substances. The most common food contaminants are biological microorganisms, but other biological and chemical toxins are also responsible for foodborne illness. Physical hazards, while not from toxins, can also cause food to be unsafe and need to be recognized. Also food allergies, the body’s negative response to a particular food, cause problems for the millions of people who suffer from them.

In the first part of this lesson we focused on microorganisms that cause disease. Now we will discuss other food contaminants such as:

- ❑ Other biological contaminates
  - Seafood toxins
  - Mushroom toxins
- ❑ Chemical contaminants
- ❑ Physical contaminants
- ❑ Food allergens

### Other Biological Toxins

| <b>OTHER BIOLOGICAL CONTAMINANTS</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>TOXIN TYPE</b>                    | <b>DESCRIPTION</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Seafood                              | <p>Seafood toxins include ciguatera toxin, which is found in tropical reef fish, and shellfish toxins, which are found in shellfish. Toxins are produced because of the algae the fish consume.</p> <p>Scrombroid toxins found in tuna, bluefish, mackerel, skipjack, roundfish, and bonito result from time-temperature abuse.</p> <p>In general, cooking does not kill these toxins. When procuring seafood, be sure to purchase from a reputable supplier, and check the temperature of fish upon delivery. Refuse fish that has been thawed and re-frozen.</p> |
| Continued next page                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

## Foodborne Contamination, continued

### Other Biological Toxins, contd.

| TOXIN TYPE | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mushroom   | <p>Illness associated with mushrooms usually occurs when toxic species are confused with edible species by mushroom “hunters.” Cooking or freezing will not destroy the toxins.</p> <p>The toxins in mushrooms and seafood tend to attack the nervous system, resulting in symptoms such as weakness, paralysis, numbness, and tingling.</p> <p>Establishments that serve mushrooms picked in the wild should only purchase from approved suppliers.</p> |

### Chemical Contaminants

Chemicals contaminants include harmful substances such as pesticides, machine oils, cleansers, and cleaning solutions. They also include toxic metals. Poisoning may be caused by:

- ❑ Arsenic as residue of spray on fruits or vegetables
- ❑ Cadmium or zinc dissolved by acid foods such as lemonade, jello, or tomatoes on cadmium plates or galvanized pitchers or cans
- ❑ Antimony from chipped gray-enamel cooking utensils
- ❑ Copper from copper pipes and utensils
- ❑ Exposure of food and food products to insecticides or cleaning compounds

Chemical poisonings are generally are evidenced by violent nausea, vomiting, and diarrhea very shortly after ingestion.

To prevent chemical poisoning:

- ❑ Only food-grade utensils and equipment should be used to prepare and store food.
- ❑ All food should be wrapped or stored prior to application of pesticides.
- ❑ Chemicals and pesticides should be stored away from food.

## Foodborne Contamination, continued

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### Physical Contaminants

Be careful not to contaminate food with:

- Hair
  - Bones
  - Metal shavings
  - Glass, etc.
- 

### Allergies

Allergies are included in this section even though they are technically not a foodborne illness. Foods that are harmless to most people can have severe consequences for the allergy sufferer. People can have allergic reactions to:

- Nitrites (used as preservatives in meat)
- Sulfites (used as preservatives in fruits and vegetables)
- MSG (adds flavor to food)
- Peanuts
- Shrimp
- Lactose (milk)

There are other food that can cause allergic reactions but these are the common ones. Your job is to know what the ingredients are in the foods you are serving. People with allergies will ask. If you don't know, say so and suggest they order something you know is safe.

---

## Lesson Review

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**Purpose**

The intention of this exercise is to help you confirm what you have learned about microorganisms and food contaminants, the hazards they can pose, and how to prevent these hazards.

---

**Directions**

Test your knowledge of the concepts and principles of this lesson by choosing the best, most correct answer to each question below. Some questions require you to create answers or fill in blanks. There's also a short case study to review. Use the lesson material and references to assist you as necessary.

When you have finished answering the questions, compare your answers to the correct answers in the "Lesson Review Feedback" section at the end of this lesson. Note any differences between your answers and the correct ones so you can learn from them, and discuss them when you meet with your supervisor.

---

**Questions**

1. The factors required for bacterial growth include:
  - a. Food
  - b. Time
  - c. Temperature
  - d. All of the above
2. Bacteria can be found:
  - a. Everywhere
  - b. Only in spoiled items
  - c. Only in diseased persons
  - d. Only in the soil
3. How often, under ideal conditions do bacteria reproduce?
  - a. Every 20 seconds
  - b. Every 20 minutes
  - c. Every 3 hours
  - d. Every 20 hours
4. What causes foodborne illness?
  - a. Improper handling of food
  - b. Improper storage of food
  - c. Improper cooking of food
  - d. All of the above

Continued next page

## Lesson Review, continued

---

### Questions, contd.

5. Temperature is important in control of foodborne illness because:
  - a. Heat retards the growth of bacteria
  - b. Cold kills bacteria
  - c. Heat kills and cold retards bacterial growth
  - d. Bacterial is not affected by temperature
6. Foodborne microorganisms grow well at temperatures between:
  - a. 41 °F and 140 °F
  - b. 32 °F and 70 °F
  - c. 38 °F and 155 °F
  - d. 70 °F and 165 °F
7. Which of the following statements regarding foodborne intoxication is true?
  - a. Symptoms of intoxication often appear days after exposure.
  - b. Medical treatment for intoxication can be painful.
  - c. Foodborne intoxication is more common than foodborne infection.
  - d. Symptoms of intoxication appear quickly, within a few hours.
8. You have ordered frozen tuna steaks for your galley. When the delivery arrives, you notice there is excessive frost and ice in the package, which indicates they have been time-temperature abused. You refuse the delivery. Why?
  - a. You suspect the steaks may have been contaminated with a cleaning compound.
  - b. You suspect the steaks may contain ciguatera toxins.
  - c. You suspect the steaks may cause scombroid poisoning if you serve them.
  - d. You believe the supply company may have treated the steaks with an unauthorized preservative.
9. You find a piece of glass at the bottom of your ice storage bin. This is an example of:
  - a. Chemical contamination
  - b. Physical contamination
  - c. Biological contamination
  - d. All of the above

Continued next page

**Lesson Review, continued**

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**Questions, contd.**

10. Name three of the five common themes found in the methods for prevention of foodborne illnesses.

10-1.

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10-2.

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10-3.

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**Case Study Directions**

Review the case study below, and answer questions 11–14.

---

**Case Study**

A day care center is serving stir-fried rice for lunch. The rice was cooked to the proper temperature for the proper amount of time at 1300. The covered rice was then placed on the countertop and allowed to cool to room temperature. At 1800 the cook placed it in the refrigerator. At 0900 the next morning the rice was combined with other ingredients and cooked to 165 °F for at least fifteen seconds. The cook covered the stir-fried rice and left it on the range until she gently reheated it at noon. Within an hour of eating the stir-fried rice, however, several of the children began vomiting and a few had diarrhea. Samples from some of the children revealed the rice as the probable cause of the outbreak.

---

**Case Study Questions**

11. Based on the information given, was the illness caused by bacteria, a virus, a parasite, or fungi?

---

12. What is the name of the microorganism most likely to have caused the outbreak?

---

Continued next page

## Lesson Review, continued

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**Case Study  
Questions,  
contd.**

13. Is this illness an infection or intoxication?

---

14. What mistake(s) likely caused this outbreak?

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## Practicing What You Have Learned

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### **From Theory to Practice**

In order to help you put into practice what you have learned in this lesson, you must move from reading to doing.

Consult with your supervisor and discuss what you have learned, including:

- ❑ Types of microorganisms
- ❑ How microorganisms cause foodborne illness and food spoilage
- ❑ Practices that can inhibit the growth of microorganisms
- ❑ Practices that can prevent foodborne illness, food contamination, and food spoilage

Ask your supervisor about his or her experience with food borne illnesses and the problems experienced not just by the individuals who have gotten sick, but its impact to their unit and the Coast Guard.

---

## Performance Evaluation

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There are no performance qualifications for this lesson; therefore, no performance evaluations are included.

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## Lesson Summary

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### Summary

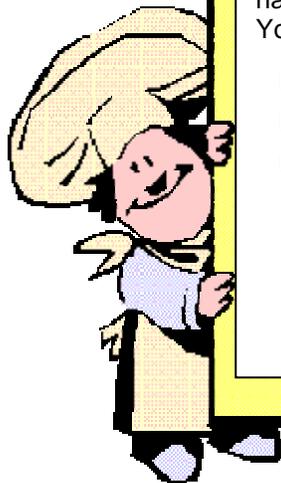
Having completed this lesson, you can:

- Identify the microorganisms that can cause foodborne illness or food spoilage
  - Identify foodborne illnesses that can result from biological contamination
  - Recognize the types of chemical and physical contamination
- 

### Next in this Unit

In the next lesson you will learn about how food handlers contaminate food and how to prevent it. You'll learn about:

- Good personal hygiene
- Health standards
- Safety standards



## Lesson Review Feedback

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### Directions

Compare your answers in the Lesson Review to the answers below (correct answers are in **bold**). Note any differences between your answers and the text so you can learn from them and discuss them with your supervisor.

---

### Answers

1. The factors required for bacterial growth include:
  - a. Food
  - b. Time
  - c. Temperature
  - d. All of the above**
2. Bacteria can be found:
  - a. Everywhere**
  - b. Only in spoiled items
  - c. Only in diseased persons
  - d. Only in the soil
3. How often, under ideal conditions do bacteria reproduce?
  - a. Every 20 seconds**
  - b. Every 20 minutes
  - c. Every 3 hours
  - d. Every 20 hours
4. What causes foodborne illness?
  - a. Improper handling of food
  - b. Improper storage of food
  - c. Improper cooking of food
  - d. All of the above**
5. Temperature is important in control of foodborne illness because:
  - a. Heat retards the growth of bacteria
  - b. Cold kills bacteria
  - c. Heat kills and cold retards bacterial growth**
  - d. Bacterial is not affected by temperature
6. Foodborne microorganisms grow well at temperatures between:
  - a. 41 °F and 140 °F**
  - b. 32 °F and 70 °F
  - c. 38 °F and 155 °F
  - d. 70 °F and 165 °F

Continued next page

## Lesson Review Feedback, continued

---

### Questions, contd.

7. Which of the following statements regarding foodborne intoxication is true?
  - a. Symptoms of intoxication often appear days after exposure.
  - b. Medical treatment for intoxication can be painful.
  - c. Foodborne intoxication is more common than foodborne infection.
  - d. Symptoms of intoxication appear quickly, within a few hours.**
8. You have ordered frozen tuna steaks for your galley. When the delivery arrives, you notice there is excessive frost and ice in the package, which indicates they have been time-temperature abused. You refuse the delivery. Why?
  - a. You suspect the steaks may have been contaminated with a cleaning compound.
  - b. You suspect the steaks may contain ciguatera toxins.
  - c. You suspect the steaks may cause scombroid poisoning if you serve them.**
  - d. You believe the supply company may have treated the steaks with an unauthorized preservative.
9. You find a piece of glass at the bottom of your ice storage bin. This is an example of:
  - a. Chemical contamination
  - b. Physical contamination**
  - c. Biological contamination
  - d. All of the above
10. Name three of the five common themes found in the methods for prevention of foodborne illnesses.

Correct answers include:

- **Minimize the time food spends in the temperature danger zone**
- **Cook and store foods at proper temperatures**
- **Practice good personal hygiene**
- **Avoid Cross-contamination during the food preparation process**
- **Purchase foods only from known, approved sources.**

Continued next page

**Lesson Review Feedback, continued**

---

**Case Study  
Answers**

11. Based on the information given, was the illness caused by bacteria, a virus, a parasite, or fungi?

**Bacteria**

12. What is the name of the microorganism most likely to have caused the outbreak?

**Bacillus cereus was the microorganism responsible for the outbreak.**

13. Is this illness an infection or intoxication?

**Given the rapid onset and the symptoms, the illness was most likely an intoxication.**

14. What mistakes likely caused this outbreak?

**The main mistake made by the food handler was leaving the food for too long in the food temperature danger zone.**

---

## **Expert Opinion on the Chicken Cordon Bleu Case Study**

---

### **An Expert's Opinion on the Chicken Cordon Bleu Case Study**

Here is one expert's opinion on what Chef Étouffée could do.

**I'd encourage her to do one or both of the following: (1) Get some help and have at least two or more people doing the prep work. (2) Prepare the chicken in small batches, and refrigerate the batches in between.**

**I would also remind her of the 4-hour, 41 °F and 140 °F rule.**

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## LESSON 3

### Personal Hygiene and the Food Handler

#### Introduction

---

##### Overview

In the previous lesson we determined that one of the primary causes of unsafe food is bacteria spread by food workers. In this lesson you will learn how to keep food safe through practicing good personal hygiene and complying with health standards.

This section of the lesson includes:

- Objectives
- Tools and References
- Recommended Reading
- Topics Covered by This Lesson

There are no Enlisted Performance Qualifications (EPQs) for this lesson.

---

##### Objectives

Upon completion of this lesson, you will:

- Describe how food handlers contaminate food
  - Explain how food handlers practice good personal hygiene
  - Explain the health practices for food handlers
- 

##### Tools and References

The tools and references for this lesson include:

- Professional Cooking*, by Wayne Gisslen
  - Food Service Sanitation Manual, COMDTINST M6240.4A
  - Unit 1, Appendix C, Glossary of Key Terms
- 

##### Recommended Reading

To get the most out of this lesson, be sure to read the following:

- Professional Cooking*, “Sanitation and Safety: Personal Hygiene” (Chapter 2).
-

## **Introduction, continued**

---

### **Topics Covered by This Lesson**

Topics covered by this lesson include:

- How food handlers contaminate food
  - Good personal hygiene
  - Health standards and practices
-

## How Food Handlers Contaminate Food

---

### Overview

At every step in the flow of food, food handlers can contaminate food and cause customers to become ill.

In this section we will cover:

- When do food handlers contaminate food?
  - The safe food handler
- 

### When Do Food Handlers Contaminate Food?

Food handlers can contaminate food when working while they are ill or injured. Even an apparently healthy person can host pathogens that can be transferred to food through simple ordinary personal behaviors. You can be a carrier who can infect others and yet never develop the disease yourself.

You can contaminate food when you:

- Have a foodborne illness
  - Show symptoms of gastrointestinal illness
  - Have infected lesions
  - Live with or are exposed to a person who is ill
- 

### The Safe Food Handler

It is very easy to contaminate food, so it's important to pay attention to what you do with your hands. Good personal hygiene and the use of recommended foodservice techniques prevent food contamination that results in foodborne illness.

See the table on the next page for tips on handling food safely.

Continued next page

## How Food Handlers Contaminate Food, continued

The Safe Food Handler, contd.

| <b>TIPS FOR HANDLING FOOD SAFELY</b>                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>DO'S</b><br>                                                                                                                                                                                                  | <b>DONT'S</b><br>                                                                                                                                                                                                  |
| <ul style="list-style-type: none"> <li>■ Practice good personal hygiene</li> <li>■ Wash your hands frequently</li> <li>■ Practice personal cleanliness</li> <li>■ Wear clean, appropriate clothing</li> <li>■ Follow health practices and standards</li> <li>■ Follow safety standards</li> </ul> | <ul style="list-style-type: none"> <li>■ Scratch the scalp</li> <li>■ Run fingers through the hair</li> <li>■ Wipe or touch the nose</li> <li>■ Rub an ear</li> <li>■ Touch a pimple or open sore</li> <li>■ Wear a dirty uniform</li> <li>■ Cough or sneeze into the hand</li> <li>■ Spit</li> </ul> |

## Good Personal Hygiene

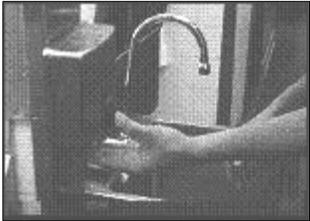
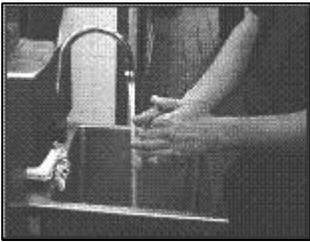
### Overview

By practicing good personal hygiene, you address one of the primary causes of foodborne illness, bacteria spread by the food handler. This section will help you learn about what it takes to practice good personal hygiene. It covers:

- ❑ Keeping your hands clean
- ❑ Wearing gloves
- ❑ Keeping yourself clean
- ❑ Grooming guidelines
- ❑ Clothing guidelines
- ❑ Health standards and practices

### Keeping Your Hands Clean

Keeping your hands clean is one of the important components of good personal hygiene. It may appear easy but it's important to follow a sequence of steps to ensure the best results.

| HANDWASHING PROCEDURE |                                                                                                                                      |                                                                                       |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| STEP                  | DESCRIPTION                                                                                                                          | ILLUSTRATION                                                                          |
| 1.                    | Wet your hands with running water as hot as you can comfortably stand (at least 100 °F).                                             |   |
| 2.                    | Apply soap.                                                                                                                          |  |
| 3.                    | Vigorously scrub hands and arms for at least twenty seconds.<br><br>(Hint: Sing "Happy Birthday" twice. That should be long enough.) |  |
| Continued next page   |                                                                                                                                      |                                                                                       |

## Good Personal Hygiene, continued

**Keeping Your Hands Clean, contd.**

| STEP             | DESCRIPTION                                                              | ILLUSTRATION                                                                         |
|------------------|--------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| 4.               | Clean under fingernails and between fingers.                             |   |
| 5.               | Rinse thoroughly under running water.                                    |   |
| 6.               | Dry hands and arms with a single-use paper towel or warm-air hand dryer. |  |
| End of procedure |                                                                          |                                                                                      |

To keep the spread of bacteria to a minimum, you should wash your hands often. This includes:

- ❑ Before starting work
- ❑ After any of the following:
  - Smoking
  - Eating
  - Drinking
  - Handling garbage
  - Clearing tables
  - Touching hair or body

Continued next page

## Good Personal Hygiene, continued

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### Keeping Your Hands Clean, contd.

- Sneezing or coughing
  - Using chemicals, and
  - Using toilet facilities
  - During work as often as necessary to keep them clean
- 

### Wearing Gloves

By wearing gloves you help keep food safe by creating a barrier between your hands and the food you are preparing. However, gloves should never be used in place of hand washing. Hands must be washed before putting on gloves and when changing to a fresh pair.

Remove gloves by grasping at the cuff and peeling them off, inside out over the fingers, while avoiding contact with the palm and fingers.

Change gloves:

- As soon as they become soiled or torn
  - Before beginning a different task
  - At least every four hours during continual use, and more often when necessary
  - After handling raw meat and before handling cooked or ready-to-eat food
- 

### Keeping Yourself Clean

Food service personnel must keep their hands clean and their fingernails clean, unpolished and neatly trimmed.

In addition, you must bathe or shower daily, keep your hair neat and clean, and always wear effective hair restraints such as hairnets or a hat.

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### Grooming Guidelines

The tables on the next few pages present guidelines for grooming. You will find tables for the following:

- General Grooming Guidelines
- Guidelines for Women
- Guidelines for Men

Continued next page

## Good Personal Hygiene, continued

### Grooming Guidelines, contd.

This table shows general guidelines for grooming.

| <b>GROOMING GUIDELINES, GENERAL</b> |                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                         |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>CATEGORY</b>                     | <b>AUTHORIZED</b>                                                                                                                                      | <b>NOT AUTHORIZED</b>                                                                                                                                                                                                                                                                                                   |
| Hair                                | Shall be: <ul style="list-style-type: none"> <li>■ Clean</li> <li>■ Well-groomed</li> <li>■ Neat</li> </ul> Hair coloring, if used, must look natural. | Shall not: <ul style="list-style-type: none"> <li>■ Touch eyebrows when groomed</li> <li>■ Extend below front of properly worn headgear</li> <li>■ Have shaved portions of the scalp (other than the neckline)</li> <li>■ Contain ornamentation other than prescribed in this section for women's hair style</li> </ul> |
| Dental Appliances                   | —                                                                                                                                                      | Shall not be ornamental.                                                                                                                                                                                                                                                                                                |
| Fingernails                         | Shall be kept clean.                                                                                                                                   | Shall not extend past the fingertips or be colored.                                                                                                                                                                                                                                                                     |

### Grooming Guidelines for Women

This table shows grooming guidelines for women.

| <b>GROOMING GUIDELINES FOR WOMEN</b> |                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                            |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>CATEGORY</b>                      | <b>AUTHORIZED</b>                                                                                                                                                                                                                                        | <b>NOT AUTHORIZED</b>                                                                                                                                                                                                                      |
| Hair Style                           | Shall: <ul style="list-style-type: none"> <li>■ Present a balanced appearance</li> <li>■ Have a bulk of no more than 2 inches</li> </ul> Hairstyle may touch, but not fall below a horizontal line level with the bottom edge of the back of the collar. | Shall not: <ul style="list-style-type: none"> <li>■ Be lopsided or extremely asymmetrical</li> <li>■ Include foreign material (i.e., ribbons, beads, decorative items) woven into the hair</li> <li>■ Extend below the eyebrows</li> </ul> |
| Continued next page                  |                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                            |

### Good Personal Hygiene, continued

**Grooming Guidelines for Women, contd.**

| CATEGORY            | AUTHORIZED                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | NOT AUTHORIZED                                                                                                                                                                                                                                                                          |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Long Hair           | All long hair, including braids and ponytails, falling below the lower edge of the collar, shall be neatly and inconspicuously fastened, pinned, or secured to the head.                                                                                                                                                                                                                                                                                                         | —                                                                                                                                                                                                                                                                                       |
| Securing Hair       | Use only hairpins, barrettes, elastic bands, scrunchies, and combs that are plain black, dark blue, brown, silver, metallic gold, or color similar to the individual's hair.                                                                                                                                                                                                                                                                                                     | Headbands or sweatbands.                                                                                                                                                                                                                                                                |
| Ponytails           | A single ponytail is authorized. Ponytails that fall above the bottom edge of collar may be pulled through the back opening of the working blue or unit ball cap.                                                                                                                                                                                                                                                                                                                | —                                                                                                                                                                                                                                                                                       |
| Braids              | <p>Braided hairstyles, such as cornrows, are authorized and shall be conservative and conform to the guidelines listed herein.</p> <p>When a hairstyle of multiple braids is worn, braids shall:</p> <ul style="list-style-type: none"> <li>■ Be of uniform dimension</li> <li>■ Be small in diameter</li> <li>■ Be tightly interwoven in symmetrical fore and aft rows that minimize scalp exposure</li> <li>■ Present a neat, professional, well-groomed appearance</li> </ul> | <p>Widely spaced individual hanging locks and braids that protrude from the head.</p> <p>Braid ends shall:</p> <ul style="list-style-type: none"> <li>■ Not protrude from the head</li> <li>■ Be secured only with inconspicuous material that matches the color of the hair</li> </ul> |
| Continued next page |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                         |

### Good Personal Hygiene, continued

**Grooming Guidelines for Women, contd.**

| CATEGORY         | AUTHORIZED                                                                                                                                                                                            | NOT AUTHORIZED                                                                                                                                                                                                                                                           |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cosmetics        | If worn, shall be conservative and in good taste.                                                                                                                                                     | Shall not be brightly colored.                                                                                                                                                                                                                                           |
| Wigs, hairpieces | If worn, shall: <ul style="list-style-type: none"> <li>■ Be of a good quality</li> <li>■ Fit properly</li> <li>■ Be of a conservative style</li> <li>■ Conform to the hair standards above</li> </ul> | Shall not: <ul style="list-style-type: none"> <li>■ Be worn if they would present a safety or flying object damage (FOD) hazard</li> <li>■ Exceed the standards stated for natural hair</li> </ul> Natural hair under the wig shall meet hair standards described above. |

**Grooming Guidelines for Men**

This table shows grooming guidelines for men.

| GROOMING GUIDELINES FOR MEN |                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CATEGORY                    | AUTHORIZED                                                                                                                                                                                                                                                                                                                  | NOT AUTHORIZED                                                                                                                                                                                                                                                                                                                                                                    |
| Hair                        | Shall be: <ul style="list-style-type: none"> <li>■ Above the ears and around the neck</li> <li>■ Tapered from the lower natural hairline upwards at least <math>\frac{3}{4}</math>-inch and outward not greater than <math>\frac{3}{4}</math>-inch to blend with hairstyle</li> </ul> A cleanly shaven scalp is authorized. | Shall not be: <ul style="list-style-type: none"> <li>■ Blocked across the back of the neck</li> </ul> Hair on the back of the neck must not touch the collar.<br>The bulk of hair must not be more than 1- $\frac{1}{2}$ inches from scalp.<br>Hair shall be no longer than four inches and may not: <ul style="list-style-type: none"> <li>■ Touch the ears or collar</li> </ul> |
| Continued next page         |                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                   |

### Good Personal Hygiene, continued

| Grooming Guidelines for Men, contd. | CATEGORY                                                                                                                                                                                                                                                                        | AUTHORIZED                                                                                                                                             | NOT AUTHORIZED                                                                                                                                                                                                           |
|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                     | Hair, contd.                                                                                                                                                                                                                                                                    |                                                                                                                                                        | <ul style="list-style-type: none"> <li>■ Extend below eyebrows when headgear is removed</li> <li>■ Show under front edge of headgear</li> <li>■ Interfere with properly worn military headgear or safety gear</li> </ul> |
| Moustaches                          | If worn, a moustache must be neatly groomed.                                                                                                                                                                                                                                    | Shall not: <ul style="list-style-type: none"> <li>■ Extend below the top of the upper lip</li> <li>■ Extend beyond the corners of the mouth</li> </ul> |                                                                                                                                                                                                                          |
|                                     | For the purpose of uniformity, the following members will be clean-shaven: <ul style="list-style-type: none"> <li>■ Ceremonial Honor Guard members</li> <li>■ Coast Guard Academy Cadets</li> <li>■ Officer Candidates</li> </ul> Coast Guard Training Center Cape May recruits | —                                                                                                                                                      |                                                                                                                                                                                                                          |
| Sideburns                           | Shall: <ul style="list-style-type: none"> <li>■ Be of even width (not flared)</li> <li>■ End with a clean-shaven horizontal line</li> <li>■ Be tapered to conform to the rest of the hair</li> </ul>                                                                            | Shall not: <ul style="list-style-type: none"> <li>■ Extend below a point level with the bottom of the ear opening</li> </ul>                           |                                                                                                                                                                                                                          |
| Continued next page                 |                                                                                                                                                                                                                                                                                 |                                                                                                                                                        |                                                                                                                                                                                                                          |

## Good Personal Hygiene, continued

### Grooming Guidelines for Men, contd.

| CATEGORY | AUTHORIZED                                  | NOT AUTHORIZED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Beards   | Men shall be clean-shaven while in uniform. | Beards are not normally authorized except as noted for Pseudofolliculitis Barbae (PFB).<br><br>Regarding PFB: Commanding Officers or Officers-in-Charge shall grant permanent shaving waivers for personnel who have received a confirmed diagnosis of PFB by a medical doctor providing health care for unit personnel. PFB waivers are permanent and do not require renewal upon transfer. If waiver approved, members shall not shave any facial hair and facial hair shall not exceed 1/4-inch in length. |

### Clothing Guidelines

Follow these clothing guidelines for FS personnel:

- Keep all clothing neat and clean.
- Wear whites or Operational Dress Uniform (ODU) while on active duty.
- Wear a white bib apron and a white sanitary disposable hat.
- Wear shoes with steel safety toes.
- Outer clothing shall not be worn outside of the food service establishment.
- Clothing intended to be used once and then discarded is permissible. All other clothing shall be washable.
- Civilian clothing shall not be kept in food preparation areas, serving areas, or utensil washing areas.

## Good Personal Hygiene, continued

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### Health Standards

The following table describes health standards from the Food Service Sanitation Manual (FSSM).

| <b>HEALTH STANDARDS FROM THE FOOD SERVICE SANITATION MANUAL</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>■ Medical department representatives must screen all food service personnel (military and civilian) prior to initial assignment in food service areas.</li> <li>■ FS personnel must be found free of communicable disease.</li> <li>■ They will be examined for boils, infected wounds, and open sores on hands.</li> <li>■ Food service officer conducts a daily inspection of FS personnel ensuring that:               <ul style="list-style-type: none"> <li>• Uniforms are neat and clean.</li> <li>• Hair is properly trimmed and clean.</li> <li>• Moustaches (if worn) shall be neatly trimmed.</li> <li>• Hands are clean with fingernails clean, unpolished and neatly trimmed.</li> <li>• No open lesions on the face, neck, arms, and hands, except for minor cuts and abrasions.</li> <li>• No obvious symptoms of upper respiratory infections.</li> </ul> </li> </ul> |

### Health Practices

Follow these health practices for FS personnel:

- ❑ Consume food only in designated dining areas.
  - ❑ Do not use tobacco while engaged in food preparation or service.
  - ❑ Handle soiled tableware in a way that reduces contamination of your hands.
  - ❑ Maintain a high degree of personal cleanliness, and conform to proper hygienic practices.
  - ❑ Do not store personal items such as books, medications, or magazines in food preparation, serving, cleaning, or serving areas.
-

## Lesson Review

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**Purpose**

The intention of this exercise is to confirm what you have learned about keeping food safe through good personal hygiene and compliance with health standards and practices.

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**Directions**

Test your knowledge of the concepts and principles of this lesson by choosing the best, most correct answer to each question below. Some questions require you to create answers or fill in blanks. Use the lesson material and references to assist you as necessary.

When you have finished answering the questions, compare your answers to the correct answers in the “Lesson Review Feedback” section at the end of this lesson. Note any differences between your answers and the correct ones so you can learn from them, and discuss them when you meet with your supervisor.

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**Questions**

1. Of the following, which is the most important link in preventing foodborne illness?
  - a. Patrons
  - b. Food service officer
  - c. Food service worker
  - d. Commanding officer
2. Of the following, which is the most important aspect of personal hygiene?
  - a. Taking a shower
  - b. Eating neatly in the galley
  - c. Washing hands
  - d. Both a and c
3. Food service workers should wash their hands after:
  - a. Eating or drinking
  - b. Combing or brushing hair
  - c. Using the toilet
  - d. Any of the above
4. Food service workers can contaminate food when they:
  - a. Have a foodborne illness
  - b. Show symptoms of gastrointestinal illness
  - c. Seem to be healthy
  - d. All of the above

Continued next page

**Lesson Review, continued**

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**Questions,  
contd.**

5-9. Name five tips or “do’s” (as compared to “don’ts”) for handling food safely:

5. \_\_\_\_\_

6. \_\_\_\_\_

7. \_\_\_\_\_

8. \_\_\_\_\_

9. \_\_\_\_\_

10. Of the following steps for washing your hands, which one is incorrect? \_\_\_\_\_

- a. Step 1 – Wet your hands with running water as hot as you can comfortably stand (at least 100 °F).
  - b. Step 2 – Apply soap.
  - c. Step 3 – Vigorously scrub hands and arms for at least ten seconds.
  - d. Step 4 – Clean under fingernails and between fingers.
  - e. Step 5 – Rinse thoroughly under running water.
  - f. Step 6 – Dry hands and arms with a single-use paper towel or warm-air hand dryer.
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## Practicing What You Have Learned

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### **From Theory to Practice**

In order to help you put into practice what you have learned in this lesson, you must move from reading to doing. Meet with your supervisor to discuss how to practice what you have read about in this lesson.

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### **Hand Washing Demonstration**

If your supervisor has not already demonstrated handwashing for you, please consult him/her regarding observing a handwashing demonstration.

Your supervisor should do the following:

1. Demonstrate for you the proper way to wash your hands.
  2. Observe while you wash your hands.
  3. Once you are finished washing your hands, offer corrective feedback if your technique can be improved.
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## Performance Evaluation

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There are no performance qualifications for this lesson; therefore, no performance evaluations are included.

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## Lesson Summary

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### Summary

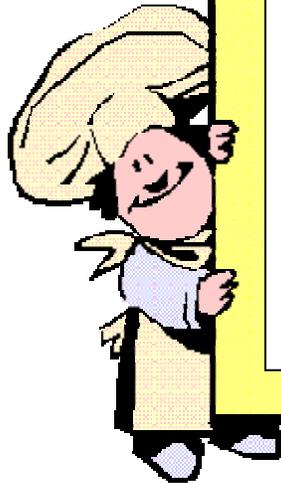
Having completed this lesson, you can:

- Describe how food handlers contaminate food
  - Explain how food handlers practice good personal hygiene
  - Explain the health practices for food handlers
- 

### Next in this Unit

In the next lesson you will learn about how to keep food safe. You'll learn about:

- How to keep the temperatures in steam tables and chilled salad bars, as well as
- Cross-contamination, and
- How to receive, inspect, store and prepare food



## Lesson Review Feedback

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**Directions**

Compare your answers in the Lesson Review to the answers below (correct answers are in **bold**). Note any differences between your answers and the text so you can learn from them and discuss them with your supervisor.

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**Answers**

1. Of the following, which is the most important link in preventing foodborne illness?
    - a. Patrons
    - b. Food service officer
    - c. Food service worker**
    - d. Commanding officer
  2. Of the following, which is the most important aspect of personal hygiene?
    - a. Taking a shower
    - b. Eating neatly in the galley
    - c. Washing hands**
    - d. Both a and c
  3. Food service workers should wash their hands after:
    - a. Eating or drinking
    - b. Combing or brushing hair
    - c. Using the toilet
    - d. Any of the above**
  4. Food service workers can contaminate food when they:
    - a. Have a foodborne illness
    - b. Show symptoms of gastrointestinal illness
    - c. Seem to be healthy
    - d. All of the above**
- 5-9. Name five tips or “do’s” (as compared to “don’ts”) for handling food safely:

**Possible answers include:**

- Practice good personal hygiene**
- Wash your hands frequently**
- Practice personal cleanliness**
- Wear clean, appropriate clothing**
- Follow health practices and standards**
- Follow safety standards**

Continued next page

## Lesson Review Feedback, continued

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**Answers,  
contd.**

10. Of the following steps for washing your hands, which one is incorrect? \_\_\_\_\_
- a. Step 1 – Wet your hands with running water as hot as you can comfortably stand (at least 100 °F).
  - b. Step 2 – Apply soap.
  - c. **Step 3 – Vigorously scrub hands and arms for at least ten seconds. (You should scrub for at least twenty seconds.)**
  - d. Step 4 – Clean under fingernails and between fingers.
  - e. Step 5 – Rinse thoroughly under running water.
  - f. Step 6 – Dry hands and arms with a single-use paper towel or warm-air hand dryer.
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## LESSON 4

### How to Keep Food Safe

#### Introduction

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##### Overview

This lesson will help you learn to keep food safe through properly receiving, inspecting, and storing food, as well as minimizing cross-contamination during the food flow process.

This section of the lesson includes:

- Performance qualifications
  - Objectives
  - Performance evaluation
  - Tools and references
  - Recommended reading
  - Topics covered by this lesson
- 

##### Performance Qualifications

This lesson helps you prepare for two Enlisted Performance Qualifications (EPQs):

**4.B.01 Maintain** safe serving temperatures utilizing the following IAW Professional Cooking, by Wayne Gisslen, and the Food Service Sanitation Manual, COMDTINST M6240.4 (series).

- Steam Table
- Chilled Salad Bar

**SupGuide:** Ensure that member continues to monitor equipment for safe serving temperatures throughout serving period.

**4.C.01 Store** leftover food IAW Professional Cooking by Wayne Gisslen and the Food Service Sanitation Manual, COMDTINST M6240.4 (series).

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##### Objectives

Upon completion of this lesson, you will:

- Identify the procedures for keeping food safe
  - Maintain safe serving temperatures for a steam table
  - Maintain safe serving temperatures for a chilled salad bar
  - Store leftover food
-

## Introduction, continued

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### Performance Evaluation

There will be a performance evaluation in this lesson. This evaluation will cover the EPQs 4.B.01 and 4.C.01 as listed above.

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### Tools and References

References for this lesson include:

- Professional Cooking*, by Wayne Gisslen
  - Food Service Sanitation Manual, COMDTINST M6240.4A
  - NAVSUP P-486 – Food Service Management
  - Unit 1, Appendix C, Glossary of Key Terms
- 

### Recommended Reading

To gain the most out of this lesson, be sure to read the following:

- Professional Cooking*, “Sanitation and Safety: Food Handling and Preparation,” and “Sanitation and Safety: Food Storage,” Chapter 2, pp. 20–22.
  - Food Service Sanitation Manual, “Food Inspection” (pp. 2-1 – 2-14), “Food Storage” (pp. 2-15 – 2-17), and “Salad Bars” (p. 10-1).
- 

### Topics Covered by This Lesson

The lesson covers the following topic areas:

- Cross-contamination
- Receiving food
- Inspecting food
- Storing food
- The food flow process
- Preparing food
- Cooking food
- Holding food
- Serving food
- Cooling food
- Storing leftovers
- Thawing and reheating food

**Note:** In some situations, equipment referred to in this guide may not be available to you. In these cases, consult your supervisor for guidance and alternatives as needed.

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## Cross-Contamination

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### Overview

This section explains:

- What is cross-contamination?
  - Why is this important?
  - Preventing cross-contamination
- 

### What Is Cross-Contamination?

Cross-contamination is the movement of bacteria from one food to another food or from equipment to a work surface. We can say that cross-contamination occurs anytime a contaminated food comes in contact with non-contaminated food, equipment, or a work surface.

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### Why Is This Important?

Cross-contamination is a major cause of the spread of harmful bacteria to otherwise non-contaminated food. Understanding the principle of cross-contamination will help you prevent contamination by harmful bacteria and, as a result, prevent illness and food spoilage.

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### Preventing Cross-Contamination

Cross-contamination can occur at any point of the food flow process for virtually any type of food. For example, non-contaminated food can become contaminated when raw food, such as chicken, touches or drips onto other foods. Cross-contamination may also occur when food is stored in a container that has not been properly cleaned and sanitized.

To prevent cross-contamination, follow these guidelines:

- Use one set of cutting boards, utensils, and containers for each type of food product (such as one set for poultry, one for beef ) or clean and sanitize cutting boards between uses for different foods.
- Clean and sanitize knives between uses on different foods and place only sanitized knives back in their racks.
- Clean and sanitize the work surfaces, equipment, and utensils after each task, especially if it has been in contact with raw foods (such as meat or eggs).
- Store raw meats separate from ready-to-eat foods.
- In the refrigerator, store raw foods on the bottom shelves and ready-to-eat foods on the top shelves.
- Keep food products away from chemicals or cleaning supplies.

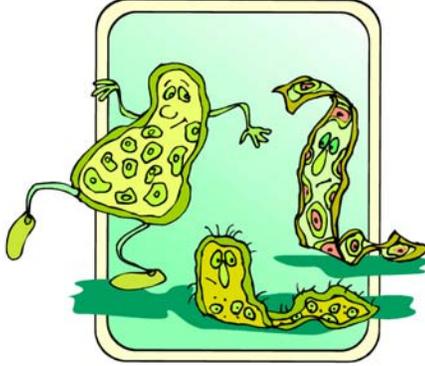
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## Cross-Contamination, continued

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### Preventing Cross- Contamination, contd.

- ❑ Do not move boxes or containers that have been stored on the floor onto countertops.
- ❑ Wash your hands after handling raw meats, eggs, or vegetables.



## Receiving Food

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### Overview

This section will introduce you to principles and guidelines for receiving food. It covers:

- ❑ Basic principles for receiving food
  - ❑ Appearance of packaging
  - ❑ Testing for proper temperatures
  - ❑ Testing color, texture, and odor
- 

### Basic Principles for Receiving Food

When receiving food from suppliers, follow these basic principles:

- ❑ Purchase and receive food only from buyers who obtain their food products from approved sources (for example, those suppliers who adhere to local, state, and federal laws for food production and inspection).
  - ❑ Purchase and receive food from reputable suppliers.
  - ❑ Schedule deliveries for off-peak hours so that adequate time is allowed to inspect the food being delivered.
  - ❑ Ensure that enough trained staff is available to inspect, authorize, and receipt for deliveries.
  - ❑ Carefully inspect for proper labeling, appearance, temperature, and overall condition of the food items being delivered.
  - ❑ Use properly calibrated thermometers for inspecting the temperature of food being delivered.
  - ❑ Inspect deliveries immediately upon receipt and store received items as soon as possible—especially for refrigerated and frozen food items.
  - ❑ Examine shipments for intact packaging, signs of refreezing, wetness, or insect infestation.
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## Receiving Food, continued

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### Appearance of Packaging

When receiving and inspecting food, pay attention to the appearance of the packaging.

When examining the packaging, look for signs of:

- Content leakage
  - Bent cartons
  - Dented cans
  - Punctures in cartons and cans
  - Broken seals
  - Tape removed or replaced
- 

### Testing for Proper Temperature

Checking the temperature of various types of food requires the use of different methods for each food type. Refer to the table below for the proper procedures for each food type.

| <b>TESTING TEMPERATURES</b>               |                                                                                                                                                                                                    |
|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>IF THE FOOD PRODUCT IS...</b>          | <b>THEN...</b>                                                                                                                                                                                     |
| Meat, poultry, or fish,                   | Insert the thermometer stem or probe directly into the thickest part of the product.                                                                                                               |
| MAP, vacuum-packed, or <i>Sous Vide</i> , | Insert the thermometer stem or probe between two packages (exercising caution not to puncture either package).                                                                                     |
| Liquids or other packaged food,           | Open the package and insert the thermometer stem or probe into the food until the sensing area is immersed (being careful not to let the stem or probe touch the side or bottom of the container). |
| Bulk liquids,                             | Fold the bag around the thermometer stem or probe (being careful not to puncture the bag).                                                                                                         |

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### Testing Color, Texture, and Odor

The color, texture, and odor for foodstuffs vary by food item. When examining incoming food items for color, texture, and odor, refer to the following sections for each type of foodstuff.

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## Inspecting Food

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### Overview

This section offers guidelines for the inspection of food. It covers the following items:

- Meat
- Poultry
- Fish
- Shellfish
- Crustaceans
- Shell eggs
- Dairy products
- Fresh produce
- Dry food
- Canned food
- Refrigerated and frozen processed food
- MAP, vacuum-packed, and *sous vide* packaged food
- Bakery goods
- UHT pasteurized and aseptically packaged foods
- Potentially hazardous hot food

Refer to the tables on the next few pages for details on inspecting each of these.

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## Inspecting Food, continued

### Inspection Guidelines

When inspecting food items brought by vendors and suppliers, refer to the table below for guidance on whether or not to accept the product.

| PRODUCT INSPECTION GUIDELINES |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                     |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| IF THE ITEM IS...             | AND THE...                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | THEN...             |
| Meat (beef, lamb, pork)       | <p><b>Temperature</b> is 32–40 °F,</p> <p><b>Color for:</b></p> <ul style="list-style-type: none"> <li>■ <b>Beef</b> is bright, cherry red;</li> <li>■ Aged beef may be darker;</li> <li>■ Vacuum-packed beef will appear purplish</li> <li>■ <b>Lamb</b> is light red</li> <li>■ <b>Pork</b> is light pink meat, firm white fat,</li> </ul> <p><b>Texture</b> is firm and springs back when touched,</p> <p><b>Odor</b> is not noticeable,</p> <p><b>Packaging</b> is intact and clean,</p> | Accept the product. |
| Continued next page           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                     |

### Inspecting Food, continued

**Inspection Guidelines, contd.**

| IF THE ITEM IS...   | AND THE...                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | THEN...             |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| Meat, contd.        | <p><b>Temperature</b> is greater than 40 °F,</p> <p><b>Color for:</b></p> <ul style="list-style-type: none"> <li>■ <b>Beef</b> is brown or green</li> <li>■ <b>Lamb</b> is brown, whitish surface covering lean meat</li> <li>■ <b>Pork</b> is excessively dark color, soft or rancid fat,</li> </ul> <p><b>Texture</b> is slimy, sticky, or dry,</p> <p><b>Odor</b> is sour,</p> <p><b>Packaging</b> has broken cartons, dirty wrappers, torn packaging, or vacuum packaging with broken seals,</p> | Reject the product. |
| Continued next page |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                     |

### Inspecting Food, continued

**Inspection Guidelines, contd.**

| IF THE ITEM IS...   | AND THE...                                                                                                                                                                                                                                                                         | THEN...             |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| Poultry             | <p><b>Temperature</b> is 32–40 °F,</p> <p><b>Color</b> is without discoloration,</p> <p><b>Texture</b> is firm and springs back when touched,</p> <p><b>Odor</b> is not noticeable,</p> <p><b>Packaging</b> product is surrounded by crushed, self-draining ice,</p>               | Accept the product. |
|                     | <p><b>Temperature</b> is greater than 40 °F,</p> <p><b>Color</b> has a purple or green discoloration around the neck; dark wing tips (red tips are acceptable),</p> <p><b>Texture</b> has stickiness under wings or around joints,</p> <p><b>Odor</b> is abnormal, unpleasant,</p> | Reject the product. |
| Continued next page |                                                                                                                                                                                                                                                                                    |                     |

### Inspecting Food, continued

**Inspection Guidelines, contd.**

| IF THE ITEM IS...   | AND THE...                                                                                                                                                                                                                                                                                                                                   | THEN...             |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| Fish                | <p><b>Temperature</b> is 32–40 °F,</p> <p><b>Color</b> is bright red gills; bright shiny skin,</p> <p><b>Texture</b> is firm and springs back when touched,</p> <p><b>Odor</b> has mild ocean or seaweed smell,</p> <p><b>Eyes</b> are bright, clear, full,</p> <p><b>Packaging</b> product is surrounded by crushed, self draining ice,</p> | Accept the product. |
|                     | <p><b>Temperature</b> is greater than 40 °F,</p> <p><b>Color</b> is dull gray gills; dull dry skin,</p> <p><b>Texture</b> is soft flesh that leaves an imprint when touched,</p> <p><b>Odor</b> has strong fishy or ammonia smell,</p> <p><b>Eyes</b> are cloudy, red-rimmed, sunken,</p>                                                    | Reject the product. |
| Continued next page |                                                                                                                                                                                                                                                                                                                                              |                     |

### Inspecting Food, continued

**Inspection Guidelines, contd.**

| IF THE ITEM IS... | AND THE...                                                                                                                                                                                                                                                                                                                                             | THEN...             |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| Shellfish         | <p><b>Temperature (Live)</b> is on ice or at air temperature of 32–40 °F,</p> <p><b>Temperature (Shucked)</b> internal is 32–40 °F,</p> <p><b>Odor</b> has a mild ocean or seaweed smell,</p> <p><b>Shells</b> are closed and unbroken (indicates alive),</p> <p><b>Condition</b> if fresh, are received alive,</p>                                    | Accept the product. |
|                   | <p><b>Temperature (Live)</b> air temperature is greater than 40 °F,</p> <p><b>Temperature (Shucked)</b> internal is greater than 40 °F,</p> <p><b>Texture</b> is slimy, sticky, or dry,</p> <p><b>Odor</b> has strong fishy smell,</p> <p><b>Shells</b> are broken; open and do not close when tapped,</p> <p><b>Condition</b> is dead on arrival,</p> | Reject the product. |

Continued next page

**Inspecting Food, continued**

**Inspection Guidelines, contd.**

| IF THE ITEM IS... | AND THE...                                                                                                                                                                                                                                             | THEN...             |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| Crustaceans       | <p><b>Temperature (Live)</b> must be received alive,</p> <p><b>Temperature (Processed)</b> internal is 32–40 °F,</p> <p><b>Odor</b> is mild ocean or seaweed smell,</p> <p><b>Condition</b> is received alive; packed with seaweed and kept moist,</p> | Accept the product. |
|                   | <p><b>Temperature (Processed)</b> internal is greater than 40 °F,</p> <p><b>Odor</b> exudes a strong fishy smell,</p> <p><b>Condition</b> is dead on arrival (for lobsters, tail fails to curl when picked up),</p>                                    | Reject the product. |

Continued next page

### Inspecting Food, continued

**Inspection Guidelines, contd.**

| IF THE ITEM IS...   | AND THE...                                                                                                                                                                                                                                                                                                          | THEN...             |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| Shell Eggs          | <p><b>Temperature (Air)</b> is 32–40 °F,</p> <p><b>Odor</b> is not noticeable,</p> <p><b>Shells</b> are clean and unbroken,</p>                                                                                                                                                                                     | Accept the product. |
|                     | <p><b>Temperature (Air)</b> is greater than 40 °F,</p> <p><b>Odor</b> has a sulfur smell or off smell,</p> <p><b>Shells</b> are dirty or cracked,</p>                                                                                                                                                               | Reject the product. |
| Dairy               | <p><b>Temperature</b> is 32–40 °F (unless otherwise specified by law),</p> <p><b>Milk</b> has a sweetish flavor,</p> <p><b>Butter</b> has a sweet flavor, uniform color, firm texture,</p> <p><b>Cheese</b> has a typical flavor, texture, and uniform color,</p>                                                   | Accept the product. |
|                     | <p><b>Temperature</b> is greater than 40 °F (unless otherwise specified by law),</p> <p><b>Milk</b> has a sour, bitter, or moldy taste,</p> <p><b>Butter</b> has a sour, bitter, or moldy taste; uneven color; soft texture,</p> <p><b>Cheese</b> has abnormal flavor or texture, uneven color, unnatural mold,</p> | Reject the product. |
| Continued next page |                                                                                                                                                                                                                                                                                                                     |                     |

### Inspecting Food, continued

**Inspection Guidelines, contd.**

| IF THE ITEM IS...   | AND THE...                                                                                                                                                                                                                                                                         | THEN...             |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| Fresh Produce       | <b>Condition</b> shows no signs of spoilage,                                                                                                                                                                                                                                       | Accept the product. |
|                     | <b>Condition</b> shows signs of spoilage such as: insect infestation, discoloration, mold, wilting, cuts, dull appearance, mushiness, unpleasant odor or taste,                                                                                                                    | Reject the product. |
| Dry Food            | <b>Packaging</b> is intact and in good condition,<br><b>Product</b> exhibits normal color and odor,                                                                                                                                                                                | Accept the product. |
|                     | <b>Packaging</b> has holes, tears, or punctures; dampness or water stains on outer cases and inner packaging (indicates it has been wet),<br><b>Product</b> exhibits abnormal color and odor; spots or mold; slimy appearance; contains insects, insect eggs, or rodent droppings, | Reject the product. |
| Canned Food         | <b>Can</b> is sealed and in good condition,<br><b>Product</b> is of normal color, texture, and odor,                                                                                                                                                                               | Accept the product. |
|                     | <b>Can</b> has swollen ends, leaks and flawed seals, rust, dents, missing labels,<br><b>Product</b> is foamy; milky; abnormal color, texture, or odor,                                                                                                                             | Reject the product. |
| Continued next page |                                                                                                                                                                                                                                                                                    |                     |

### Inspecting Food, continued

**Inspection Guidelines, contd.**

| IF THE ITEM IS...                      | AND THE...                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | THEN...             |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| Refrigerated and Frozen Processed Food | <p><b>Refrigerated Food Temperature</b> is 32–40 °F (unless specified by manufacturer) and <b>Packaging</b> is intact and in good condition,</p> <p><b>Frozen Food Temperature</b> is frozen (0 °F); where ice cream must be –10 °F and <b>Packaging</b> is intact and in good condition, dry,</p>                                                                                                                                                                                             | Accept the product. |
|                                        | <p><b>Refrigerated Food Temperature</b> greater than 40 °F unless specified by manufacturer and <b>Packaging</b> torn or with holes; expired product use-by dates,</p> <p><b>Frozen Food Temperature</b> not frozen (above 0 °F); ice cream greater than –10 °F and <b>Packaging</b> torn or holed; fluids or frozen liquids inside, ice crystals or water stains outside (evidence of thawing and refreezing) and <b>Product</b> large ice crystals (evidence of thawing and refreezing),</p> | Reject the product. |
| Continued next page                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                     |

### Inspecting Food, continued

**Inspection Guidelines, contd.**

| IF THE ITEM IS...                                             | AND THE...                                                                                                                                                                                                                                                                       | THEN...                    |
|---------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| <p>MAP, Vacuum-Packed, and <i>Sous Vide</i> Packaged Food</p> | <p><b>Temperature Refrigerated</b> is 32–40 °F (unless specified by manufacturer),</p> <p><b>Frozen</b> food is frozen,</p> <p><b>Packaging</b> is intact and in good condition with valid code dates,</p> <p><b>Product</b> has an acceptable color,</p>                        | <p>Accept the product.</p> |
|                                                               | <p><b>Temperature Refrigerated</b> is greater than 40 °F (unless specified by manufacturer),</p> <p><b>Frozen</b> food is unfrozen,</p> <p><b>Packaging</b> is torn or leaking with expired code dates,</p> <p><b>Product</b> exhibits unacceptable color; slime or bubbles,</p> | <p>Reject the product.</p> |
| <p>Bakery Goods</p>                                           | <p><b>Temperature</b> is according to manufacturer’s directions,</p> <p><b>Packaging</b> is intact,</p>                                                                                                                                                                          | <p>Accept the product.</p> |
|                                                               | <p><b>Temperature</b> is higher than specified in manufacturer’s directions,</p> <p><b>Packaging</b> is torn or damaged by pests,</p> <p><b>Product</b> is moldy or damaged by pests,</p>                                                                                        | <p>Reject the product.</p> |
| <p>Continued next page</p>                                    |                                                                                                                                                                                                                                                                                  |                            |

**Inspecting Food, continued**

**Inspection Guidelines, contd.**

| IF THE ITEM IS...                                    | AND THE...                                                                                                                                                                                                                          | THEN...                    |
|------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| <p>UHT Pasteurized and Aseptically Packaged Food</p> | <p><b>Temperature of the UHT Aseptically Packaged</b> is at room temperature,<br/><b>UHT Not Aseptically Packaged</b> is 32–40 °F (according to manufacturer’s directions),<br/><b>Packaging</b> is intact packaging and seals,</p> | <p>Accept the product.</p> |
|                                                      | <p><b>Temperature of the UHT Not Aseptically Packaged</b> is greater than 40 °F,<br/><b>Packaging</b> is punctured or unsealed,</p>                                                                                                 | <p>Reject the product.</p> |
| <p>Potentially Hazardous Hot Food</p>                | <p><b>Temperature</b> is 140 °F or higher,<br/><b>Container</b> is able to maintain proper temperatures,</p>                                                                                                                        | <p>Accept the product.</p> |
|                                                      | <p><b>Temperature</b> is less than 140 °F,<br/><b>Container</b> is unable to maintain proper temperatures,</p>                                                                                                                      | <p>Reject the product.</p> |

## Storing Food

### Overview

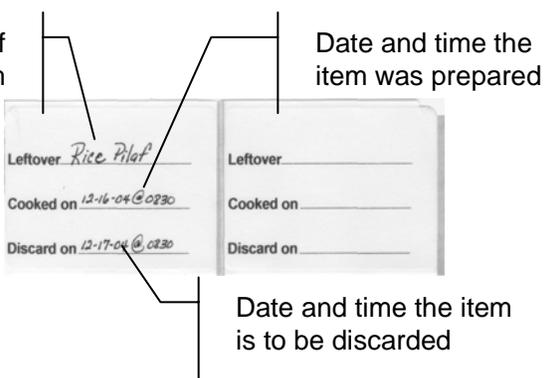
In order to maintain quality and keep foods safe, proper storage of food is essential. Failing to practice proper storage procedures can result in food spoilage and severe illness.

In this section you will be introduced to the:

- ❑ General food storage guidelines
- ❑ Refrigerated food storage guidelines
- ❑ Frozen food storage guidelines
- ❑ Dry food storage guidelines
- ❑ Temperature requirements for specific items

### General Food Storage Guidelines

When storing food, follow the general guidelines for storage of food listed in the table below.

| <b>GENERAL FOOD STORAGE GUIDELINES</b> |                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>GUIDELINE</b>                       | <b>DESCRIPTION</b>                                                                                                                                                                                                                                                                                                                                                                                        |
| Labeling food                          | <div style="text-align: center;">  </div> <p>Items that have been previously cooked and stored and later mixed with another food item to make a new dish must have included on the label for the new dish the preparation and discard date of the previously cooked item—not the date of the latest dish creation.</p> |
| Rotating food products                 | <p>Rotating food ensures that the oldest items are used first. By using the first in, first out (FIFO) method, the preparation or discard date is referred to in order to ensure that refrigerated, frozen, and dry products are rotated during storage.</p>                                                                                                                                              |
| Continued next page                    |                                                                                                                                                                                                                                                                                                                                                                                                           |

## Storing Food, continued

### General Food Storage Guidelines, contd.

| GUIDELINE                             | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Discarding food                       | Discard food that has been stored past its manufacturer's expiration date.                                                                                                                                                                                                                                                                                                                                  |
| Transferring food                     | <p>Transfer food between containers properly. When moving food from one container to another, ensure the new container is cleaned and sanitized. Cover the food in the new container, and use the original label.</p> <p>Do not use empty food containers to store chemicals and do not use empty chemical containers to store food.</p>                                                                    |
| Keeping food out of the danger zone   | <p>Ensure potentially hazardous food is kept out of the temperature danger zone by:</p> <ul style="list-style-type: none"> <li>■ Storing deliveries as soon as they have been inspected</li> <li>■ Taking out only as much food as you can prepare at one time</li> <li>■ Putting prepared food away until needed</li> <li>■ Properly cooling and storing food as soon as it is no longer needed</li> </ul> |
| Checking temperatures                 | Check temperatures of storage areas and food stored (normally done at the beginning of a watch).                                                                                                                                                                                                                                                                                                            |
| Storing food only in designated areas | Do not store food near chemicals or cleaning supplies. Storing food in areas such as locker rooms, janitor closets, under stairways or pipes may easily contaminate stored food items.                                                                                                                                                                                                                      |
| Keeping storage areas clean and dry   | Clean decks, bulkheads, shelving, refrigerators, freezers, dry stores, and hot and cold holding cabinets on a regular basis. Clean up spills and leaks immediately in order to minimize slips, falls, and food contamination. Clean food transportation devices such as trays and carts on a regular basis.                                                                                                 |

## Storing Food, continued

### Refrigerated Food Storage Guidelines

The table below presents the procedures for general storing and a description for each. Refrigeration slows the growth of microorganisms by keeping them from multiplying to levels high enough to cause illness. Refrigerated storage areas typically hold food items at 41 °F or lower.

| <b>GUIDELINES FOR STORING REFRIGERATED FOOD</b> |                                                                                                                                                                                                 |
|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>GUIDELINE</b>                                | <b>DESCRIPTION</b>                                                                                                                                                                              |
| Keeping temperature                             | Keep the temperature of the refrigerated storage unit at least 2 °F lower than the desired internal temperature of the food being stored to achieve the desired temperature.                    |
| Monitoring food temperature                     | Monitor the food temperature regularly using a properly calibrated thermometer.                                                                                                                 |
| Loading the refrigerator                        | Do not overload the refrigerator so that airflow is restricted, making it harder for the refrigeration unit to stay cold.                                                                       |
| Circulation of airflow                          | Use open shelving to encourage circulation of airflow within the refrigeration unit.                                                                                                            |
| Placing food                                    | Refrain from placing hot food in the refrigerator that may raise the temperatures of adjacent food items and the interior of the refrigerator to the temperature danger zone.                   |
| Keeping the refrigerator door closed            | Keep refrigerator doors closed as much as possible to keep the warm outside air from getting into the refrigerator and making the refrigerator work harder to maintain the optimum temperature. |
| Continued next page                             |                                                                                                                                                                                                 |

## Storing Food, continued

### Refrigerated Food Storage Guidelines, contd.

| GUIDELINE                       | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Storing meat, poultry, and fish | <p>Store raw meat, poultry, and fish separately from cooked and ready-to-eat food. If the different kinds of food cannot be stored separately, store them below cooked and ready-to-eat food items.</p> <p>Store raw meat, poultry, and fish in the following top to bottom order:</p> <ul style="list-style-type: none"> <li>■ Whole fish</li> <li>■ Whole cuts of beef and pork</li> <li>■ Ground meats and fish</li> <li>■ Whole and ground poultry</li> </ul> |
| Wrapping food                   | Wrap food properly to avoid cross-contamination.                                                                                                                                                                                                                                                                                                                                                                                                                  |

### Frozen Food Storage Guidelines

Similar to refrigeration, freezing does not kill microorganisms, but slows their growth. Follow these guidelines when storing food items in freezers:

| GUIDELINES FOR STORING FROZEN FOOD |                                                                                                                                                                                                               |
|------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GUIDELINE                          | DESCRIPTION                                                                                                                                                                                                   |
| Keeping temperature                | Keep the temperature of the freezer unit at 0 °F or lower.                                                                                                                                                    |
| Monitoring temperature             | Monitor the unit temperature regularly using a properly calibrated thermometer.                                                                                                                               |
| Storing food                       | <p>Store food at a temperature that will keep it frozen.</p> <p>Freezing temperatures vary from product to product. A temperature that is good for one product may affect the quality of another product.</p> |
| Continued next page                |                                                                                                                                                                                                               |

**Storing Food, continued**

| <b>Frozen Food Storage Guidelines, contd.</b> | <b>GUIDELINE</b>                | <b>DESCRIPTION</b>                                                                                                                                                                                                                                                                                                                                                                    |
|-----------------------------------------------|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                               | Placing food                    | <p>Place frozen food deliveries in the freezer as soon as they have been inspected – clearly identify and label the package’s contents, the date of delivery, and use-by date, if there is one.</p> <p>Never hold frozen food at room temperature.</p> <p>Refrain from placing warm food in the freezer, which may raise the temperatures and partially thaw adjacent food items.</p> |
|                                               | Loading the freezer             | Do not overload the freezer making it harder for the freezer to maintain freezing temperature and more difficult to find and properly rotate food.                                                                                                                                                                                                                                    |
|                                               | Keeping the freezer door closed | <p>Keep freezer doors closed as much as possible to keep the warm outside air from getting into the freezer and making the freezer work harder to maintain the optimum temperature.</p> <p>Use cold curtains to maintain temperature if necessary.</p>                                                                                                                                |
|                                               | Defrosting freezer              | Defrost freezers regularly in order to rid the freezer of frost and allow the freezer to operate more efficiently.                                                                                                                                                                                                                                                                    |

## Storing Food, continued

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### Dry Storage Guidelines

Dry storage is used for dry goods (flour, sugar, seasonings, cereals, nuts, etc.) and canned goods (canned fruits and vegetables, etc.). The biggest dangers to food items in dry stores are heat and humidity.

Follow these guidelines when storing items in dry stores:

| <b>GUIDELINES FOR STORING DRY GOODS</b> |                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>GUIDELINE</b>                        | <b>DESCRIPTION</b>                                                                                                                                                                                                                                                                                                                                        |
| Keeping temperature                     | Keep the temperature of dry stores from 50 °F to 70 °F and the relative humidity between fifty percent and sixty percent.                                                                                                                                                                                                                                 |
| Storing food                            | <ul style="list-style-type: none"> <li>■ Store dry foods away from bulkheads and at least six inches off the deck.</li> <li>■ Keep dry food out of direct sunlight.</li> <li>■ Ensure dry stores are well ventilated in order to help keep temperature and humidity constant throughout dry stores.</li> <li>■ Keep the dry stores area clean.</li> </ul> |

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## Storing Food, continued

### Temperature Requirements for Specific Items

Some food items have specific storage temperature requirements. Refer to the table below for these requirements.

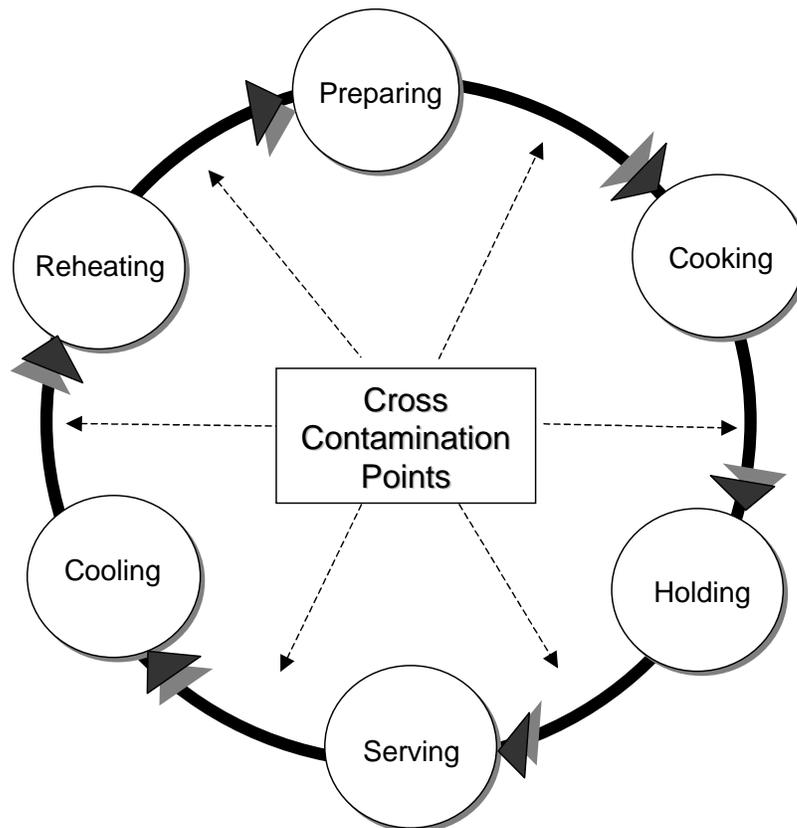
| STORAGE TEMPERATURE REQUIREMENTS FOR SPECIFIC TYPES OF FOODS |                                                                                              |
|--------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| FOOD TYPE                                                    | TEMPERATURE                                                                                  |
| Meat, poultry, or fish                                       | Fresh at an internal temperature of 32–40 °F.                                                |
| Shellfish                                                    | Alive at an air temperature of 32–40 °F.                                                     |
| Shell eggs                                                   | Fresh at an air temperature of 32–40 °F while maintaining constant temperature and humidity. |
| Dairy (other than ice cream and frozen yogurt)               | Fresh at an internal temperature of 32–40 °F.                                                |
| Ice cream and frozen yogurt                                  | Frozen at an internal temperature of –10 °F.                                                 |
| Fresh produce                                                | At required temperature for each product.                                                    |
| MAP, vacuum packed, and <i>Sous Vide</i> packaged food       | At temperatures recommended by the manufacturer or at 32–40 °F.                              |
| UHT products aseptically packaged                            | At room temperature.                                                                         |
| UHT products NOT aseptically packaged                        | At a temperature of 32–40 °F.                                                                |
| Canned and dry food                                          | At a temperature of 50–70 °F.                                                                |

## Food Flow Process

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### Overview

The food flow process is crucial to keeping food safe. It is during this process; when food is being prepared, cooked, held, served, cooled, and reheated that the risk of cross-contamination and time-temperature abuse is the greatest. Cross-contamination can occur at any of the points along the process.



This section introduces this process. It covers:

- Preparing food
  - Cooking food
  - Holding food
  - Serving food
  - Cooling food
  - Storing food
  - Reheating food
-

## Preparing Food

---

### Overview

The preparation of food includes the use of food items that are frozen, refrigerated, or at room temperature. When preparing food for service, prepare food in small batches so that it may be replenished more often during serving.

See the table in the next section for an overview of preparation methods for the following foods:

- Meat, fish and poultry
- Salads
- Eggs and egg mixtures
- Batter or breading mixtures
- Fruits and vegetables
- Making or using ice

You will find more details on the preparation of these foods in future lessons.

### Specifically Prepared Foods

Food items that require additional care during their preparation include:

| FOOD ITEM               | PREPARATION METHOD                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Meat, fish, and poultry | <ul style="list-style-type: none"> <li>■ Wash hands properly before starting each new task.</li> <li>■ Always use clean, sanitized work areas, cutting boards, knives, and utensils.</li> <li>■ Remove from refrigerated storage only as much product as you can prepare at one time.</li> <li>■ Return raw prepared meats to refrigerated storage, or cook them as soon as possible.</li> </ul> |
| Continued next page     |                                                                                                                                                                                                                                                                                                                                                                                                  |

## Preparing Food, continued

**Specifically Prepared Foods, contd.**

| FOOD ITEM             | PREPARATION METHOD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Salads                | <p>Certain salads, such as chicken, tuna, egg, pasta, and potato, have been known to cause foodborne-illness outbreaks. When preparing these salads:</p> <ul style="list-style-type: none"> <li>■ Chill all ingredients before using them to make salad.</li> <li>■ Ensure leftovers used for salads have not been left in the refrigerator too long.</li> <li>■ Leave food in the refrigerator until all ingredients are ready to be mixed.</li> <li>■ Prepare salad in small batches in order to prevent large amounts of food from sitting out at room temperature for long periods of time.</li> <li>■ Ensure leftover meat and poultry have been properly cooked, held at the proper temperatures, cooled, and stored before adding them to salad.</li> </ul> |
| Eggs and egg mixtures | <p>Shell eggs have the potential to support rapid growth of microorganisms. When preparing eggs and egg products:</p> <ul style="list-style-type: none"> <li>■ Cook pooled eggs promptly after mixing, or store pooled eggs at 41 °F.</li> <li>■ Wash and sanitize containers that have been used to hold pooled eggs before using for a new batch.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                     |
| Continued next page   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

## Preparing Food, continued

### Specifically Prepared Foods, contd.

| FOOD ITEM                   | PREPARATION METHOD                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Batter or breading mixtures | <p>Using batter or breading mixtures risk cross-contamination or time-temperature abuse. When preparing or using batter or breading with milk or eggs:</p> <ul style="list-style-type: none"> <li>■ Prepare batter in small batches.</li> <li>■ Discard any unused batter or breading at the end of a watch.</li> <li>■ Never use batter or breading for more than one product.</li> </ul> |
| Fruits and vegetables       | <ul style="list-style-type: none"> <li>■ Wash fruits and vegetables thoroughly under running potable water to remove dirt and other contaminants before cutting, cooking, or combining with other ingredients.</li> <li>■ Ensure fruits and vegetables do not come into contact with surfaces exposed to raw meat, poultry, or seafood.</li> </ul>                                         |
| Making or using ice         | <ul style="list-style-type: none"> <li>■ Use only drinking water when making ice that is to be used as food or for chilling food.</li> <li>■ Use a clean, sanitized container or scoop to transfer ice from an ice machine to another container.</li> <li>■ Do not use ice intended to chill food as an ingredient.</li> </ul>                                                             |

## Cooking Food

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### Overview

When cooking food, in order to keep it safe, there are two important variables you must pay attention to:

- Minimum internal temperature
- Time

The table in the next section shows requirements for these for several different food groups.

---

### Temperatures and Times

When cooking an item listed in the table below, you must be sure that the internal temperature of the item reaches the minimum temperature shown, and be sure that the temperature is held for the amount of time shown.

| <b>MINIMUM INTERNAL COOKING TEMPERATURES AND TIMES</b>          |                                     |             |
|-----------------------------------------------------------------|-------------------------------------|-------------|
| <b>FOOD ITEM</b>                                                | <b>MINIMUM INTERNAL TEMPERATURE</b> | <b>TIME</b> |
| Roasts: beef, pork, veal, lamb                                  | 145 °F                              | 4 minutes   |
| Steaks/chops: beef, pork, veal, lamb                            | 145 °F                              | 15 seconds  |
| Ground meats: beef, pork, veal, lamb, fish                      | 155 °F                              | 15 seconds  |
| Injected meats: including brined ham and flavor-injected roasts | 155 °F                              | 15 seconds  |
| Poultry                                                         | 165 °F                              | 15 seconds  |
| Fish                                                            | 145 °F                              | 15 seconds  |
| Stuffed fish                                                    | 165 °F                              | 15 seconds  |
| Ground, chopped, or minced fish                                 | 155 °F                              | 15 seconds  |
| Continued next page                                             |                                     |             |

## Cooking Food, continued

### Temperatures and Times, contd.

| FOOD ITEM                                                       | MINIMUM INTERNAL TEMPERATURE                          | TIME       |
|-----------------------------------------------------------------|-------------------------------------------------------|------------|
| Stuffed meat and stuffing                                       | 165 °F                                                | 15 seconds |
| Dishes with previously cooked potentially hazardous ingredients | 165 °F                                                | 15 seconds |
| Dishes with raw potentially hazardous ingredients               | According to the individual ingredient's requirements |            |
| Shell eggs for immediate service                                | 145 °F                                                | 15 seconds |
| Shell eggs held hot for service                                 | 155 °F                                                | 15 seconds |
| Fruit or vegetables held hot for service                        | 145 °F                                                | 15 seconds |
| Commercially processed food held hot for service                | 145 °F                                                | 15 seconds |
| Potentially hazardous food cooked in the microwave              | 165 °F                                                |            |

## Holding Food

### Overview

This section introduces you to:

- Food holding temperature guidelines
- Hot food table temperature
- Chilled salad bar temperatures

### Food Holding Temperature Guidelines

In order to avoid the time-temperature danger zone, food is held at temperatures either greater than 140 °F or less than 41 °F. To hold food at these temperatures requires the use of a hot food table (steam or electric) and chilled food bar or salad bar. When holding food:

- Check the internal temperature of food using a calibrated thermometer every 15 minutes.
- Ensure that (hot) food being held on a hot food table is being held at an internal temperature of 140 °F or higher. (This will require setting the temperature of the hot food table at 160 °F or greater.)
- Ensure that (cold) food being held is at an internal temperature of 41 °F or lower. (This will require setting the temperature of the cold food table at 32 °F or less.)
- Observe times established for discarding food (no more than four hours in temperature danger zone (TDZ)).
- Do not use hot food holding equipment to reheat food.
- Do not hold food directly on ice.

### Maintaining the Hot Food Table at Safe Serving Temperatures

To maintain the hot food table at safe serving temperatures, follow the steps in the table below.

| STEP                        | ACTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                             |         |                       |                 |                   |                     |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|---------|-----------------------|-----------------|-------------------|---------------------|
| 1.                          | Turn on the hot food table and set temperature for 160 °F an hour prior to pacing hot food items to be served.                                                                                                                                                                                                                                                                                                                                                                                                                       |                             |         |                       |                 |                   |                     |
| 2.                          | Determine temperature of hot food table. <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: center;">IF THE HOT FOOD TABLE IS...</th> <th style="text-align: center;">THEN...</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">At 160 °F or greater,</td> <td style="text-align: center;">Skip to step 4.</td> </tr> <tr> <td style="text-align: center;">Less than 160 °F,</td> <td style="text-align: center;">Continue to step 3.</td> </tr> </tbody> </table> | IF THE HOT FOOD TABLE IS... | THEN... | At 160 °F or greater, | Skip to step 4. | Less than 160 °F, | Continue to step 3. |
| IF THE HOT FOOD TABLE IS... | THEN...                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                             |         |                       |                 |                   |                     |
| At 160 °F or greater,       | Skip to step 4.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                             |         |                       |                 |                   |                     |
| Less than 160 °F,           | Continue to step 3.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |         |                       |                 |                   |                     |
| Continued next page         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                             |         |                       |                 |                   |                     |

### Holding Food, continued

**Maintaining the Hot Food Table at Safe Serving Temperatures, contd.**

| STEP                   | ACTION                                                                                                                                                                                                                                                                                                                                                                                                  |                        |         |                       |                                 |                   |                                                                 |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|---------|-----------------------|---------------------------------|-------------------|-----------------------------------------------------------------|
| 3.                     | Wait 15 minutes, and repeat step 2.                                                                                                                                                                                                                                                                                                                                                                     |                        |         |                       |                                 |                   |                                                                 |
| 4.                     | Place the food on the hot food table.                                                                                                                                                                                                                                                                                                                                                                   |                        |         |                       |                                 |                   |                                                                 |
| 5.                     | Every 15 minutes, place a calibrated thermometer into the center of the food items, for at least 15 seconds, in a manner such that the thermometer does not come into contact with the serving pan or serving utensils.                                                                                                                                                                                 |                        |         |                       |                                 |                   |                                                                 |
| 6.                     | Determine the temperature of the hot food items. <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>IF THE FOOD ITEM IS...</th> <th>THEN...</th> </tr> </thead> <tbody> <tr> <td>At 140 °F or greater,</td> <td>Repeat step 5 every 15 minutes.</td> </tr> <tr> <td>Less than 140 °F,</td> <td>Turn up the thermostat on the hot food table and repeat step 5.</td> </tr> </tbody> </table> | IF THE FOOD ITEM IS... | THEN... | At 140 °F or greater, | Repeat step 5 every 15 minutes. | Less than 140 °F, | Turn up the thermostat on the hot food table and repeat step 5. |
| IF THE FOOD ITEM IS... | THEN...                                                                                                                                                                                                                                                                                                                                                                                                 |                        |         |                       |                                 |                   |                                                                 |
| At 140 °F or greater,  | Repeat step 5 every 15 minutes.                                                                                                                                                                                                                                                                                                                                                                         |                        |         |                       |                                 |                   |                                                                 |
| Less than 140 °F,      | Turn up the thermostat on the hot food table and repeat step 5.                                                                                                                                                                                                                                                                                                                                         |                        |         |                       |                                 |                   |                                                                 |
| End of procedure       |                                                                                                                                                                                                                                                                                                                                                                                                         |                        |         |                       |                                 |                   |                                                                 |

**Maintaining the Chilled Salad Bar at Safe Serving Temperatures**

See the table below for how to maintain safe temperatures at the chilled salad bar.

| STEP                   | ACTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                        |         |                       |                                                                                                                                                   |                   |                                                                                   |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|---------|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-----------------------------------------------------------------------------------|
| 1.                     | Place the salad bar items in pans or trays.                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                        |         |                       |                                                                                                                                                   |                   |                                                                                   |
| 2.                     | Pre-chill the salad bar items and salad bar pans in a refrigerator before placing the chilled items on the salad bar.                                                                                                                                                                                                                                                                                                                                                                                                   |                        |         |                       |                                                                                                                                                   |                   |                                                                                   |
| 3.                     | Determine type of salad bar. <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>IF THE SALAD BAR IS...</th> <th>THEN...</th> </tr> </thead> <tbody> <tr> <td>Chilled electrically,</td> <td>Turn on the salad bar one hour before placing the food items (to ensure the salad bar is at a temperature of 32 °F or lower), and skip to step 6.</td> </tr> <tr> <td>Chilled with ice,</td> <td>Verify proper drainage for ice, add ice to the salad bar, and continue to step 4.</td> </tr> </tbody> </table> | IF THE SALAD BAR IS... | THEN... | Chilled electrically, | Turn on the salad bar one hour before placing the food items (to ensure the salad bar is at a temperature of 32 °F or lower), and skip to step 6. | Chilled with ice, | Verify proper drainage for ice, add ice to the salad bar, and continue to step 4. |
| IF THE SALAD BAR IS... | THEN...                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                        |         |                       |                                                                                                                                                   |                   |                                                                                   |
| Chilled electrically,  | Turn on the salad bar one hour before placing the food items (to ensure the salad bar is at a temperature of 32 °F or lower), and skip to step 6.                                                                                                                                                                                                                                                                                                                                                                       |                        |         |                       |                                                                                                                                                   |                   |                                                                                   |
| Chilled with ice,      | Verify proper drainage for ice, add ice to the salad bar, and continue to step 4.                                                                                                                                                                                                                                                                                                                                                                                                                                       |                        |         |                       |                                                                                                                                                   |                   |                                                                                   |
| Continued next page    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                        |         |                       |                                                                                                                                                   |                   |                                                                                   |

### Holding Food, continued

**Maintaining the Chilled Salad Bar at Safe Serving Temperatures, contd.**

| STEP                                   | ACTION                                                                                                                                                                                                                  |                                             |                                                |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|------------------------------------------------|
| 4.                                     | Determine if lettuce is being served.                                                                                                                                                                                   |                                             |                                                |
|                                        | <b>IF LETTUCE IS...</b>                                                                                                                                                                                                 | <b>AND...</b>                               | <b>THEN...</b>                                 |
|                                        | Being served,                                                                                                                                                                                                           | The salad bar is chilled using ice,         | Continue to step 5.                            |
|                                        |                                                                                                                                                                                                                         | The salad bar is chilled electrically,      | Skip to step 6.                                |
| Not being served,                      | -----                                                                                                                                                                                                                   | Skip to step 6.                             |                                                |
| 5.                                     | Place a serving tray upside-down over the ice so that the ice does not come into direct contact with the lettuce pan.                                                                                                   |                                             |                                                |
| 6.                                     | Place the chilled food and pans on the salad bar.                                                                                                                                                                       |                                             |                                                |
| 7.                                     | Every 15 minutes, place a calibrated thermometer into the center of the food items, for at least 15 seconds, in a manner such that the thermometer does not come into contact with the serving pan or serving utensils. |                                             |                                                |
| 8.                                     | Determine the temperature of the chilled food items.                                                                                                                                                                    |                                             |                                                |
|                                        | <b>IF THE FOOD ITEM IS...</b>                                                                                                                                                                                           | <b>AND...</b>                               | <b>THEN...</b>                                 |
|                                        | At 41 °F or less,                                                                                                                                                                                                       | —                                           | Repeat step 7 every 15 minutes.                |
|                                        | Greater than 41 °F,                                                                                                                                                                                                     | The salad bar is chilled using ice,         | Remove chilled items and add ice to salad bar. |
| The salad bar is chilled electrically, |                                                                                                                                                                                                                         | Turn down the thermostat and repeat step 7. |                                                |
| End of procedure                       |                                                                                                                                                                                                                         |                                             |                                                |

## Serving Food

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### Overview

This section covers guidelines for:

- Serving food
  - Handling food
- 

### Food Serving Guidelines

Follow these guidelines when serving food:

- Use long-handled serving utensils.
  - Use a separate clean and sanitized long-handled serving utensil for each food item.
  - Replace or sanitize used serving utensils every two hours.
  - Store serving utensils properly.
  - Refrain from handling cooked or ready-to-eat food with bare hands.
- 

### Food Handling Guidelines

Follow these guidelines when handling food:

- Do not touch the food-contact area of plates, bowls, glasses, or cups.
  - Use tongs or scoops to get ice.
  - Hold flatware and utensils by the handle.
  - Do not stack glassware and dishes when serving.
  - Practice good personal hygiene (hair pulled back, hands washed, no loose items of clothing, fingernails trimmed).
  - Do not use washcloths designated for cleaning food spills for any other purpose.
-

## Cooling Food

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### Overview

In order to keep food out of the temperature danger zone, you must make sure food that is not being served immediately is held at appropriate temperatures or cooled as quickly as possible.

This section covers:

- Two-stage cooling process
  - Factors affecting the cooling rate
  - Methods for cooling food
- 

### Two-Stage Cooling Process

The two-stage cooling process is recommended for cooling hot foods down to temperatures that minimize the growth of microorganisms.

The two-stage cooling process takes place over the course of no more than four hours. The two stages are as follows:

| <b>THE TWO-STAGE COOLING PROCESS</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>STAGE NO.</b>                     | <b>DESCRIPTION</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 1.                                   | <p>In Stage 1, the food item is cooled from 140 °F to 70 °F within two hours.</p> <p>While food is in the temperature range of 140 °F to 70 °F, the growth of pathogenic microorganisms is maximized. Because of this, the cooling in this stage must occur within two hours. Any food items that do not reach 70 °F within two hours must be either discarded or properly reheated to 165 °F for at least fifteen seconds and then served immediately. Any leftovers should then be discarded.</p> |
| 2.                                   | <p>In Stage 2, the food is cooled from 70 °F to 41 °F within an additional two hours.</p> <p>As in the note above, if in Stage 2 the food is not cooled within the required timeframe, it should be discarded.</p>                                                                                                                                                                                                                                                                                  |
| End of procedure                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

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## Cooling Food, continued

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### Factors Affecting the Cooling Rate

Factors that affect how quickly food is able to cool include:

- Thickness or density of the food being cooled (the more dense the item, the slower it will cool)
  - Container in which food item is being stored (stainless steel transfers heat from food faster than plastic, while shallow pans transfer heat faster than deep pans)
- 

### Methods for Cooling Food

Rapid cooling of leftovers may be accomplished by one of the following methods (bringing the product temperature from the required cooking temperature to 41 °F or below within four hours):

- Quick chilling with ice and agitation (stirring mechanically or manually every 20 to 30 minutes)
  - Portioning to shallow pans (3 inches) product depth or less or smaller containers (1 gallon or less)
  - Using pre-chilled pans and containers for portioning products
  - Circulating cold water in the jacket of a steam-jacketed kettle
  - Short term storage with agitation in walk-in refrigerators operating below 38 °F, or in a rapid chill refrigerator to reduce the temperature prior to placing in a standard refrigerator
  - Immersing the cooking container in cold, running water with product agitation
  - Spreading sliced or layered solid items in shallow pans, then refrigerating
  - Distributing the product among several refrigerators
  - Using containers with high rates of heat transfer such as metal, stainless, steel, or aluminum.
  - Using reduced water content for recipes such as stews. After cooking, add potable ice to make up the volume of water and promote rapid cooling
  - Using ice type paddles
-

## Storing Leftovers

---

### Overview

To store cooked food (or leftovers), the temperature of the food must be cooled to a temperature of less than or equal to 41 °F, completing Stage 2 of the two-stage cooling process within four hours.

This section covers:

- ❑ Leftover food definition
  - ❑ Hazardous leftover guidelines
  - ❑ Cooked food storage guidelines
  - ❑ Storing leftovers
- 

### Leftover Food

Leftover food is any food that has not been served remaining at the end of the meal period for which it was prepared. Freezing of leftovers is prohibited.

The list below includes food that is prohibited from being considered as a leftover.

| <b>FOODS THAT CANNOT BE CONSIDERED AS LEFTOVERS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>■ Served food, or food that has been placed on a serving line does not qualify as a “leftover,” and must be discarded.</li> <li>■ Foods composed of ingredients that have been peeled, sliced, or diced by hand after cooking (since the 4-hour time limit between temperatures of 41 °F and 140 °F is usually taken up during the preparation, chilling, and serving of the food).</li> <li>■ Salads, such as potato, chicken, turkey, macaroni, shrimp, egg, and similar items.</li> <li>■ Creamed or handled foods, such as hashes, gravies, dressings, and creamed meats.</li> <li>■ Highly perishable items, such as seafood.</li> <li>■ Non-packaged or unwrapped potentially hazardous food recovered from a self-service line.</li> </ul> |

Continued next page

## Storing Leftovers, continued

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### Leftover Food, contd.

The amount of time a leftover food may be retained depends on the temperature it is stored at:

| FOOD STORED AT...              | MAY BE KEPT FOR... |
|--------------------------------|--------------------|
| 41 °F or below (chilled)       | 24 hours           |
| 41–140 °F (TDZ)                | 4 hours            |
| 140 °F or higher (hot holding) | 5 hours            |

**Note:** Time spent in the TDZ includes all time from time of preparation until the food is discarded.

Leftovers are categorized as potentially and non-potentially hazardous food.

---

### Potentially Hazardous Leftover Guidelines

Potentially hazardous leftovers include any potentially hazardous food prepared for a specific meal period and then retained for a later meal period. Potentially hazardous foods may be retained as leftovers if they:

- Contain foods that are commercially prepared with chopped or ground meat ingredients
- Have been held at safe temperatures (“hot holding” at 140 °F or greater, or “cold holding” at less than or equal to 41 °F)
- Have not been placed on the serving line

Potentially hazardous foods that have been cooked, chilled, and reheated for service shall not be saved as leftovers.

Potentially hazardous leftovers must be labeled “Leftover Use Within 24 Hours” with the date and time of the original preparation and the discard date and time.

---

### Non-Potentially Hazardous Leftover Guidelines

Non-potentially hazardous leftovers include any non-potentially hazardous foods such as individual commercially packaged crackers, condiments, etc. Non-potentially hazardous leftovers are:

- Food items that may be recovered and retained for use from the serving line, but not from trays or dining tables
  - Bottled condiments that do not require refrigeration (for example, mustard, steak sauce, catsup, etc.)
  - Unsliced, hard-skinned fruits recovered from the serving line, provided that they have been washed and rinsed
-

## Storing Leftovers, continued

### Cooked Food Storage Guidelines

When storing cooked food:

- Store on the top shelves of the refrigerator
- Position pans so that air can circulate freely around them
- Monitor the temperature of the food to ensure that the food continues cooling to 41 °F within four hours
- Adhere to the first-in, first-out rule of rotating food

### Storing Leftovers

| STEP                                                                | ACTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                       |         |                                                                     |                 |                                                                 |                     |
|---------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------|---------------------------------------------------------------------|-----------------|-----------------------------------------------------------------|---------------------|
| 1.                                                                  | Determine type of container used for leftover. <table border="1" style="width: 100%; margin-top: 10px;"> <thead> <tr> <th style="text-align: center;">IF THE LEFTOVER IS...</th> <th style="text-align: center;">THEN...</th> </tr> </thead> <tbody> <tr> <td>Already in a stainless steel pan or container suitable for storing,</td> <td>Skip to step 3.</td> </tr> <tr> <td>Not in a stainless steel pan or container suitable for storing,</td> <td>Continue to step 2.</td> </tr> </tbody> </table> | IF THE LEFTOVER IS... | THEN... | Already in a stainless steel pan or container suitable for storing, | Skip to step 3. | Not in a stainless steel pan or container suitable for storing, | Continue to step 2. |
| IF THE LEFTOVER IS...                                               | THEN...                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                       |         |                                                                     |                 |                                                                 |                     |
| Already in a stainless steel pan or container suitable for storing, | Skip to step 3.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                       |         |                                                                     |                 |                                                                 |                     |
| Not in a stainless steel pan or container suitable for storing,     | Continue to step 2.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                       |         |                                                                     |                 |                                                                 |                     |
| 2.                                                                  | Place the leftover food item in a stainless steel pan or tray (or other container suitable for storing).                                                                                                                                                                                                                                                                                                                                                                                                 |                       |         |                                                                     |                 |                                                                 |                     |
| 3.                                                                  | Wrap the leftover food item with plastic wrap or foil, or close the storage container with a lid.                                                                                                                                                                                                                                                                                                                                                                                                        |                       |         |                                                                     |                 |                                                                 |                     |
| 4.                                                                  | Label the leftover food item with the name of the item, the date the item was prepared, and the date the item is to be discarded.                                                                                                                                                                                                                                                                                                                                                                        |                       |         |                                                                     |                 |                                                                 |                     |
| 5.                                                                  | Place the leftover food item in a refrigerated storage unit.                                                                                                                                                                                                                                                                                                                                                                                                                                             |                       |         |                                                                     |                 |                                                                 |                     |
| 6.                                                                  | Chill the leftover food item using the two-stage process.                                                                                                                                                                                                                                                                                                                                                                                                                                                |                       |         |                                                                     |                 |                                                                 |                     |
| 7.                                                                  | Verify that the leftover food item has been chilled to less than 70 °F within two hours.                                                                                                                                                                                                                                                                                                                                                                                                                 |                       |         |                                                                     |                 |                                                                 |                     |
| 8.                                                                  | Two hours later, verify the leftover food item has been chilled to less than 41 °F.                                                                                                                                                                                                                                                                                                                                                                                                                      |                       |         |                                                                     |                 |                                                                 |                     |
| End of procedure                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                       |         |                                                                     |                 |                                                                 |                     |

## Thawing and Reheating Food

---

### Overview

As mentioned earlier, the food flow process is crucial to keeping food safe. As part of this process is:

- Thawing frozen food
  - Reheating cooked food
- 

### Food Thawing Methods

During the process of thawing, food is exposed to temperatures that allow foodborne microorganisms to grow and multiply. In order to reduce the risk of this microorganism growth, use one of these three acceptable methods for thawing food:

| METHODS FOR THAWING FOOD |                                                                                               |
|--------------------------|-----------------------------------------------------------------------------------------------|
| NO.                      | METHOD                                                                                        |
| 1.                       | Place the food item in a refrigerator at 36–38 °F.                                            |
| 2.                       | Include thawing as part of the cooking process.                                               |
| 3.                       | Use a microwave oven in a manner such that the food will be cooked immediately after thawing. |

**Note:** When thawing food do not expose the frozen food to excessive heat or warm air currents.

---

### Reheating Cooked Food

When reheating previously cooked, potentially hazardous food for hot holding:

- Reheat the internal temperature of the food to 165 °F within two hours (and measure for 15 seconds).
  - Discard the food if the internal temperature of 165 °F is not reached within two hours.
-

## Lesson Review

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**Purpose**

The intention of this exercise is to help you confirm what you have learned about how to keep food safe through properly receiving, inspecting, and storing food as well as minimizing cross-contamination during the food flow process.

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**Directions**

Test your knowledge of the concepts and principles of this lesson by choosing the best, most correct answer to each question below. Some questions require you to create answers or fill in blanks. Use the lesson material and references to assist you as necessary.

When you have finished answering the questions, compare your answers to the correct answers in the “Lesson Review Feedback” section at the end of this lesson. Note any differences between your answers and the correct ones so you can learn from them, and discuss them when you meet with your supervisor.

---

**Questions**

1. Which of the following foods can become contaminated by disease-causing organisms?

- |                                          |                                             |
|------------------------------------------|---------------------------------------------|
| <input type="checkbox"/> Potato salad    | <input type="checkbox"/> Dinner rolls       |
| <input type="checkbox"/> Roast beef      | <input type="checkbox"/> After-dinner mints |
| <input type="checkbox"/> Lettuce         | <input type="checkbox"/> Saltine crackers   |
| <input type="checkbox"/> Turkey sandwich | <input type="checkbox"/> Rice pudding       |

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Continued next page

**Lesson Review, continued**

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**Questions,  
contd.**

2. You're making egg salad, and you've just cooked the eggs. What step do you take before chopping the eggs and mixing them with the other ingredients? Why?

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3. Which of the following is a possible source of cross-contamination?

- a. Food
- b. Equipment
- c. Work surfaces
- d. All of the above

4. When receiving/inspecting shell eggs, at what temperature must they be?

- a. 30–38 °F
- b. 32–40 °F
- c. 35–42 °F
- d. 40–50 °F

5. I'm a method for rotating stock that requires you to store and use products by their use date or expiration date in order to use the oldest products first. What's my name?

---

6. When cooking pork, what is the minimum internal temperature it must reach?

- a. 140 °F
- b. 145 °F
- c. 150 °F
- d. 155 °F

7. When cooking poultry, what is the minimum internal temperature it must reach?

- a. 150 °F
- b. 155 °F
- c. 160 °F
- d. 165 °F

Continued next page

## Lesson Review, continued

### Questions, contd.

8–12. Review the table below and, using the temperature guidelines for storing specific types of foods provided in the lesson, complete the empty cells.

| STORAGE TEMPERATURES AND CONDITIONS   |                                      |                        |
|---------------------------------------|--------------------------------------|------------------------|
| THIS ITEM                             | SHOULD BE STORED AT THIS TEMPERATURE | UNDER THESE CONDITIONS |
| 8. Poultry                            |                                      | Must be fresh          |
| 9. Shell eggs                         | 32–40 °F (air temp.)                 |                        |
| 10. UHT products aseptically packaged |                                      | N/A                    |
| 11.                                   | –10 °F (internal temp.)              | Must be frozen         |
| 12. Shellfish                         | 32–40 °F (air temp.)                 |                        |

13. The temperature range of the food temperature danger zone (TDZ) is \_\_\_\_\_.

- Between 41 °F and 140 °F
- A factor that affects the growth of only anaerobic bacteria
- The range of temperature in which bacterial growth is slowest
- All of the above

14. Which pair of words or phrases makes the following sentence true when they are inserted in the blanks? “\_\_\_\_\_ food should be kept at a temperature of \_\_\_\_\_.”

- Hot, 140 °F or higher
- Frozen, 40 °F or lower
- Refrigerated, 0 °F or lower
- All of the above

Continued next page

**Lesson Review, continued**

---

**Questions,  
contd.**

15. Food items on a steam table must be kept at or above what temperature?
- 140 °F
  - 160 °F
  - 180 °F
  - 200 °F
16. Food items in a chilled salad bar must be kept at or below what temperature?
- 36 °F
  - 41 °F
  - 46 °F
  - 51 °F
17. Fill in the blanks in the following statement: The two-stage cooling method requires that hot food be cooled to \_\_\_\_\_ °F over two hours and then to \_\_\_\_\_ °F within an additional two hours.
18. If leftover food is maintained at 41 °F or below, how long can it be held before it must be discarded?
- 5 hours
  - 12 hours
  - 24 hours
  - 2 days
-

## Practicing What You Have Learned

---

### Overview

This lesson covers material associated with three EPQs, so there are three performance evaluations for you to complete. Before you attempt to pass the performance evaluations, however, we recommend that you practice the three core tasks in this lesson:

- Maintaining safe temperatures and store leftover food
  - Maintaining safe serving temperatures
  - Storing leftover foods
- 

### Practicing the Core Tasks

Once you have finished reading the lesson and have completed the lesson review, you should meet with your supervisor and observe a demonstration of the following:

- How to maintain safe serving temperatures for the steam table
- How to maintain safe serving temperatures for the chilled salad bar
- How to store leftover food

Once you have observed each of these tasks, you should, under supervision, perform the tasks yourself and receive corrective feedback about your performance from your supervisor.

---

## Performance Evaluation

---



Once you have completed this lesson—meaning you have read the material, completed the lesson review, observed demonstrations of the core tasks, and then practiced the core tasks enough to be moderately competent in them—you are ready to demonstrate the tasks for sign-off.

Your supervisor will discuss this sign-off process with you. It will involve your demonstrating the core tasks under the supervisor's observation, so that he or she can determine whether or not you are able to perform the tasks in a satisfactory manner. Using the Performance Evaluation sheets as a guide, he or she will mark “go” for tasks you perform well and “no go” for tasks where you need improvement. Performing the core tasks well enough to receive a “go” from your supervisor will mean that you met the Enlisted Performance Qualifications (EPQs) associated with the lesson. If you receive a “no go,” you must practice the core tasks, receive feedback, and practice again until you are able to perform the tasks well enough for sign-off.

The EPQs/core tasks for this lesson are:

- ❑ 4.B.01 – Maintain the following pieces of equipment at safe serving temperatures:
    - Chilled salad bar
    - Steam table
  - ❑ 4.C.01 – Store leftover food
-

## Lesson Summary

---

### Summary

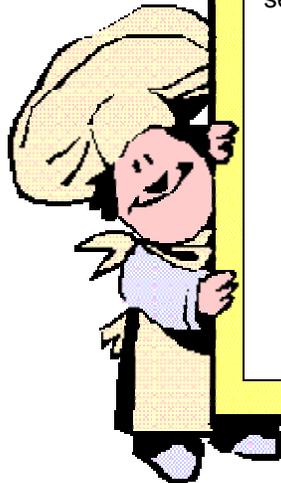
Having completed this lesson, you can:

- Identify the procedures for keeping food safe
  - Maintain safe serving temperatures for a steam table
  - Maintain safe serving temperatures for a chilled salad bar
  - Store leftover food
- 

### Next in this Unit

In the next lesson you will learn about the food service facility. You'll learn about:

- The major components of the food service facility
- Methods for cleaning and sanitizing items in the facility
- Common cleaning and sanitizing tasks



## Lesson Review Feedback

---

### Directions

Compare your answers in the Lesson Review to the answers below (correct answers are in **bold**). Note any differences between your answers and the text so you can learn from them and discuss them with your supervisor.

---

### Answers

1. Which of the following foods can become contaminated by disease-causing organisms?

- |                   |                      |
|-------------------|----------------------|
| ■ Potato salad    | ■ Dinner rolls       |
| ■ Roast beef      | ■ After-dinner mints |
| ■ Lettuce         | ■ Saltine crackers   |
| ■ Turkey sandwich | ■ Rice pudding       |

**All of them. Any food can become contaminated and must be stored or wrapped properly to prevent contamination.**

**(Gisslen, pp. 20–22)**

2. You're making egg salad, and you've just cooked the eggs. What step do you take before chopping the eggs and mixing them with the other ingredients? Why?

**Chill the eggs. Adding warm or hot eggs to the other ingredients raises the temperature of the mix and encourages bacterial growth. (Gisslen, p. 21)**

3. Which of the following is a possible source of cross-contamination?

- Food
- Equipment
- Work surfaces
- All of the above**

4. When receiving/inspecting shell eggs, at what temperature must they be?

- 30–38 °F
- 32–40 °F**
- 35–42 °F
- 40–50 °F

Continued next page

## Lesson Review Feedback, continued

### Answers, contd.

5. I'm a method for rotating stock that requires you to store and use products by their use date or expiration date in order to use the oldest products first. What's my name?

#### **FIFO, or "First In, First Out"**

6. When cooking pork, what is the minimum internal temperature it must reach?
- 140 °F
  - 145 °F**
  - 150 °F
  - 155 °F
7. When cooking poultry, what is the minimum internal temperature it must reach?
- 150 °F
  - 155 °F
  - 160 °F
  - 165 °F**

- 8–12. Review the table below and, using the temperature guidelines for storing specific types of foods provided in the lesson, complete the empty cells.

| <b>STORAGE TEMPERATURES AND CONDITIONS</b> |                                             |                                                              |
|--------------------------------------------|---------------------------------------------|--------------------------------------------------------------|
| <b>THIS ITEM</b>                           | <b>SHOULD BE STORED AT THIS TEMPERATURE</b> | <b>UNDER THESE CONDITIONS</b>                                |
| 8. Poultry                                 | <b>32–40 °F<br/>(internal temp.)</b>        | Must be fresh                                                |
| 9. Shell eggs                              | 32–40 °F (air temp.)                        | <b>Constant temperature and humidity must be maintained.</b> |
| 10. UHT products aseptically packaged      | <b>at room temperature</b>                  | N/A                                                          |
| Continued next page                        |                                             |                                                              |

## Lesson Review Feedback, continued

| Answers,<br>contd. | THIS ITEM                                         | SHOULD BE STORED<br>AT THIS<br>TEMPERATURE | UNDER THESE<br>CONDITIONS |
|--------------------|---------------------------------------------------|--------------------------------------------|---------------------------|
|                    | <b>11. Ice cream<br/>and/or frozen<br/>yogurt</b> | -10 °F (internal temp.)                    | Must be frozen            |
|                    | 12. Shellfish                                     | 32–40 °F (air temp.)                       | <b>Must be alive</b>      |

13. The temperature range of the food temperature danger zone (TDZ) is \_\_\_\_\_.
- Between 41 °F and 140 °F**
  - A factor that affects the growth of only anaerobic bacteria
  - The range of temperature in which bacterial growth is slowest
  - All of the above
14. Which pair of words or phrases makes the following sentence true when they are inserted in the blanks? “\_\_\_\_\_ food should be kept at a temperature of \_\_\_\_\_.”
- Hot, 140 °F or higher**
  - Frozen, 40 °F or lower
  - Refrigerated, 0 °F or lower
  - All of the above
15. Food items on a steam table must be kept at or above what temperature?
- 140 °F**
  - 160 °F
  - 180 °F
  - 200 °F
16. Food items in a chilled salad bar must be kept at or below what temperature?
- 36 °F
  - 41 °F**
  - 46 °F
  - 51 °F
17. Fill in the blanks in the following statement: The two-stage cooling method requires that hot food be cooled to 70 °F over two hours and then to 41 °F within an additional two hours.

Continued next page

## Lesson Review Feedback, continued

---

**Answers,  
contd.**

18. If leftover food is maintained at 41 °F or below, how long can it be held before it must be discarded?
- a. 5 hours
  - b. 12 hours
  - c. 24 hours**
  - d. 2 days
-

## PERFORMANCE EVALUATION 3.4.1

### Maintain Safe Serving Temperatures

---

**Goal**

The student will:

- Prepare the salad bar or steam table
  - Place food items on the prepared salad bar or steam table
  - Maintain the food items at the correct temperature
- 

**Directions  
Hands-On  
Practice**

Given a chilled salad bar or steam table and food items to serve, you will ensure the items are maintained at the correct temperature.

---

**Checklist**

Fill in your name on the Unit 3 Performance Evaluation Checklist and hand it to your instructor prior to completing the hands-on exercise.

---

**Feedback**

Your instructor will review your performance for accuracy and completeness and provide any comments directly to you.

---

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### PERFORMANCE EVALUATION 3.4.1A

#### Maintain a Chilled Salad Bar at Safe Serving Temperatures

|                                    |                                                                                                           |
|------------------------------------|-----------------------------------------------------------------------------------------------------------|
| <b>Location:</b><br>_____<br>_____ | <b>Completed by:</b> _____ <b>Reviewed by:</b> _____<br>(Enter your name) (Obtain Supervisor's signature) |
|------------------------------------|-----------------------------------------------------------------------------------------------------------|

**EPQ**  
**4.B.01 Maintain** safe serving temperatures utilizing the following IAW the Food Service Sanitation Manual, COMDTINST M6240.4 (series) and Food Service Management General Messes, NAVSUP Publication 486:

- Steam Table
- Chilled Salad Bar

|                                                                                                                                                                                                                        |                                                                                                                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| <b>Criteria</b><br><u>Accuracy:</u> <ul style="list-style-type: none"> <li>• Salad bar at proper temperature for holding and serving hot food items.</li> <li>• Proper equipment selected 100% of the time.</li> </ul> | <u>Safety:</u> <ul style="list-style-type: none"> <li>• Proper equipment selected 100% of the time.</li> </ul> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|

| TASK                                                                                                                                                                                                                                                                                                                                                                                                   | COMMENTS                 |                          |                         |                          |                          |                        |                          |                          |                        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|-------------------------|--------------------------|--------------------------|------------------------|--------------------------|--------------------------|------------------------|
|                                                                                                                                                                                                                                                                                                                                                                                                        | 1 <sup>st</sup> Attempt  |                          | 2 <sup>nd</sup> Attempt |                          | 3 <sup>rd</sup> Attempt  |                        |                          |                          |                        |
|                                                                                                                                                                                                                                                                                                                                                                                                        | Y                        | N                        | ____/____/____<br>Date  | Y                        | N                        | ____/____/____<br>Date | Y                        | N                        | ____/____/____<br>Date |
| 1. The performer placed the salad bar items in pans or trays.                                                                                                                                                                                                                                                                                                                                          | <input type="checkbox"/> | <input type="checkbox"/> |                         | <input type="checkbox"/> | <input type="checkbox"/> |                        | <input type="checkbox"/> | <input type="checkbox"/> |                        |
| 2. The performer pre-chilled the salad bar items and salad bar pans in a refrigerator before placing the chilled items on the salad bar.                                                                                                                                                                                                                                                               | <input type="checkbox"/> | <input type="checkbox"/> |                         | <input type="checkbox"/> | <input type="checkbox"/> |                        | <input type="checkbox"/> | <input type="checkbox"/> |                        |
| 3. The performer determined the type of salad bar. <ul style="list-style-type: none"> <li>• If the salad bar was to be chilled electrically, s/he turned on the salad bar one hour before placing the food items and skipped to step 6.</li> <li>• If the salad bar was to be chilled with ice, s/he verified proper drainage for ice, added ice to the salad bar, and continued to step 4.</li> </ul> | <input type="checkbox"/> | <input type="checkbox"/> |                         | <input type="checkbox"/> | <input type="checkbox"/> |                        | <input type="checkbox"/> | <input type="checkbox"/> |                        |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                 |                          |                                                               |                          |                          |                                                               |                                                              |                          |  |  |  |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|--------------------------|---------------------------------------------------------------|--------------------------|--------------------------|---------------------------------------------------------------|--------------------------------------------------------------|--------------------------|--|--|--|--|
| <b>Location:</b><br>_____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>Completed by:</b> _____<br>(Enter your name) |                          |                                                               |                          |                          |                                                               | <b>Reviewed by:</b> _____<br>(Obtain Supervisor's signature) |                          |  |  |  |  |
| 4. The performer determined if lettuce was to be served.<br><ul style="list-style-type: none"> <li>• If lettuce was to be served and the salad bar was chilled using ice, the performer continued to step 5.</li> <li>• If the lettuce was to be served and the salad bar was chilled electrically, the performer skipped to step 6.</li> <li>• If no lettuce was to be served the performer skipped to step 6.</li> </ul>                                                                                                                                     | <input type="checkbox"/>                        | <input type="checkbox"/> |                                                               | <input type="checkbox"/> | <input type="checkbox"/> |                                                               | <input type="checkbox"/>                                     | <input type="checkbox"/> |  |  |  |  |
| 5. The performer placed a serving tray upside-down over the ice so that the ice does not come into direct contact with the lettuce pan.                                                                                                                                                                                                                                                                                                                                                                                                                        | <input type="checkbox"/>                        | <input type="checkbox"/> |                                                               | <input type="checkbox"/> | <input type="checkbox"/> |                                                               | <input type="checkbox"/>                                     | <input type="checkbox"/> |  |  |  |  |
| 6. The performer placed the chilled food and pans on the salad bar.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <input type="checkbox"/>                        | <input type="checkbox"/> |                                                               | <input type="checkbox"/> | <input type="checkbox"/> |                                                               | <input type="checkbox"/>                                     | <input type="checkbox"/> |  |  |  |  |
| 7. Every 15 minutes, the performer placed a calibrated thermometer into the center of the food items, for at least 15 seconds, in a manner such that the thermometer did not come into contact with the serving pan or serving utensils.                                                                                                                                                                                                                                                                                                                       | <input type="checkbox"/>                        | <input type="checkbox"/> |                                                               | <input type="checkbox"/> | <input type="checkbox"/> |                                                               | <input type="checkbox"/>                                     | <input type="checkbox"/> |  |  |  |  |
| 8. The performer determined the temperature of the chilled food items.<br><ul style="list-style-type: none"> <li>• If the food item was at 41 °F or less, s/he repeated step 7 every 15 minutes.</li> <li>• If the temperature of the food item was greater than 41 °F, and the salad bar was chilled using ice, s/he removed the chilled items and added ice to salad bar.</li> <li>• If the temperature of the food item was greater than 41 °F, and the salad bar was chilled electrically, s/he turned down the thermostat and repeated step 7.</li> </ul> | <input type="checkbox"/>                        | <input type="checkbox"/> |                                                               | <input type="checkbox"/> | <input type="checkbox"/> |                                                               | <input type="checkbox"/>                                     | <input type="checkbox"/> |  |  |  |  |
| <input type="checkbox"/> Go<br><input type="checkbox"/> No Go                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                 |                          | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go |                          |                          | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go |                                                              |                          |  |  |  |  |

### PERFORMANCE EVALUATION 3.4.1B

#### Maintain a Steam Table at Safe Serving Temperatures

|                                    |                                                                                                           |
|------------------------------------|-----------------------------------------------------------------------------------------------------------|
| <b>Location:</b><br>_____<br>_____ | <b>Completed by:</b> _____ <b>Reviewed by:</b> _____<br>(Enter your name) (Obtain Supervisor's signature) |
|------------------------------------|-----------------------------------------------------------------------------------------------------------|

**EPQ**  
**4.B.01 Maintain** safe serving temperatures utilizing the following IAW the Food Service Sanitation Manual, COMDTINST M6240.4 (series) and Food Service Management General Messes, NAVSUP Publication 486:

- Steam Table
- Chilled Salad Bar

|                                                                                                                                                                                                                          |                                                                                                                                                              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Criteria</b><br><b>Accuracy:</b> <ul style="list-style-type: none"> <li>• Steam table at proper temperature for holding and serving hot food items.</li> <li>• Proper equipment selected 100% of the time.</li> </ul> | <b>Safety:</b> <ul style="list-style-type: none"> <li>• Table equipped with sneeze shields</li> <li>• Proper equipment selected 100% of the time.</li> </ul> |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|

| TASK                                                                                                                                                                                                                   | COMMENTS                 |                          |                         |                          |                          |                        |                          |                          |                         |                          |                          |                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|-------------------------|--------------------------|--------------------------|------------------------|--------------------------|--------------------------|-------------------------|--------------------------|--------------------------|------------------------|
|                                                                                                                                                                                                                        | 1 <sup>st</sup> Attempt  |                          | 2 <sup>nd</sup> Attempt |                          | 3 <sup>rd</sup> Attempt  |                        | 1 <sup>st</sup> Attempt  |                          | 2 <sup>nd</sup> Attempt |                          | 3 <sup>rd</sup> Attempt  |                        |
|                                                                                                                                                                                                                        | Y                        | N                        | ____/____/____<br>Date  | Y                        | N                        | ____/____/____<br>Date | Y                        | N                        | ____/____/____<br>Date  | Y                        | N                        | ____/____/____<br>Date |
| 1. The performer turned on the hot food table and set temperature for 160 °F an hour prior to pacing hot food items to be served.                                                                                      | <input type="checkbox"/> | <input type="checkbox"/> |                         | <input type="checkbox"/> | <input type="checkbox"/> |                        | <input type="checkbox"/> | <input type="checkbox"/> |                         | <input type="checkbox"/> | <input type="checkbox"/> |                        |
| 2. The performer determined temperature of the hot food table.<br>• If the hot food table was at 160 °F or greater, s/he skipped to step 4.<br>• If the hot food table was less than 160 °F, s/he continued to step 3. | <input type="checkbox"/> | <input type="checkbox"/> |                         | <input type="checkbox"/> | <input type="checkbox"/> |                        | <input type="checkbox"/> | <input type="checkbox"/> |                         | <input type="checkbox"/> | <input type="checkbox"/> |                        |
| 3. The performer waited 15 minutes, and then repeated step 2.                                                                                                                                                          | <input type="checkbox"/> | <input type="checkbox"/> |                         | <input type="checkbox"/> | <input type="checkbox"/> |                        | <input type="checkbox"/> | <input type="checkbox"/> |                         | <input type="checkbox"/> | <input type="checkbox"/> |                        |
| 4. The performer placed the food on the hot food table.                                                                                                                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                         | <input type="checkbox"/> | <input type="checkbox"/> |                        | <input type="checkbox"/> | <input type="checkbox"/> |                         | <input type="checkbox"/> | <input type="checkbox"/> |                        |

|                                                                                                                                                                                                                                                                                                                                        |                                                                                                           |                          |                                                               |                          |                          |                                                               |                          |                          |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------------|---------------------------------------------------------------|--------------------------|--------------------------|---------------------------------------------------------------|--------------------------|--------------------------|--|
| <b>Location:</b><br>_____<br>_____                                                                                                                                                                                                                                                                                                     | <b>Completed by:</b> _____ <b>Reviewed by:</b> _____<br>(Enter your name) (Obtain Supervisor's signature) |                          |                                                               |                          |                          |                                                               |                          |                          |  |
| 5. Every fifteen minutes, the performer placed a calibrated thermometer into the center of the food items, for at least 15 seconds, in a manner such that the thermometer did not come into contact with the serving pan or serving utensils.                                                                                          | <input type="checkbox"/>                                                                                  | <input type="checkbox"/> |                                                               | <input type="checkbox"/> | <input type="checkbox"/> |                                                               | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 6. The performer determined the temperature of the hot food items. <ul style="list-style-type: none"> <li>• If the food item was at 140 °F or greater, s/he repeated step 5 every 15 minutes.</li> <li>• If the food item was at less than 140 °F, s/he turned up the thermostat on the hot food table and repeated step 5.</li> </ul> | <input type="checkbox"/>                                                                                  | <input type="checkbox"/> |                                                               | <input type="checkbox"/> | <input type="checkbox"/> |                                                               | <input type="checkbox"/> | <input type="checkbox"/> |  |
| <input type="checkbox"/> Go<br><input type="checkbox"/> No Go                                                                                                                                                                                                                                                                          |                                                                                                           |                          | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go |                          |                          | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go |                          |                          |  |

**PERFORMANCE EVALUATION 3.4.2****Store Leftover Food**

---

|                                             |                                                                                                                                                  |
|---------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Goal</b>                                 | The student will store leftover food following the appropriate safety procedure. <hr/>                                                           |
| <b>Directions<br/>Hands-On<br/>Practice</b> | Given leftover food items, you will chill, label, and store the items properly. <hr/>                                                            |
| <b>Checklist</b>                            | Fill in your name on the Unit 3 Performance Evaluation Checklist and hand it to your instructor prior to completing the hands-on exercise. <hr/> |
| <b>Feedback</b>                             | Your instructor will review your performance for accuracy and completeness and provide any comments directly to you. <hr/>                       |

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## PERFORMANCE EVALUATION 3.4.2

### Store Leftover Food Under Refrigeration

|                                                                                                                                                                              |                                                                                                                                                             |                          |                                                                |                                                               |                          |                                                                |                                                               |                          |                                                                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|----------------------------------------------------------------|---------------------------------------------------------------|--------------------------|----------------------------------------------------------------|---------------------------------------------------------------|--------------------------|----------------------------------------------------------------|
| <b>Location:</b><br>_____<br>_____                                                                                                                                           | <b>Completed by:</b> _____ <b>Reviewed by:</b> _____<br>(Enter your name) (Obtain Supervisor's signature)                                                   |                          |                                                                |                                                               |                          |                                                                |                                                               |                          |                                                                |
| <b>EPQ</b><br><b>4.C.01</b> Store leftover food IAW the Food Service Sanitation Manual, COMDTINST M6240.4 (series).                                                          |                                                                                                                                                             |                          |                                                                |                                                               |                          |                                                                |                                                               |                          |                                                                |
| <b>Criteria</b><br><b>Accuracy:</b> <ul style="list-style-type: none"> <li>Food items identified properly for storage.</li> <li>Food items wrapped appropriately.</li> </ul> | <b>Safety:</b> <ul style="list-style-type: none"> <li>Wrap food according to the individual food's requirements for preservation before serving.</li> </ul> |                          |                                                                |                                                               |                          |                                                                |                                                               |                          |                                                                |
| <b>TASK</b>                                                                                                                                                                  | <b>COMMENTS</b>                                                                                                                                             |                          |                                                                |                                                               |                          |                                                                |                                                               |                          |                                                                |
|                                                                                                                                                                              | <b>Y</b>                                                                                                                                                    | <b>N</b>                 | <b>1<sup>st</sup> attempt</b><br>____/____/____<br><b>Date</b> | <b>Y</b>                                                      | <b>N</b>                 | <b>2<sup>nd</sup> attempt</b><br>____/____/____<br><b>Date</b> | <b>Y</b>                                                      | <b>N</b>                 | <b>3<sup>rd</sup> attempt</b><br>____/____/____<br><b>Date</b> |
| 1. The performer gathered the tools and equipment to be used.                                                                                                                | <input type="checkbox"/>                                                                                                                                    | <input type="checkbox"/> |                                                                | <input type="checkbox"/>                                      | <input type="checkbox"/> |                                                                | <input type="checkbox"/>                                      | <input type="checkbox"/> |                                                                |
| 2. The performer placed the item in an appropriate container when necessary.                                                                                                 | <input type="checkbox"/>                                                                                                                                    | <input type="checkbox"/> |                                                                | <input type="checkbox"/>                                      | <input type="checkbox"/> |                                                                | <input type="checkbox"/>                                      | <input type="checkbox"/> |                                                                |
| 3. The performer wrapped or sealed the container with a lid.                                                                                                                 | <input type="checkbox"/>                                                                                                                                    | <input type="checkbox"/> |                                                                | <input type="checkbox"/>                                      | <input type="checkbox"/> |                                                                | <input type="checkbox"/>                                      | <input type="checkbox"/> |                                                                |
| 4. The performer labeled the item with the necessary information.                                                                                                            | <input type="checkbox"/>                                                                                                                                    | <input type="checkbox"/> |                                                                | <input type="checkbox"/>                                      | <input type="checkbox"/> |                                                                | <input type="checkbox"/>                                      | <input type="checkbox"/> |                                                                |
| 5. The performer placed the item in the refrigerator.                                                                                                                        | <input type="checkbox"/>                                                                                                                                    | <input type="checkbox"/> |                                                                | <input type="checkbox"/>                                      | <input type="checkbox"/> |                                                                | <input type="checkbox"/>                                      | <input type="checkbox"/> |                                                                |
| 6. The performer checked internal temperature after two hours and discarded those items with temperatures greater than 70 °F.                                                | <input type="checkbox"/>                                                                                                                                    | <input type="checkbox"/> |                                                                | <input type="checkbox"/>                                      | <input type="checkbox"/> |                                                                | <input type="checkbox"/>                                      | <input type="checkbox"/> |                                                                |
| 7. The performer checked internal temperatures after two more hours and discarded those items with temperatures greater than 41 °F.                                          | <input type="checkbox"/>                                                                                                                                    | <input type="checkbox"/> |                                                                | <input type="checkbox"/>                                      | <input type="checkbox"/> |                                                                | <input type="checkbox"/>                                      | <input type="checkbox"/> |                                                                |
|                                                                                                                                                                              | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go                                                                                               |                          |                                                                | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go |                          |                                                                | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go |                          |                                                                |

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## LESSON 5

### Cleaning and Sanitizing the Food Service Facility

#### Introduction

---

##### Overview

This lesson introduces the major components of the food service facility and provides guidelines on the methods and tasks used in cleaning and sanitizing the facility.

This section of the lesson includes:

- ❑ Objectives
  - ❑ Tools and References
  - ❑ Topics Covered by This Lesson
- 

##### Performance Qualifications

This lesson covers the following Enlisted Performance Qualifications (EPQs):

**4.C.02 Clean/Sanitize** all food and non-food contact surfaces within food service spaces IAW Food Service Sanitation Manual, COMDTINST M6240.4 (series).

**SupGuide:** Ensure trashcans are included while performing this task.

**4.C.05 Clean/Sanitize** ice machines IAW Food Service Sanitation Manual, COMDTINST M6240.4 (series) and Food Service Management General Messes, NAVSUP 486.

**4.C.06 Clean/Sanitize** reefers/freezers IAW Food Service Sanitation Manual, COMDTINST M6240.4 (series) and Food Service Management General Messes, NAVSUP 486.

---

##### Objectives

Upon completion of this lesson, you will:

- ❑ Match the food service facility tool, equipment, or utensil with its preferred cleaning method.
  - ❑ Clean and sanitize the following:
    - All food and non-food contact surfaces
    - Ice machines
    - Walk-in freezers/reefers
    - Reach-in freezers/reefers
-

**Introduction, continued**

**Tools and References**

The tools and references for this lesson include:

- ❑ Food Service Sanitation Manual, COMDTINST M6240.4A
- ❑ NAVSUP P-486 – Food Service Management
- ❑ Unit 1, Appendix C, Glossary of Key Terms

**Topics Covered by This Lesson**

This lesson covers the following specific topic areas and presents job aids with the cleaning and sanitizing procedure for each piece of equipment listed.

| TOPIC                                     | PAGE         |
|-------------------------------------------|--------------|
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| Choosing a cleaning and sanitizing method | 5-6 to 5-7   |
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| Three-compartment sink method             | 5-9 to 5-10  |
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| Freezers and Reefers                      | 5-15         |
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**Introduction, continued****Topics Covered  
by This Lesson,  
contnd.**

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**Introduction, continued****Topics Covered  
by This Lesson,  
contnd.**

| <b>TOPIC</b>                       | <b>PAGE</b>  |
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| Dining tables, chairs, and benches | 5-51         |
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| Garbage grinders                   | 5-56         |
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## The Food Service Facility

### Components of the Food Service Facility

The table below explains the four main components of the food service facility.

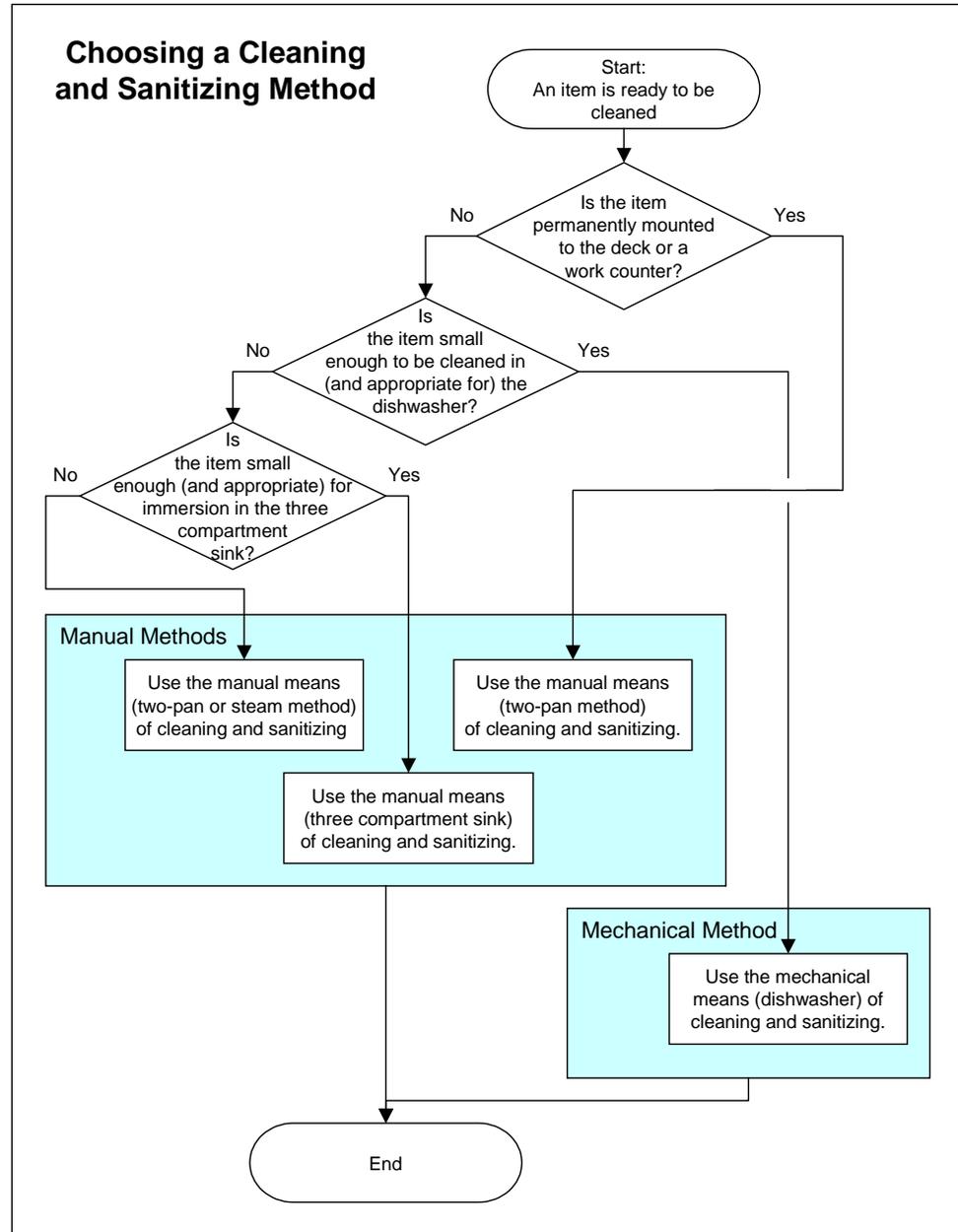
| FOOD SERVICE FACILITY COMPONENTS |                                                                                                                                         |                                                                                                                                                                                                                                                                                      |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| COMPONENT                        | DESCRIPTION                                                                                                                             | EQUIPMENT                                                                                                                                                                                                                                                                            |
| The Serving Line                 | Used for holding and serving food.                                                                                                      | <ul style="list-style-type: none"> <li>■ Lowerators (for trays, cups, plates, bowls, etc.)</li> <li>■ Food serving equipment (including cold food storage, hot food tables—electric or steam)</li> <li>■ Sneeze guards and tray slide rails</li> <li>■ Heat/warming lamps</li> </ul> |
| The Mess Deck                    | Used for consuming food.                                                                                                                | <ul style="list-style-type: none"> <li>■ Chilled salad bars</li> <li>■ Beverages dispensers</li> <li>■ Dining tables, chairs, and benches</li> <li>■ Condiment containers</li> <li>■ Toasters</li> <li>■ Cereal and bread dispensers</li> </ul>                                      |
| The Scullery and Food Waste Area | Used for cleaning and sanitizing hand tools, equipment, and utensils used in the preparation, processing, holding, and serving of food. | <ul style="list-style-type: none"> <li>■ Dishwashers</li> <li>■ Three-compartment sinks</li> <li>■ Garbage grinders</li> <li>■ Garbage disposal containers (trash cans)</li> </ul>                                                                                                   |

## Choosing a Cleaning and Sanitizing Method

### Choosing a Cleaning and Sanitizing Method

When choosing the method you will use to clean and sanitize an item in the food service facility, there are several things you must consider. You need to know the size/weight of the item, whether the item is portable or permanently mounted, as well as the size of your sinks and your dishwasher.

Use the chart below to help you determine the proper cleaning and sanitizing method.



## Choosing a Cleaning and Sanitizing Method, continued

---

### Examples of Choosing a Cleaning and Sanitizing Method

Take, for example, three items ready for cleaning:

- A walk-in refrigerator
- A large oven shelf
- A fork

Here is the decision process for each item:

- The walk-in refrigerator is permanently mounted (not to mention far too large to put in a dishwasher!) so, using the chart above, you determine that you need to use the two-pan method to clean it.
- The oven shelf is too large to fit in the dishwasher. Use the three-compartment sink method to clean it.
- The fork is easily small enough to fit in the dishwasher. Use the mechanical method (the dishwasher).

Sometimes an item is not appropriate for a certain method of cleaning suggested by the flowchart and you will have to use your judgment on what method to use to clean it. For example, an electric food mixer, while small enough to go into a dishwasher or be cleaned by immersion in a three-compartment sink, would likely have its electrical components destroyed when using either of those methods. You would use the two-pan method for cleaning an item of that nature.

If you have any questions about how to clean an item, be sure to check with your supervisor.

---

## Mechanical Method

**Procedure**

See the table below for guidelines on using the mechanical method of cleaning and sanitizing items in the food service facility.

| <b>GUIDELINES FOR USING THE MECHANICAL CLEANING AND SANITIZING METHOD</b> |                                                                                                                                                                                                                                                                                                                                                                |
|---------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>CATEGORY</b>                                                           | <b>GUIDELINE</b>                                                                                                                                                                                                                                                                                                                                               |
| Reading temperatures                                                      | Measure temperatures of: <ul style="list-style-type: none"> <li>■ Wash water and pumped rinse water in their respective tanks.</li> <li>■ Final rinse water at the manifold.</li> </ul>                                                                                                                                                                        |
| Correct temperatures                                                      | Wash water and pumped rinse water must be kept clean and at the following temperatures: <ul style="list-style-type: none"> <li>■ Wash temperature: 150–160 °F</li> <li>■ Pumped rinse temperature: 160–180 °F</li> <li>■ Final rinse temperature: 180–194 °F</li> </ul> Utensil surfaces must reach <ul style="list-style-type: none"> <li>■ 160 °F</li> </ul> |
| Drying equipment                                                          | Allow cleaned and sanitized tools and equipment to air dry                                                                                                                                                                                                                                                                                                     |

## Three-Compartment Sink Method

**Procedure**

Three-compartment sinks are used to manually clean and sanitize food service equipment and utensils using:

- ❑ Chemicals
- ❑ Hot water

In this section you will find two guidelines tables: one on use of chemicals and one on use of hot water.

**Note:** The three-compartment sink method is well explained in NAVSUP 486, Section 6 page k-6-3.

| <b>CHEMICALS AND THE THREE-COMPARTMENT SINK METHOD</b> |                                                                                                                                                                                                                                              |
|--------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>CATEGORY</b>                                        | <b>GUIDELINE</b>                                                                                                                                                                                                                             |
| Chemicals                                              | The following chemicals are used with the three-compartment sink: <ul style="list-style-type: none"> <li>■ Detergent</li> <li>■ Calcium hypochlorite</li> <li>■ Chlorinated lime</li> <li>■ Sodium hypochlorite</li> <li>■ Iodine</li> </ul> |
| Chemicals and temperature                              | When using the three-compartment sink with a chemical sanitizing solution, exercise caution so that the temperature of the water does not get so high as to diminish the effectiveness of the chemicals being used.                          |
| Combining products                                     | Read cleaning product labels carefully to ensure that the cleaning products are not combined with any products containing bleach.                                                                                                            |
| Concentrations                                         | When using chemicals with the three-compartment sink, the chemical solution must not have concentrations higher than the maximum permitted by the Food and Drug Administration (FDA).                                                        |
| Continued next page                                    |                                                                                                                                                                                                                                              |

**Three-Compartment Sink Method, continued**

| <b>The Three-Compartment Sink Method, contd.</b> | <b>CATEGORY</b>                            | <b>GUIDELINE</b>                                                                                                                                                                        |
|--------------------------------------------------|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                  | Measuring ppm and pH                       | To accurately measure the ppm and the pH concentration of chemical solutions, use test kits or other devices.                                                                           |
|                                                  | Using a chlorine solution                  | When using a chlorine solution, immerse the items for at least 10 seconds according to Table 5-1 on page 5-2 of the Food Service Sanitation Manual, COMDTINST M6240.4A.                 |
|                                                  | When using an iodine solution              | When using an iodine solution, immerse the items for at least 1 minute in a solution of 12.5–25 ppm of available iodine, a pH not higher than 5.0, and a temperature of at least 75 °F. |
|                                                  | When using concentrated chlorine solutions | Refer to Food Service Sanitation Manual, COMDTINST M6240.4A, Enclosure 2 for chlorine solution concentrations.                                                                          |

See the table below for guidelines for using hot water with the three-compartment sink.

| <b>HOT WATER AND THE THREE-COMPARTMENT SINK METHOD</b> |                                                                                                                                                                                                                   |
|--------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>CATEGORY</b>                                        | <b>GUIDELINE</b>                                                                                                                                                                                                  |
| Accuracy of thermometers                               | Use numerically-scaled indicating thermometers accurate to plus or minus 3 °F for frequent checks of the water temperature.                                                                                       |
| Heating devices                                        | When using hot water, an integral heating device or fixture capable of maintaining a water temperature of at least 171 °F must be installed in or under the sanitizing compartment of the three-compartment sink. |
| Temperature and immersion                              | Immerse the items for at least thirty seconds in the sanitizing compartment with clean, hot water at a temperature of at least 171 °F.                                                                            |

## Two-Pan Method

**Procedure**

As noted earlier, the two-pan method is used for items:

- ❑ Too large or too heavy for complete immersion in the three-compartment sink
- ❑ Permanently mounted on either the galley deck or countertops

| <b>GUIDELINES FOR USING THE TWO-PAN METHOD</b> |                                                                                                                                                                                                                                     |
|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>CATEGORY</b>                                | <b>GUIDELINE</b>                                                                                                                                                                                                                    |
| Pan #1                                         | Use one pan containing two tablespoons of liquid detergent to each gallon of hot water to ensure a thorough cleaning in cracks, crevices, and hard-to-get-at areas. (See note below for hard-to-remove dirt and baked-on deposits.) |
| Pan #2                                         | Use a second pan containing hot, clear water or a chemical sanitizing solution to ensure that all traces of detergent are removed.                                                                                                  |
| Hard-to-remove dirt and baked-on food deposits | For hard-to-remove dirt and baked-on food deposits, use two tablespoons of liquid detergent and four tablespoons of dishwashing machine detergent to each gallon of water.                                                          |
| When using chemicals                           | In the case of equipment too large to sanitize by immersion, rinse, spray, or swab with a chemical sanitizing solution of at least twice the usual recommended strength.                                                            |
| When using hot water                           | When using hot water to clean and sanitize tableware, utensils, and food contact surfaces of all other tools and equipment using the two-pan method, follow the same directions as the three-compartment sink mentioned earlier.    |

## Topic Review

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**Purpose**

The intention of this exercise is to help you confirm what you have learned about the major components of the food service facility as well as the methods and tasks used in cleaning and sanitizing the facility.

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**Directions**

Test your knowledge of the important concepts and principles of this lesson by choosing the best, most correct answer to each question below. Use the lesson material and references to assist you as necessary.

When you have finished answering the questions, compare your answers to the correct answers in the “Topic Review Feedback” section later in this lesson.

---

**Questions**

- Food service facilities are made up of several areas. The lesson mentions four main areas. Name three of these four areas.

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- Review the table. Place Xs in the intersections where the item on the left should be cleaned using the corresponding method. Some items may be cleaned using more than one method. The first one has been done for you.

| METHODS FOR CLEANING AND SANITIZING |                                 |                               |                |
|-------------------------------------|---------------------------------|-------------------------------|----------------|
| ITEM TO BE CLEANED AND SANITIZED    | MECHANICAL (DISH-WASHER) METHOD | THREE-COMPARTMENT SINK METHOD | TWO-PAN METHOD |
| Ex. Dinnerware                      | X                               | X                             |                |
| 2. Griddle                          |                                 |                               |                |
| 3. Eating utensils                  |                                 |                               |                |
| 4. Food mixer                       |                                 |                               |                |
| Continued next page                 |                                 |                               |                |

**Topic Review, continued**

**Questions,  
contd.**

| <b>ITEM TO BE CLEANED AND SANITIZED</b> | <b>MECHANICAL (DISH-WASHER) METHOD</b> | <b>THREE-COMPARTMENT SINK METHOD</b> | <b>TWO-PAN METHOD</b> |
|-----------------------------------------|----------------------------------------|--------------------------------------|-----------------------|
| 5. Meat slicer                          |                                        |                                      |                       |
| 6. Steam-jacketed kettle                |                                        |                                      |                       |
| 7. Convection oven                      |                                        |                                      |                       |
| 8. Proof box                            |                                        |                                      |                       |
| 9. Ice machine                          |                                        |                                      |                       |
| 10. Reach-in reefer                     |                                        |                                      |                       |

## Stainless Steel Surfaces

### Procedure

Stainless steel surfaces should be cleaned daily to prevent the buildup of dirt and grease deposits, which if permitted to remain for a lengthy period, will harm the finish. Stainless steel requires exposure to air in order to remain bright and shiny.

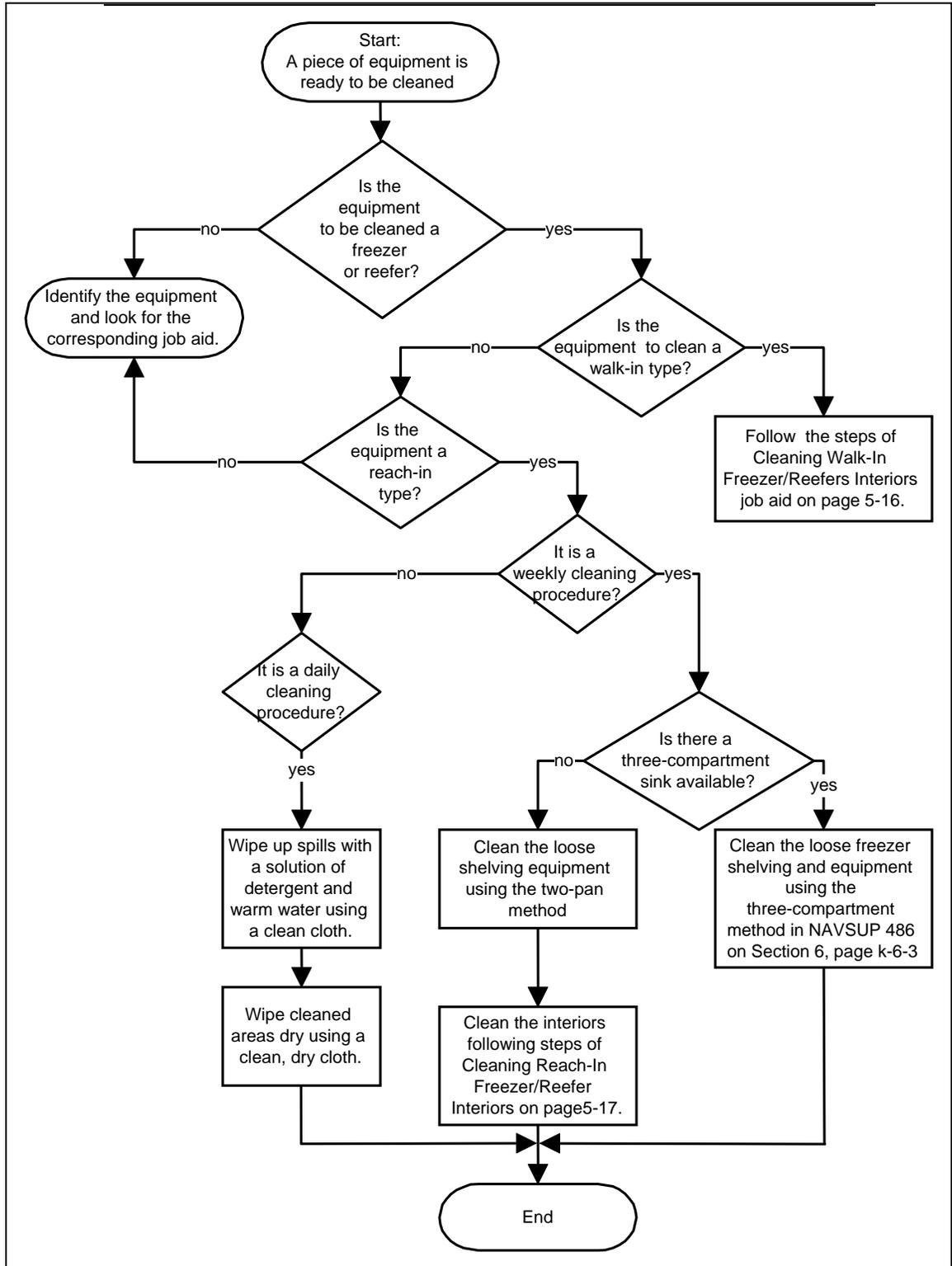
To clean and sanitize stainless steel surfaces, follow the steps in the table below.

| <b>CLEANING STAINLESS STEEL</b> |                                                                                                                                                                                                                                                                                                                                                                    |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>STEP</b>                     | <b>ACTION</b>                                                                                                                                                                                                                                                                                                                                                      |
| 1.                              | Use the “two-pan” method for cleaning and rinsing. Stainless steel has a polishing line or a “grain” like wood; clean in the direction of this “grain,” not against it. Ensure that strong cleaning agents or rough abrasives are NOT used as they will scratch the surface.                                                                                       |
| 2.                              | Do not permit the cleaning solution or a sanitizing solution to remain on the stainless steel for long periods, as it will cause discoloration.                                                                                                                                                                                                                    |
| 3.                              | Stainless steel surfaces should be wiped dry with a soft, dry cloth after cleaning and rinsing.                                                                                                                                                                                                                                                                    |
| 4.                              | A silicone base polish is recommended for polishing stainless steel. Before ordering stainless steel cleaners, ensure that they meet the shipboard HAZMAT (Hazardous Material) requirements. Stainless steel polishes will be used in accordance with Material Safety Data Sheets (MSDS). Stainless steel polishes shall not be utilized on food contact surfaces. |
| End of procedure                |                                                                                                                                                                                                                                                                                                                                                                    |

# Freezers and Reefers

## Procedure

To clean and sanitize a freezer or reefers, follow the steps in the flowchart below.



**Walk-In Freezers/Reefers**

---

**Procedure**

To clean and sanitize walk-in reefers, follow the steps in the table below.

| <b>CLEANING WALK-IN FREEZER / REEFER INTERIORS</b> |                                                                                                                                                                            |
|----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>STEP</b>                                        | <b>ACTION</b>                                                                                                                                                              |
| 1.                                                 | To clean the interior of the refrigerator, use a solution of baking soda or borax and hot water. These compounds act as deodorants and will not scratch or mar the finish. |
| 2.                                                 | To prepare a soda solution, mix one-half teaspoon of ordinary baking soda to each quart of water.                                                                          |
| 3.                                                 | Clean the exterior of the cabinet with clear water or a weak solution of baking soda and warm water.                                                                       |
| 4.                                                 | Once a week, wash door gasket rubber with mild soap and water followed by a fresh rinse.                                                                                   |
| End of procedure                                   |                                                                                                                                                                            |

---

## Reach-In Reefers

**Procedure**

To clean the interior of reach-in freezer/reefers, follow the steps in the table below.

| <b>CLEANING REACH-IN FREEZER/REEFER INTERIORS</b> |                                                                                                                                                                        |
|---------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>STEP</b>                                       | <b>ACTION</b>                                                                                                                                                          |
| <b>DAILY CLEANING:</b>                            |                                                                                                                                                                        |
| 1.                                                | Clean up spills and exterior surfaces with detergent and warm water. Wipe dry.                                                                                         |
| <b>BI-WEEKLY CLEANING:</b>                        |                                                                                                                                                                        |
| 1.                                                | Transfer all stored foods to protected temporary storage.                                                                                                              |
| 2.                                                | Remove shelving and loose equipment to wash sink filled with detergent solution. Scrub with plastic bristle brush. Rinse. Sanitize with spray. Leave door open to dry. |
| 3.                                                | Scrub interior of box with hot detergent solution, using plastic brush. Clean corners, doors, openings, hinges, and latches. Rinse. Sanitize.                          |
| <b>PERIODIC CLEANING:</b>                         |                                                                                                                                                                        |
| 1.                                                | Clean vacuum compressor, condenser coils, motor and related areas.                                                                                                     |
| End of procedure                                  |                                                                                                                                                                        |

# Ovens

## Procedure

To clean convection and conventional ovens, follow the steps below:

| CLEANING CONVECTION AND CONVENTIONAL OVENS |                                                                                                                                                                                                                                                                                                                                                                               |                     |
|--------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| STEP                                       | ACTION                                                                                                                                                                                                                                                                                                                                                                        |                     |
| 1.                                         | IF it is                                                                                                                                                                                                                                                                                                                                                                      | THEN                |
|                                            | Conventional                                                                                                                                                                                                                                                                                                                                                                  | continue on step 2. |
|                                            | Convection                                                                                                                                                                                                                                                                                                                                                                    | continue on step 5. |
| 2.                                         | Remove the blower baffle by lifting it up and pulling it out.                                                                                                                                                                                                                                                                                                                 |                     |
| 3.                                         | Clean the blower wheel using a wire brush.                                                                                                                                                                                                                                                                                                                                    |                     |
| 4.                                         | Remove loose particles and wipe the blower wheel using a clean, moist cloth.                                                                                                                                                                                                                                                                                                  |                     |
| 5.                                         | Clean oven liners, shelves and shelf supports. Clean daily when oven is cold with mild detergent or soap and water. For burnt on foods and grease, which resist simple soap and water cleaning, an abrasive cleaner, sized into a paste, may be employed. Apply with stainless steel wool, always rubbing with the "grain." Rinse with clear water and dry.                   |                     |
| 6.                                         | Remove shelves and shelf supports. To clean liners and to occasionally clean blower wheel. Remove all shelves by pulling forward, lifting up and out. Remove both right and left shelf supports by lifting out. When cleaning blower, remove blower baffle by lifting up and pulling out. Wire brush the wheel and wipe it up with a moist cloth. Remove all loose particles. |                     |
| 7.                                         | Replace the hardware. Reverse the disassembly procedure.                                                                                                                                                                                                                                                                                                                      |                     |
| 8.                                         | Clean oven exterior. Wash all exterior surfaces daily with warm water and mild soap or detergent.                                                                                                                                                                                                                                                                             |                     |
| End of procedure                           |                                                                                                                                                                                                                                                                                                                                                                               |                     |

**Ovens, continued**

**Procedure**

To clean microwave ovens, follow the steps below:

| <b>CLEANING MICROWAVE OVENS</b> |                                                                                                                                |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| <b>STEP</b>                     | <b>ACTION</b>                                                                                                                  |
| 1.                              | Wipe up spills immediately.                                                                                                    |
| 2.                              | Do not allow food particles or grease to collect on plastic stirrer and light cover, inner door and oven cavity front surface. |
| 3.                              | Do not use scouring pads, abrasive powders or other abrasive materials on any oven surfaces.                                   |
| <b>DAILY CLEANING:</b>          |                                                                                                                                |
| 1.                              | Turn power to "OFF."                                                                                                           |
| 2.                              | Wipe the plastic stirrer cover with a cloth or sponge dampened in mild detergent solution.                                     |
| 3.                              | Wipe all surfaces in the oven cavity with the dampened cloth or sponge and then dry with a clean cloth.                        |
| 4.                              | Wipe the inner door surface and oven cavity front with mild detergent solution and dry.                                        |
| <b>WEEKLY CLEANING:</b>         |                                                                                                                                |
| 1.                              | Remove the air intake filter and wash in hot water to remove grease and dust.                                                  |
| End of procedure                |                                                                                                                                |

## Deep Fat Fryers

### Procedure

To clean deep fat fryers, follow the steps below.

| <b>CLEANING DEEP FAT FRYERS</b> |                                                                                                                                                                                                                                                             |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>STEP</b>                     | <b>ACTION</b>                                                                                                                                                                                                                                               |
| 1.                              | Turn off heating element. Allow fat to cool to 150 °F.                                                                                                                                                                                                      |
| 2.                              | Drain and filter fat (after each use). Open drain valve and catch drained fat in container. Drain entire kettle contents and filter into a container. Place a clean fat container into well or wash and replace original one.                               |
| 3.                              | Remove baskets. Scrape off oxidized fat with a knife. Remove loose food particles from the heating units with a spatula or a wire brush. Flush down sides of kettle with a scoop of the hot fat. Soak basket and cover in deep sink in hot detergent water. |
| 4.                              | Remove strained sediment container cup as often as necessary for cleaning. Clean off sediment and place back in kettle. Stir hot fat and whirl cleaning sediment to center to permit settling in sediment container. Drain fat and wipe off excess.         |
| 5.                              | Close drain. Fill tank with water, add water up to fat level. Add 2 ounces dish compound.                                                                                                                                                                   |
| 6.                              | Turn on heating element. Set heat control at 250 °F. and boil 10–20 minutes, depending on need.                                                                                                                                                             |
| 7.                              | Turn off heat. Open drain. Draw off cleaning solution.                                                                                                                                                                                                      |
| 8.                              | Scrub interior. Using long-handled brush, scrub interior. Flush out with water. Clean basket with nylon brush and place back in kettle.                                                                                                                     |
| 9.                              | Rinse and sanitize. Fill kettle with water. Add 1/2 cup vinegar to neutralize remaining detergent. Turn on power and boil for 5 minutes. TURN OFF HEAT. Drain. Rinse with clear water.                                                                      |
| 10.                             | Air-dry parts. Expose baskets and strainer to air and dry.                                                                                                                                                                                                  |
| 11.                             | Clean exterior. While kettle is cool, wipe off exterior with grease solvent, or detergent solution. Rinse.                                                                                                                                                  |
| End of procedure                |                                                                                                                                                                                                                                                             |

**Deep Fat Fryers, continued**

**Procedure,  
contd.**

| <b>STEP</b>                    | <b>ACTION</b>                                                                                                                                                                            |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>WEEKLY CLEANING</b>         |                                                                                                                                                                                          |
| <b>DESTAIN DEEP-FAT FRYER:</b> |                                                                                                                                                                                          |
| 1.                             | Fill the kettle to fat level with water. Heat to at least 175 °F., or allow it to boil for 5 to 10 minutes. Turn off heat.                                                               |
| 2.                             | Add 2 tablespoons of destaining compound per gallon of water. Let stand up to 1 hour. Agitate solution and loosen particles remaining on the sides of kettle.                            |
| 3.                             | Place screens and strainers in 175 °F. water containing 2 tablespoons of destaining compound per gallon. Make sure water covers. Allow to stand overnight. Rinse thoroughly and air dry. |
| End of procedure               |                                                                                                                                                                                          |

## Tilt Skillets

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### Procedure

To clean and sanitize tilt skillets, follow the steps in the table below.

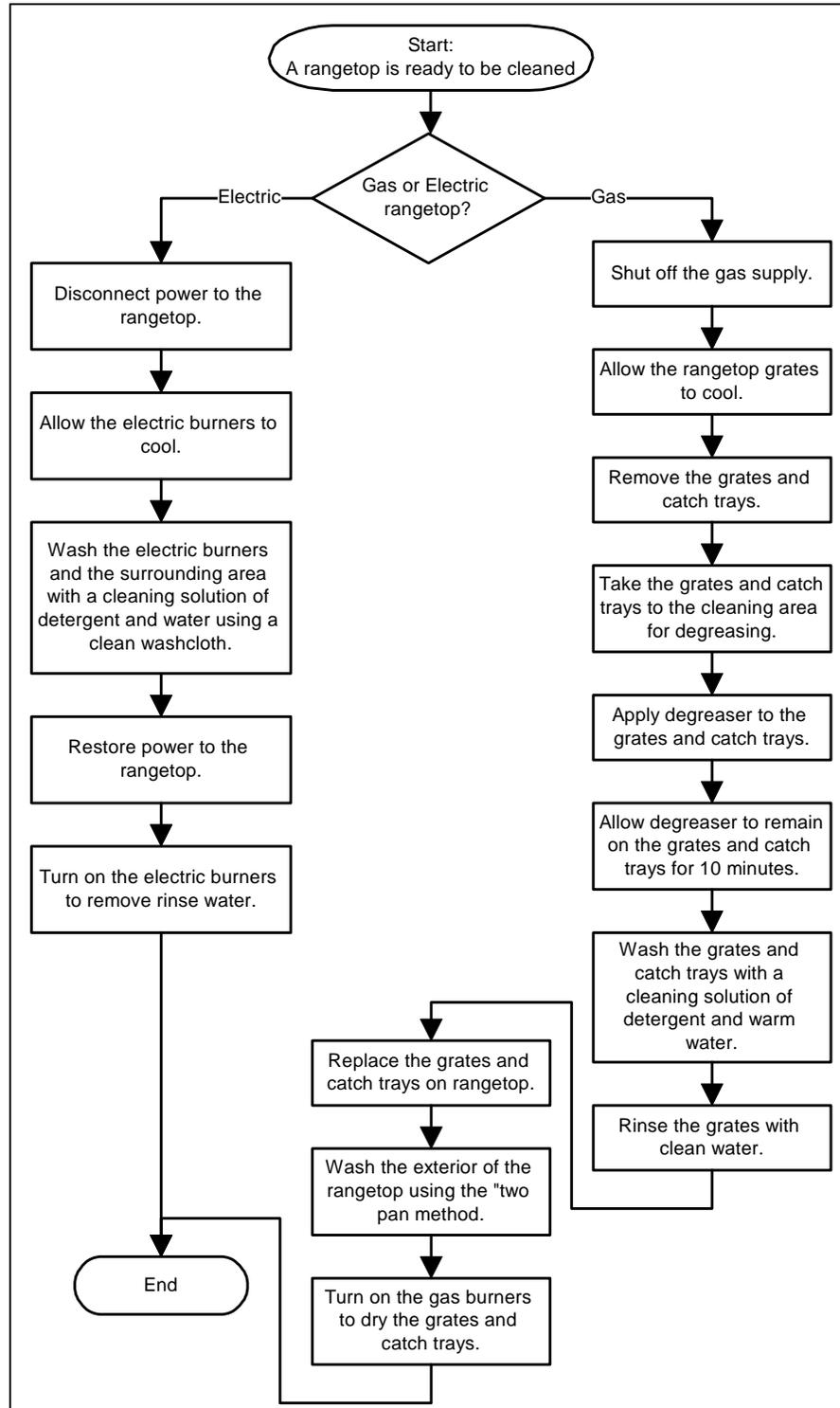
| <b>CLEANING TILT SKILLETS</b> |                                                              |
|-------------------------------|--------------------------------------------------------------|
| <b>STEP</b>                   | <b>ACTION</b>                                                |
| 1.                            | Add clean water to the tilt skillet.                         |
| 2.                            | Turn on the skillet, and bring the water to a simmer.        |
| 3.                            | Scrub the tilt skillet thoroughly with a soft bristle brush. |
| 4.                            | Pour out the soiled water.                                   |
| 5.                            | Rinse the tilt skillet with clean water.                     |
| 6.                            | Pour out the rinse water.                                    |
| 7.                            | Allow the griddle surface to air dry.                        |
| End of procedure              |                                                              |

---

# Rangetops

## Procedure

To clean a rangetop, follow the steps in the table below.



**Steam-Jacketed Kettles**

---

**Procedure**

To clean steam-jacketed kettles, follow the steps in the table below.

| <b>CLEANING STEAM-JACKETED KETTLES</b> |                                                                                                                                                                                  |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>STEP</b>                            | <b>ACTION</b>                                                                                                                                                                    |
| 1.                                     | Do not use steel wool or any abrasive for cleaning.                                                                                                                              |
| 2.                                     | Wash kettle before and after each use with hot soapy water and rinse thoroughly.                                                                                                 |
| 3.                                     | Clean strainer before and after each use with hot soapy water. Rinse thoroughly.                                                                                                 |
| 4.                                     | The stainless steel surface of the unit may be polished periodically with an approved stainless steel cleaner.                                                                   |
| 5.                                     | Clean strainer, draw off valve and draw off tube thoroughly after each use. To clean draw off valve and tube, remove the front end of the valve and brush. Scrub with hot water. |
| End of procedure                       |                                                                                                                                                                                  |

---

## Food Mixers

### Procedure

To clean and sanitize food mixers, follow the steps in the table below.

| CLEANING FOOD MIXERS |                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STEP                 | ACTION                                                                                                                                                                                                                                                                                                                                                                         |
| 1.                   | Secure the electrical power.                                                                                                                                                                                                                                                                                                                                                   |
| 2.                   | Detachable parts such as beaters should be thoroughly washed in a solution of hot water and approved mild detergent. Sanitize in the sanitizing sink and air dry. Bowls should also be thoroughly washed in a solution of hot water and approved mild detergent. If the sanitizing sink is large enough, sanitize the bowls and air dry. Chemical sanitizing may also be used. |
| 3.                   | Wipe down exterior parts of the mixer with a solution of hot water and approved mild detergent, rinse and wipe dry.<br><br><b>CAUTION:</b> Do not allow water to enter machine electrical compartments or gear case.                                                                                                                                                           |
| End of procedure     |                                                                                                                                                                                                                                                                                                                                                                                |

## Proof Boxes

### Procedure

To clean and sanitize proof boxes, follow the steps in the table below.

| <b>CLEANING PROOF BOXES</b> |                                                                                                                                                                                                                                                                                                                         |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>STEP</b>                 | <b>ACTION</b>                                                                                                                                                                                                                                                                                                           |
| 1.                          | Clean interior after removing racks. Clean floor, walls, top and inside of door. Scrape sides, corners, and guide rails with putty knife. Scrub floor with long-handled gong brush and hot machine detergent solution. Rinse, dry. Wipe guide rails and ledges thoroughly. Remove and clean water pan, rinse, wipe dry. |
| 2.                          | Scrub exterior. Scrub top, outside of door, and sides with hot machine detergent solution; rinse and dry.                                                                                                                                                                                                               |
| 3.                          | Clean around proof box. Scrub back of box and wall. Scrub floor behind and under machine if space permits; if not, flush with hot water.                                                                                                                                                                                |
| 4.                          | Air dry. Leave open to air.                                                                                                                                                                                                                                                                                             |
| End of procedure            |                                                                                                                                                                                                                                                                                                                         |

## Meat Slicers

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### Procedure

To clean and sanitize meat slicers, follow the steps in the table below.

| <b>CLEANING MEAT SLICERS</b> |                                                                                                                             |
|------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| <b>STEP</b>                  | <b>ACTION</b>                                                                                                               |
| 1.                           | Secure the electrical power to the meat slicer.                                                                             |
| 2.                           | Remove the food carriage and any other removable pieces except the knife guard.                                             |
| 3.                           | Remove the knife guard.                                                                                                     |
| 4.                           | Clean the meat slicer parts in sink #1 of the three-compartment sink using a cleaning solution of detergent and warm water. |
| 5.                           | Rinse the meat slicer parts in sink #2 of the three-compartment sink with clean water.                                      |
| 6.                           | Sanitize the meat slicer parts in sink #3 of the three-compartment sink.                                                    |
| 7.                           | Air-dry the meat slicer parts.                                                                                              |
| 8.                           | Sanitize the meat slicer body with a cleaning solution of warm water and detergent using the “two-pan” method.              |
| 9.                           | Allow the meat slicer body to air dry.                                                                                      |
| 10.                          | Replace the knife guard.                                                                                                    |
| 11.                          | Replace the meat slicer parts onto the meat slicer.                                                                         |
| 12.                          | Cover the meat slicer with a plastic bag or other covering.                                                                 |
| End of procedure             |                                                                                                                             |

---

# Ice Machines

**Procedure**

To clean the ice machines follow the flowchart below.

| <b>CLEANING BULK ICE MACHINE</b> |                                                                                                                |
|----------------------------------|----------------------------------------------------------------------------------------------------------------|
| <b>STEP</b>                      | <b>ACTION</b>                                                                                                  |
| <b>DAILY CLEANING:</b>           |                                                                                                                |
| 1.                               | Clean the exterior of the machine using the “two-pan” method.                                                  |
| 2.                               | Wipe the inside of the ice bin cover.                                                                          |
| <b>MONTHLY CLEANING:</b>         |                                                                                                                |
| 1.                               | Disconnect the electric power supply and remove the ice from the bin.                                          |
| 2.                               | Thoroughly clean the interior of the bin with a mild detergent and water solution using a nylon bristle brush. |
| 3.                               | Flush with clean water until all traces of detergent have been removed.                                        |
| 4.                               | Reconnect the electric power supply.                                                                           |
| End of procedure                 |                                                                                                                |

| <b>ICE DISPENSING MACHINE</b>                                                                                                                                                                                                                                                                             |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>ACTION</b>                                                                                                                                                                                                                                                                                             |
| The only cleaning involved by food service attendants is the exterior of the machine, which should be cleaned daily using the “two-pan” method. Any problems relating to the machinery and internal workings of the ice dispensing machine should be referred to the engineering/public works department. |
| End of procedure                                                                                                                                                                                                                                                                                          |

## Food Processors

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**Procedure**

To clean and sanitize food processors, follow the steps in the table below.

| <b>CLEANING FOOD PROCESSORS</b> |                                                                                                                   |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>STEP</b>                     | <b>ACTION</b>                                                                                                     |
| 1.                              | Secure power from the food processor.                                                                             |
| 2.                              | Disassemble the food processor, using caution when handling the blade.                                            |
| 3.                              | Clean the parts of the food processor (including the bowl, blade, and bowl top) using the three-compartment sink. |
| 4.                              | Allow the parts of the food processor to air dry.                                                                 |
| 5.                              | Sanitize the exterior of the food processor using the “two-pan” method.                                           |
| 6.                              | Allow the food processor to air dry.                                                                              |
| 7.                              | Reassemble the food processor.                                                                                    |
| 8.                              | Store the food processor in its proper location.                                                                  |
| End of procedure                |                                                                                                                   |

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## Lowerators

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**Procedure**

To clean and sanitize lowerators, follow the steps in the table below.

| <b>CLEANING LOWERATORS</b> |                                                                                                                                                                                                                                                                |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>STEP</b>                | <b>ACTION</b>                                                                                                                                                                                                                                                  |
| <b>DAILY:</b>              |                                                                                                                                                                                                                                                                |
| 1.                         | The stainless steel should be cleaned, rinsed and dried. Follow the procedures for cleaning stainless steel surfaces.                                                                                                                                          |
| 2.                         | Some tray and bowl dispensers are combined in one unit.<br><br>a. The bowl dispensers should be removed from the unit and the interior vacuumed and cleaned.<br><br>b. Clean the unit exterior following the procedures for cleaning stainless steel surfaces. |
| End of procedure           |                                                                                                                                                                                                                                                                |

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## Sneeze Guards and Tray Slide Rails

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**Procedure**

To clean and sanitize sneeze guards and tray slides, follow the steps in the table below.

| <b>CLEANING SNEEZE GUARDS AND TRAY SLIDE RAILS</b> |                                                                                           |
|----------------------------------------------------|-------------------------------------------------------------------------------------------|
| <b>STEP</b>                                        | <b>ACTION</b>                                                                             |
| 1.                                                 | Clean and sanitize using the “two-pan” method..                                           |
| 2.                                                 | Do not use abrasive materials or cleaners that may scratch the glass or plastic surfaces. |
| 3.                                                 | Pay particular attention to cracks and crevices during cleaning and rinsing.              |
| 4.                                                 | Allow the equipment to air dry.                                                           |
| End of procedure                                   |                                                                                           |

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## Cold Bars

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**Procedure**

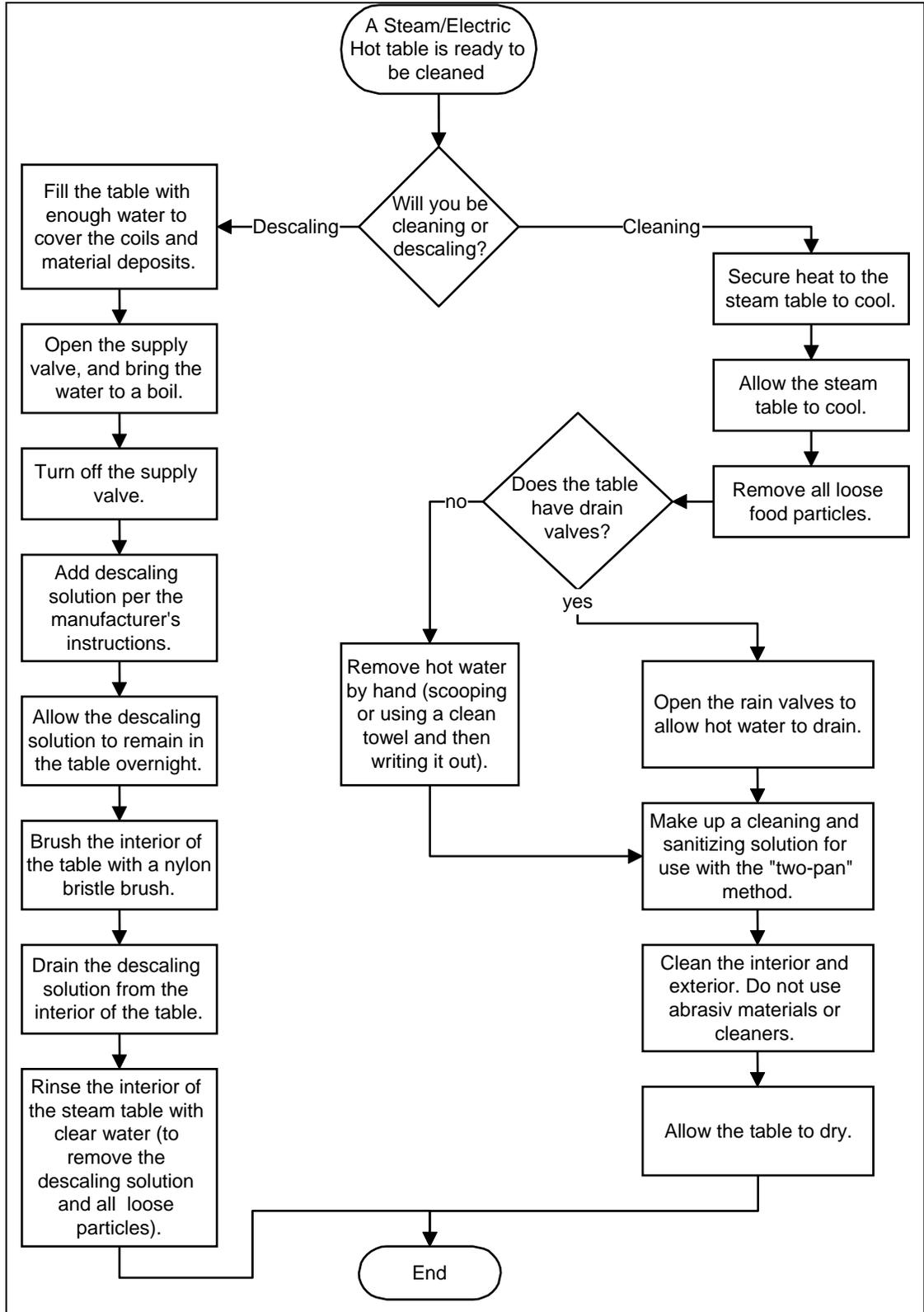
To clean and sanitize the cold bar, follow the steps in the table below.

| <b>CLEANING COLD BARS</b> |                                                                                                                                                                                                                                        |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>STEP</b>               | <b>ACTION</b>                                                                                                                                                                                                                          |
| 1.                        | Remove food items from the cold bar and dispose of them in accordance with food service procedures.                                                                                                                                    |
| 2.                        | Turn off power to the cold bar, and allow cold bar to come up to room temperature.                                                                                                                                                     |
| 3.                        | Clean the cold bar with a cleaning solution of detergent and warm water using a clean cloth.<br><br><b>Note:</b> Do not use abrasive materials or cleaners that may scratch the interior or exterior of the cold bar.                  |
| 4.                        | Rinse the interior and exterior of the cold bar with warm, clean water using a clean cloth.<br><br><b>Note:</b> Pay particular attention to cracks, crevices during cleaning and rinsing of the interior and exterior of the cold bar. |
| 5.                        | Allow the cold bar to air dry.                                                                                                                                                                                                         |
| End of procedure          |                                                                                                                                                                                                                                        |

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# Steam and Electric Hot Food Tables

**Procedure** To clean and sanitize steam tables, follow the steps in the table below.



## Heating/Warming Lamps

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### Procedure

Heating or warming lamps, as their names imply, are used to keep food warm.

To clean and sanitize heating/warming lamps, follow the steps in the table below.

| <b>CLEANING HEATING/WARMING LAMPS</b> |                                                                                                                                                                                                                                             |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>STEP</b>                           | <b>ACTION</b>                                                                                                                                                                                                                               |
| 1.                                    | Secure the heating/warming lamp by unplugging the lamp from the AC power supply.                                                                                                                                                            |
| 2.                                    | Allow the heating/warming lamp to cool down.                                                                                                                                                                                                |
| 3.                                    | Clean the heating/warming lamps with a solution of detergent and warm water using a clean cloth.<br><br><b>Note:</b> Do not use abrasive materials or cleaners that may scratch the glass or plastic surfaces of the heating/warming lamps. |
| 4.                                    | Rinse the heating/warming lamps with clean water using a clean cloth.<br><br><b>Note:</b> Pay particular attention to cracks, crevices, and the underside of the heating/warming lamps during cleaning and rinsing.                         |
| 5.                                    | Allow the heating/warming lamps to air dry.                                                                                                                                                                                                 |
| 6.                                    | Store the heating/warming lamps in their proper location.                                                                                                                                                                                   |
| End of procedure                      |                                                                                                                                                                                                                                             |

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## Grills

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**Procedure**

To clean grills, follow the steps in the table below.

| <b>CLEANING GRILLS</b> |                                                                                                                                                                                                        |
|------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>STEP</b>            | <b>ACTION</b>                                                                                                                                                                                          |
| 1.                     | Leave heat on the grill to burn off any leftover food particles and hard-to-clean residue.                                                                                                             |
| 2.                     | Secure the grill by turning it off.                                                                                                                                                                    |
| 3.                     | Scrub the grill grates using a metal wire brush to remove baked-on particles.<br><br><b>Note:</b> Pay particular attention to cracks, crevices, and the underside of the grill grates during cleaning. |
| 4.                     | Clean the bottom of the grill using a solution or detergent.                                                                                                                                           |
| 5.                     | Rinse the grill grates using clean water.                                                                                                                                                              |
| 6.                     | Allow the grill grates and bottom of the grill to air dry.                                                                                                                                             |
| End of procedure       |                                                                                                                                                                                                        |

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## Griddles

### Cleaning Griddles

To clean griddles, follow the steps in the table below.

| <b>CLEANING GRIDDLES</b> |                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>STEP</b>              | <b>ACTION</b>                                                                                                                                                                                                                                                                                                                                            |
| 1.                       | Shut off power. Use manual switch.                                                                                                                                                                                                                                                                                                                       |
| 2.                       | Turn off heat. Remove carbonized grease (after each use).<br><br>NEVER clean surface plate while hot. Allow plate to cool. NEVER POUR WATER ON A HOT PLATE. Scrape surface with spatula or metal dough cutter. Wipe clean with dry paper towels. Use pumice stone block or griddle screens to clean hard to remove burned areas on plate after each use. |
| 3.                       | Clean grease and/or drain troughs. Pour hot detergent solution into small drain and brush. Rinse with hot water.                                                                                                                                                                                                                                         |
| 4.                       | Empty grease receptacles. Remove grease from scrapings and supporting name with hot detergent solution; rinse and dry.                                                                                                                                                                                                                                   |
| 5.                       | Scrub guards, front, and sides of griddle. Using hot detergent solution, wash off grease, splatter, and film. Rinse and dry.                                                                                                                                                                                                                             |
| End of procedure         |                                                                                                                                                                                                                                                                                                                                                          |

## Toasters

### Cleaning Rotary Toasters

To clean rotary toasters after each use, follow the steps in the table below.

| <b>CLEANING ROTARY TOASTERS</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>STEP</b>                     | <b>ACTION</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 1.                              | Disconnect the electric power supply and allow the toaster to cool.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 2.                              | Remove the catch tray and wash/rinse in the utensil wash sink; catch tray may be placed in the dishwashing machine.                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 3.                              | Wipe down exposed surfaces with a damp cloth, and brush all crumbs out of the inside of the toaster and from around the base.                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 4.                              | Do not allow water or cleaning solution to come in contact with the conveyor chains, as they will rust.                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 5.                              | <p>Remove the bread baskets and clean thoroughly. Bread baskets may be placed in the dishwashing machine. To remove baskets:</p> <ul style="list-style-type: none"> <li>■ Move each basket in turn to a position midway to the front of the machine.</li> <li>■ Press the left conveyor chain to the left and the pins will slip out of the holes in the basket.</li> </ul> <p>When replacing baskets, be sure holes on each side are properly aligned with the pins on the conveyors so the basket will not be slanted when it goes through the toaster.</p> |
| End of procedure                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

## Milk Dispensers

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### Cleaning Milk Dispensers

To clean a milk dispenser after each meal, follow the steps below.

| <b>CLEANING MILK DISPENSERS (INTERIOR)</b> |                                                                                                                                                                                                                                         |
|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>STEP</b>                                | <b>ACTION</b>                                                                                                                                                                                                                           |
| 1.                                         | Clean the exterior; follow the procedure for cleaning stainless steel surfaces. You should ensure that the base of the machine, around the legs, metal seams, and the edge under the dispenser opening and door are thoroughly cleaned. |
| 2.                                         | Remove and disassemble the metal dispensing valve. Place all stainless steel parts in the dishwashing machine.                                                                                                                          |
| End of procedure                           |                                                                                                                                                                                                                                         |

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## Carbonated Beverage Dispensers

### Cleaning Carbonated Beverage Dispensers

To clean carbonated beverage dispensers, follow the steps in the table below.

| <b>CLEANING CARBONATED DRINK DISPENSERS</b> |                                                                                                                                                                                                                                                                                                                                           |
|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>STEP</b>                                 | <b>ACTION</b>                                                                                                                                                                                                                                                                                                                             |
| <b>AFTER EACH MEAL</b>                      |                                                                                                                                                                                                                                                                                                                                           |
| 1.                                          | Remove the beverage dispensing nozzles, clean in hot water, and replace.                                                                                                                                                                                                                                                                  |
| 2.                                          | Remove the front stainless steel cover and clean; clean the exposed interior section and replace cover.                                                                                                                                                                                                                                   |
| 3.                                          | Pour hot water into the drain pan to flush all carbonated syrup from the drains.                                                                                                                                                                                                                                                          |
| 4.                                          | Disconnect the electric power and CO <sup>2</sup> supply when the dispenser is not in use.                                                                                                                                                                                                                                                |
| 5.                                          | Syrup containers: <ul style="list-style-type: none"> <li>■ Containers should be checked and refilled prior to serving the meal.</li> <li>■ Wash, rinse and sanitize containers before refilling.</li> <li>■ Detachable hoses should be dipped in hot water prior to replacing to remove beverage syrup and clean O-ring seals.</li> </ul> |
| <b>WEEKLY</b>                               |                                                                                                                                                                                                                                                                                                                                           |
| 1.                                          | Disconnect the electric power.                                                                                                                                                                                                                                                                                                            |
| 2.                                          | Remove the top cover to the dispenser. Clean the cover with detergent and water, rinse, and air dry.                                                                                                                                                                                                                                      |
| 3.                                          | Vacuum or brush the compressor coils and the area around the compressor.                                                                                                                                                                                                                                                                  |
| 4.                                          | Reassemble the dispenser.                                                                                                                                                                                                                                                                                                                 |
| End of procedure                            |                                                                                                                                                                                                                                                                                                                                           |

## Non-Carbonated Beverage Dispensers

### Cleaning Non-Carbonated Beverage Dispensers

To clean non-carbonated beverage dispensers, follow the steps in the table below.

| CLEANING NON-CARBONATED DRINK DISPENSERS |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STEP                                     | ACTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>AFTER EACH MEAL OR USE</b>            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 1.                                       | Turn off the electric power supply to the machine.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 2.                                       | Drain the beverage from the dispenser and check with the galley lead cook in regard to future use. Do not discard the beverage unless directed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 3.                                       | <p>Disassemble the dispenser in the following manner:</p> <ul style="list-style-type: none"> <li>■ Remove the dispensing valves from the beverage tank.</li> <li>■ Remove the cover, drip pan, re-circulating spray tubes and magnetized agitators.</li> <li>■ Remove the beverage tank from the machine.</li> <li>■ Clean the exterior of the exposed dispenser using the “two-pan” method. Areas that are often overlooked are the base of the dispenser (legs), and the dispensing valve openings.</li> <li>■ Wash the removed items in warm detergent and water, rinse with clear water to remove all traces of detergent, place in a sanitizing solution and allow to air dry. Use dishwashing compound, hand, for detergent. DO NOT use any abrasive cleaners and DO NOT place in the dishwashing machine (remember the removable parts are of plastic material).</li> <li>■ Reassemble the dispenser after it has air dried.</li> </ul> |
| Continued next page                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

**Non-Carbonated Beverage Dispensers, continued**

**Cleaning Non-Carbonated Beverage Dispensers, contd.**

| <b>CLEANING NON-CARBONATED DRINK DISPENSERS</b> |                                                                             |
|-------------------------------------------------|-----------------------------------------------------------------------------|
| <b>STEP</b>                                     | <b>ACTION</b>                                                               |
| <b>WEEKLY</b>                                   |                                                                             |
| 1.                                              | Disconnect the electric power supply.                                       |
| 2.                                              | Remove the stainless steel cover from the front of the dispenser.           |
| 3.                                              | Remove the side panels and screens.                                         |
| 4.                                              | Wash and rinse all removed items (be careful not to lose the metal screws). |
| 5.                                              | Vacuum the exposed area of the dispenser and wipe with a damp cloth.        |
| 6.                                              | Reassemble the dispenser immediately.                                       |
| End of procedure                                |                                                                             |

## Soft Ice Cream Dispensers

### Cleaning Soft Ice Cream Dispensers

To clean soft ice cream dispensers, follow the steps in the table below.

| <b>CLEANING NON-CARBONATED DRINK DISPENSERS</b> |                                                                                                                                                                                                                                                                                  |
|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>STEP</b>                                     | <b>ACTION</b>                                                                                                                                                                                                                                                                    |
| <b>AFTER EACH USE</b>                           |                                                                                                                                                                                                                                                                                  |
| 1.                                              | Remove the hopper cover and mix feed assembly; move the switch to the “wash” position and draw off all remaining ice cream.                                                                                                                                                      |
| 2.                                              | Rinse hopper and freezer with cold water, draw off, and move the switch to the “off” position.                                                                                                                                                                                   |
| 3.                                              | Place 1 gallon of detergent and water (140 °F.) solution into the hopper. Move the switch to the “wash” position and operate for 2 minutes. Draw off detergent and water solution. Use hand dishwashing compound for detergent.                                                  |
| 4.                                              | Rinse the machine interior with clean water.                                                                                                                                                                                                                                     |
| 5.                                              | Remove all detachable parts: freezer door assembly and draw-off plunger, beater, blades and beater drive shaft, mix feed assembly and hopper cover assembly.                                                                                                                     |
| 6.                                              | <p>Wash all parts in detergent and water, rinse, place in sanitizing solution, remove and air dry.</p> <ul style="list-style-type: none"> <li>■ Use hand dishwashing compound for detergent.</li> <li>■ Store all sanitized parts in a clean area until the next use.</li> </ul> |
| <b>PREPARING FOR USE AFTER CLEANING</b>         |                                                                                                                                                                                                                                                                                  |
| 1.                                              | Reassemble the machine.                                                                                                                                                                                                                                                          |
| 2.                                              | Dip each part in sanitizing solution prior to assembly.                                                                                                                                                                                                                          |
| 3.                                              | Place remainder of sanitizing solution in the hopper, move the switch to the “wash” position and run for one minute. Drain completely; the soft-serve ice cream machine is now ready for use.                                                                                    |
| End of procedure                                |                                                                                                                                                                                                                                                                                  |

## Cereal Dispensers

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### Cleaning Cereal Dispensers

To clean cereal dispensers, follow the steps in the table below.

| <b>CLEANING CEREAL DISPENSERS</b> |                                                                                                |
|-----------------------------------|------------------------------------------------------------------------------------------------|
| <b>STEP</b>                       | <b>ACTION</b>                                                                                  |
| <b>DAILY</b>                      |                                                                                                |
| 1.                                | Remove the cereal boxes and wipe with a clean cloth using a mild detergent and water solution. |
| End of procedure                  |                                                                                                |

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## Overheads

### Cleaning Overheads

To clean overheads weekly, follow the steps in the table below.

| <b>CLEANING OVERHEADS</b> |                                                                                                                                                                                                                                                                                                |
|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>STEP</b>               | <b>ACTION</b>                                                                                                                                                                                                                                                                                  |
| <b>WEEKLY</b>             |                                                                                                                                                                                                                                                                                                |
| 1.                        | Pipes, ventilation ducts, wire ways, etc., should first be cleared of all loose materials and dust. This may be accomplished by: <ul style="list-style-type: none"> <li>■ Vacuuming;</li> <li>■ Blowing down with low pressure air;</li> <li>■ Sweeping with a small bristle brush.</li> </ul> |
| 2.                        | Overheads should be cleaned first so that dust particles do not fall on previously cleaned areas.                                                                                                                                                                                              |
| 3.                        | Cover or remove equipment and food, as necessary, to protect from falling dust particles.                                                                                                                                                                                                      |
| 4.                        | Clean all areas with a mild detergent and water solution.                                                                                                                                                                                                                                      |
| 5.                        | Clean and change filters in accordance with planned maintenance schedules.                                                                                                                                                                                                                     |
| End of procedure          |                                                                                                                                                                                                                                                                                                |

### Cleaning False Overheads

To clean false overheads weekly, follow the steps in the table below.

| <b>CLEANING FALSE OVERHEADS</b> |                                                                                                              |
|---------------------------------|--------------------------------------------------------------------------------------------------------------|
| <b>STEP</b>                     | <b>ACTION</b>                                                                                                |
| <b>WEEKLY</b>                   |                                                                                                              |
| 1.                              | Acoustic tile and other porous surfaces should be vacuumed or brushed to remove loose dust and dirt.         |
| 2.                              | Accumulations of grease or dirt may be removed by careful wiping with a strong detergent and water solution. |
| 3.                              | Light covers should be removed and cleaned.                                                                  |
| 4.                              | Ventilation supply/exhaust openings should be cleaned.                                                       |
| End of procedure                |                                                                                                              |

## Bulkheads

### Cleaning Bulkheads

To clean mess deck bulkheads, follow the steps in the table below.

| <b>CLEANING BULKHEADS</b> |                                                                                                                                                                                                                                                                                         |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>DAILY</b>              |                                                                                                                                                                                                                                                                                         |
|                           | Daily, bulkheads adjacent to the serving line should be cleaned and rinsed using the “two-pan” method.                                                                                                                                                                                  |
| <b>WEEKLY</b>             |                                                                                                                                                                                                                                                                                         |
|                           | Weekly, painted, Formica, tile and paneled surfaces should be cleaned and rinsed using the “two-pan” method. Special attention should be placed on seams, cracks, crevices, and hard-to-get-at areas. Surfaces may be wiped with a clean, dry cloth after rinsing, to prevent spotting. |
| <b>AS NECESSARY</b>       |                                                                                                                                                                                                                                                                                         |
|                           | As necessary, some areas, such as borders, door openings, around beverage islands, etc., may require more frequent cleaning.                                                                                                                                                            |
| End of procedure          |                                                                                                                                                                                                                                                                                         |

## Floor Coverings

### Cleaning Deck Surfaces

To clean deck surfaces, follow the steps in the table below.

| CLEANING DECK SURFACES |                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STEP                   | ACTION                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 1.                     | Prepare the cleaning solution: Two tablespoons of general-purpose liquid detergent to each gallon of warm (not hot) and fresh (not salt) water.                                                                                                                                                                                                                                                                                     |
| 2.                     | Scrub: Use a scrubbing machine with circular brush or stiff bristle push brush. Apply solution and scrub well to loosen dirt. Special attention should be placed on hard-to-get-at areas such as under equipment, around deck drains, behind and under piping, etc.                                                                                                                                                                 |
| 3.                     | Rinse: Use clean, fresh water and a clean mop. Mop up cleaning solution and dirt. <ul style="list-style-type: none"> <li>■ Change the rinse water frequently as it becomes dirty.</li> <li>■ Areas that have deck drains, such as the scullery, food waste area, utensil washroom, galley, etc., may be flushed with clean water to rinse. Caution should be exercised during underway periods not to waste fresh water.</li> </ul> |
| 4.                     | Dry: Remove remaining water with a clean mop until surface is barely damp and allow to air dry.                                                                                                                                                                                                                                                                                                                                     |
| End of procedure       |                                                                                                                                                                                                                                                                                                                                                                                                                                     |

**Note:** Terrazzo, magnesite, and perma-deck surfaces should be resealed when the surface becomes dull, porous and difficult to clean.

**Floor Coverings, continued**

**Cleaning Carpeted Surfaces**

To clean carpeted surfaces, follow the steps in the table below.

| <b>CLEANING DECK SURFACES</b> |                                                                                                                                                                                                                                                                  |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>STEP</b>                   | <b>ACTION</b>                                                                                                                                                                                                                                                    |
| 1.                            | Place a heavy-duty mat at all entrances for personnel to remove rough soil from their shoes.                                                                                                                                                                     |
| 2.                            | Cover heavily traveled areas with runners made from the same fabric as the carpet or from rubber or plastic.                                                                                                                                                     |
| 3.                            | Vacuum or sweep carpets after each meal. In areas where there is very heavy traffic, such as doorways, it may be necessary to vacuum several times a day. This will prolong the life of the carpet as abrasion from embedded sand or grit causes excessive wear. |
| 4.                            | Clean up spills promptly. The longer spills remain on the carpet, the more likelihood of stains, and the spilled material will be tracked to other areas of the carpet.                                                                                          |
| 5.                            | When stains do appear, try a dry cleaning solvent. If this doesn't work, use a detergent solvent that dries to a powder and can be removed with a vacuum cleaner.                                                                                                |
| 6.                            | If wax or chewing gum or similar material is stuck to the carpet, try placing a plastic bag filled with ice cubes on the material until it is frozen. Scrape it off with a plastic instrument not used for food preparation.                                     |
| End of procedure              |                                                                                                                                                                                                                                                                  |

When a thorough cleaning is necessary, rotary brush shampoo or dry foam methods should be satisfactory for normally soiled carpets. Steam cleaning is the best technique and is recommended for heavily soiled carpets. Follow the carpet manufacturer's directions and recommendations and cleaning equipment operating instructions. In addition, be sure to read warning labels on cleaning solution containers; some of these can be hazardous.

## Salad Bars

### Cleaning Salad Bars

To clean salad bars, follow the steps in the table below.

| <b>CLEANING AND SANITIZING SALAD BARS</b> |                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>STEP</b>                               | <b>ACTION</b>                                                                                                                                                                                                                                                                                                                                                                    |
| <b>AFTER EACH USE</b>                     |                                                                                                                                                                                                                                                                                                                                                                                  |
| 1.                                        | Remove all inserts of salads and dressings and return them to the vegetable preparation room/galley supervisor.                                                                                                                                                                                                                                                                  |
| 2.                                        | Discard the ice or defrost the salad bar.                                                                                                                                                                                                                                                                                                                                        |
| 3.                                        | Using the “two-pan” method, clean and rinse the salad bar and allow it to air dry. <ul style="list-style-type: none"> <li>■ Special attention should be given to the drain to ensure that it is free of food particles and draining properly.</li> <li>■ Clean the sneeze shield, the top and bottom of the refrigerated tier shelves, and the legs and metal frames.</li> </ul> |
| 4.                                        | Most refrigerated salad bars have a bottom section for the storage of salads and dressings. This should also be cleaned after each meal. Ensure that the drain and the gaskets around the doors are thoroughly cleaned.                                                                                                                                                          |
| 5.                                        | If the exterior of the salad bar is made of stainless steel, follow the cleaning procedures for stainless steel surfaces.                                                                                                                                                                                                                                                        |
| End of procedure                          |                                                                                                                                                                                                                                                                                                                                                                                  |

## Coffee Urns

### Cleaning Coffee Urns Daily

To clean coffee urns, follow the steps in the table below. Clean the urn immediately after the coffee has been used.

| <b>CLEANING COFFEE URNS</b>  |                                                                                                                                                                                                                                                                                                                                             |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>STEP</b>                  | <b>ACTION</b>                                                                                                                                                                                                                                                                                                                               |
| <b>DAILY</b>                 |                                                                                                                                                                                                                                                                                                                                             |
| 1.                           | Rinse with enough water to remove sediment and old coffee from the bottom of the urn liner, drain lines and faucet.                                                                                                                                                                                                                         |
| 2.                           | Add approximately 1 gallon of hot water to the urn liner and brush the sides carefully with a clean bristle brush. A long-handled bowl brush is recommended. The brush should be “labeled” and used only for this purpose.                                                                                                                  |
| 3.                           | Drain and flush with hot water until the water runs clear. It is now ready for the next batch of coffee.                                                                                                                                                                                                                                    |
| <b>AFTER THE DINNER MEAL</b> |                                                                                                                                                                                                                                                                                                                                             |
| 1.                           | Follow the above procedure and then proceed with the following cleaning method.                                                                                                                                                                                                                                                             |
| 2.                           | Add an accurately measured solution of 1 ounce dishwashing machine compound completely dissolved in 1 gallon of hot water to the urn liner. Use only thoroughly mixed solution of dishwashing machine compound and hot water. Do not place solid cleaning agents in the urn liner as they may become entrapped in the drain line or faucet. |
| 3.                           | Thoroughly brush the coffee urn liner and using a small “pipette” brush clean the gauge glass. Clean the lid (cover) also as it is exposed to coffee vapors.                                                                                                                                                                                |
| 4.                           | Rinse thoroughly to remove all traces of the cleaning solution. Flush the urn liner, gauge glass, and faucet with hot, clear water (180° F.) to ensure that these items are sanitized.                                                                                                                                                      |
| 5.                           | Place approximately 1 gallon of clean water in the urn liner when it is not in use and leave the lid (cover) ajar. This will prevent the bottom of the urn liner from becoming burned and will permit the steam to escape.                                                                                                                  |
| 6.                           | Remember to drain the water from the urn liner prior to preparing coffee.                                                                                                                                                                                                                                                                   |
| End of procedure             |                                                                                                                                                                                                                                                                                                                                             |

## Coffee Urns

### Destaining Coffee Urns

The coffee urn should be de-stained at least weekly, and more frequently if the urn liner becomes badly stained. To destain coffee urns, follow the steps in the table below.

| <b>DESTAINING COFFEE URNS</b> |                                                                                                                                                                                                                                                            |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>STEP</b>                   | <b>ACTION</b>                                                                                                                                                                                                                                              |
| 1.                            | Be sure the urn water jacket is $\frac{3}{4}$ full and the urn is turned on.                                                                                                                                                                               |
| 2.                            | Fill the urn liner with hot water to the coffee line. Add the de-staining compound in accordance with the instructions on the container.                                                                                                                   |
| 3.                            | Allow the solution to remain in the urn liner approximately 60 minutes. Drain off some of the solution through the drain line and faucet and pour back into the urn liner. Place a warning "DO NOT USE" sign on the coffee during the de-staining process. |
| 4.                            | Drain and thoroughly rinse until all traces of the de-staining solution have been removed.                                                                                                                                                                 |
| 5.                            | Place approximately 1 gallon of clean water in the urn liner and leave the lid ajar until the next use.                                                                                                                                                    |
| End of procedure              |                                                                                                                                                                                                                                                            |

## Dining Tables, Chairs, and Benches

### Cleaning Dining Tables, Chairs, and Benches

To clean dining tables, chairs, and benches, follow the steps in the table below.

| <b>CLEANING DINING TABLES, CHAIRS, AND BENCHES</b> |                                                                                                                                                                                                                                                                                                         |
|----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>STEP</b>                                        | <b>ACTION</b>                                                                                                                                                                                                                                                                                           |
| <b>DURING THE MEAL</b>                             |                                                                                                                                                                                                                                                                                                         |
| 1.                                                 | During the meal, tables and seating areas should be cleaned using a mild detergent, water solution, as soon as each patron has finished eating and left the table.                                                                                                                                      |
| <b>BEFORE BREAKFAST AND AFTER EACH MEAL</b>        |                                                                                                                                                                                                                                                                                                         |
| 1.                                                 | <ul style="list-style-type: none"> <li>■ Remove loose dirt, papers, food particles, etc., from tabletops, chairs and benches.</li> <li>■ Using the “two-pan” method, thoroughly clean and rinse all surfaces. Particular emphasis should be placed on the table edges and around metal rims.</li> </ul> |
| 2.                                                 | Using the “two-pan” method, thoroughly clean and rinse the underside and legs of tables, chairs and benches. Special attention should be given to the table bottoms, the base of chair legs, table stanchions, and metal seams.                                                                         |
| End of procedure                                   |                                                                                                                                                                                                                                                                                                         |

## Condiment Containers

### Cleaning Condiment Containers

To clean condiment containers, follow the steps in the table below.

| <b>CLEANING CONDIMENT CONTAINERS</b> |                                                                                                                                                                                                                                                                            |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>STEP</b>                          | <b>ACTION</b>                                                                                                                                                                                                                                                              |
| <b>AFTER EACH MEAL</b>               |                                                                                                                                                                                                                                                                            |
| 1.                                   | Remove the tops (covers) and place them in a container of hot water. Tops (covers) may be placed in perforated dish rack and placed in the dishwashing machine.                                                                                                            |
| 2.                                   | Thoroughly clean the exterior of the containers with a mild detergent and water solution using a clean soft cloth or disposable wiping cloth. Special attention should be given to the necks of the condiment bottles and the bottom and edges of the napkin dispensers.   |
| 3.                                   | After the tops (covers) have been cleaned and air-dried, or dried with a clean disposable cloth, replace the tops and store the containers in a clean storage cabinet. Condiments that require refrigeration must be refrigerated until the next meal to prevent spoilage. |
| <b>WEEKLY</b>                        |                                                                                                                                                                                                                                                                            |
| 1.                                   | Empty the salt and peppershakers and the sugar dispensers into clean containers.                                                                                                                                                                                           |
| 2.                                   | Remove the napkins and the interior section (spring) from the napkin dispenser.                                                                                                                                                                                            |
| 3.                                   | Pre-wash the shakers, dispensers and covers in detergent and water using a nylon-bristled brush for hard-to-clean areas such as napkin holder edges and bottoms.                                                                                                           |
| 4.                                   | Place the empty salt and peppershakers, sugar dispensers, exterior of the napkin dispensers, and all tops (covers) into the dishwashing machine.                                                                                                                           |
| 5.                                   | Allow the shakers, dispensers, and tops to air-dry; refill and store them in a clean storage cabinet.                                                                                                                                                                      |
| End of procedure                     |                                                                                                                                                                                                                                                                            |

## Dishwashers

### Cleaning Dishwashers

To clean dishwashers, follow the steps below:

| CLEANING DISHWASHERS |                                                                                                                                                                                                                                                                    |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STEP                 | ACTION                                                                                                                                                                                                                                                             |
| 1.                   | Turn the machine off.                                                                                                                                                                                                                                              |
| 2.                   | Secure the steam and hot water valves to the final rinse mixing valve, or the steam and hot water valves to the hot water booster heater.                                                                                                                          |
| 3.                   | Add $\frac{3}{4}$ to $1\frac{1}{2}$ cups of dishwashing machine detergent to the rinse tank, depending on the capacity of the rinse tank.                                                                                                                          |
| 4.                   | Turn the machine on and allow it to operate for 5 minutes.                                                                                                                                                                                                         |
| 5.                   | Turn the machine off and secure the steam valve to the rinse tank.                                                                                                                                                                                                 |
| 6.                   | Open the drain valves to the wash and rinse tanks; open the doors and allow the machine to cool.                                                                                                                                                                   |
| 7.                   | Remove the door's scrap screens, metal frames, wash and rinse spray arms (including the spray arm caps), pump intake strainer, drain strainer and splash curtains. Wash thoroughly in the utensil wash sink and rinse.                                             |
| 8.                   | Using hand dishwashing detergent and water with a nylon brush, thoroughly clean the inside and outside of the machine including all removable parts, i.e. splash curtains, spray arms caps, etc. Rinse with clean water to remove all loosened dirt and detergent. |
| 9.                   | Reassemble the machine, close the drain valves to the wash and rinse tanks.                                                                                                                                                                                        |
| 10.                  | Fill the tanks $\frac{1}{2}$ full of water, open the steam valve to the rinse tank and allow the machine to reach normal operating temperatures in accordance with manufacturer's instructions.                                                                    |
| 11.                  | Turn the machine on and operate for 5 minutes without detergent.                                                                                                                                                                                                   |
| 12.                  | Turn the machine off, close the steam valve to the rinse tank, and open the drain valves to the wash and rinse tanks.                                                                                                                                              |
| End of procedure     |                                                                                                                                                                                                                                                                    |

**Note:** Follow the same basic procedures for the single-tank dishwashing machine with the exception of steps 1 through 4.

## Dishwashers, continued

### Descaling Dishwashers

The interior of the dishwashing machine and the manifold(s) should be inspected monthly for accumulation of calcium or lime deposits. If deposits are evident, the machine must be descaled.

Descaling the machine should be a part of the Planned Maintenance System (PMS) and is the responsibility of the food service division. The descaling operation must be closely supervised from “start to finish,” and personnel must wear face shields, chemical safety goggles, rubber gloves, and rubber aprons when handling acid.

To descale the dishwasher, follow the steps in the table below.

| <b>DESCALING DISHWASHERS</b> |                                                                                                                                                                                                               |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>STEP</b>                  | <b>ACTION</b>                                                                                                                                                                                                 |
| 1.                           | Drain wash/rinse tank(s), if applicable.                                                                                                                                                                      |
| 2.                           | Install overflow pipe(s), scrap tray(s), screen(s), spray manifold(s) (except final rinse), and curtains (inlet and discharge ends only). Place final rinse spray manifold on top of scrap tray in wash tank. |
| 3.                           | Shut drain valve(s).                                                                                                                                                                                          |
| 4.                           | Commence filling tank(s) to within 2 inches of top of overflow pipe(s) with clean hot water.                                                                                                                  |
| 5.                           | Add 7 fluid ounces of orthophosphoric acid and 1 fluid ounce of rinse additive for each gallon of water per tank (see notes 1 and 2).                                                                         |
| 6.                           | Complete filling tank(s) and close door(s).                                                                                                                                                                   |
| 7.                           | Start the machine and operate for 1 hour maintaining normal operating temperatures.                                                                                                                           |
| 8.                           | Stop machine, open drain valve(s) and completely drain acid solution from machine. (See note 3.)                                                                                                              |
| 9.                           | Inspect interior of machine. Parts should be free of calcium or lime deposits and metal should be shiny.                                                                                                      |
| 10.                          | Repeat steps 3 through 8 if necessary.                                                                                                                                                                        |
| Continued next page          |                                                                                                                                                                                                               |

**Dishwashers, continued**

| <b>Descaling Dishwashers, contd.</b> | <b>STEP</b> | <b>ACTION</b>                                                                                                      |
|--------------------------------------|-------------|--------------------------------------------------------------------------------------------------------------------|
|                                      | 11.         | Close drain valve(s) and fill tank(s) with clean hot water. Add two CUPS of dishwashing machine compound per tank. |
|                                      | 12.         | Close door(s), start machine and operate for 5 minutes at operating temperatures.                                  |
|                                      | 13.         | Stop machine and completely drain tank(s).                                                                         |
|                                      | 14.         | Refill and flush tank(s) with clear water to remove all traces of acid and detergent.                              |
| End of procedure                     |             |                                                                                                                    |

**Notes:**

1. In the absence of orthophosphoric acid, only USDA approved chemicals for descaling of dishwashing machine should be used. Follow manufacturer's instructions.
2. If tank capacity in gallons is unknown, multiply length (inches) x width (inches) x depth to overflow (inches) and divide product by 231.
3. Shore stations and ships in port shall dispose of acid drains in accordance with local regulations.

## Garbage Grinders

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### Cleaning After Each Use

To clean the garbage grinder after use, follow the steps in the table below:

| <b>CLEANING GARBEAGE GRINDERS</b> |                                                                                                                                                             |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>STEP</b>                       | <b>ACTION</b>                                                                                                                                               |
| <b>AFTER USE</b>                  |                                                                                                                                                             |
| 1.                                | Turn off the machine by pushing the “Stop” button, secure power at the breaker, and ensure the tank is empty. Never stop the grinder with food waste in it. |
| 2.                                | Scrub the interior of the unit, using a nylon bristle brush with detergent and hot water solution.                                                          |
| 3.                                | Flush the machine with hot clean water to remove all traces of detergent.                                                                                   |
| End of procedure                  |                                                                                                                                                             |

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## Garbage Containers

### Cleaning Garbage Containers

To clean garbage and trash containers, follow the steps in the table below:

| <b>CLEANING GARBAGE CONTAINERS</b> |                                                                                                                                                                                                                                         |
|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>STEP</b>                        | <b>ACTION</b>                                                                                                                                                                                                                           |
| <b>AFTER USE</b>                   |                                                                                                                                                                                                                                         |
| 1.                                 | Garbage/trash containers should be emptied and thoroughly cleaned inside and out after each meal/use. The use of authorized trash can liners should not preclude the cleaning of garbage/trash containers on the prescribed frequency.  |
| 2.                                 | To clean the containers, remove large pieces of trash or food waste, place 1 gallon of hot water and detergent solution in each can. Vigorously scrub the inside, outside, and the bottom of each container with a nylon bristle brush. |
| 3.                                 | If a live steam jet is available, invert garbage/trash container over it for 1 minute.                                                                                                                                                  |
| 4.                                 | Rinse containers with hot, fresh water.                                                                                                                                                                                                 |
| 5.                                 | Scrub the lids/covers with a hot water and detergent solution and rinse.                                                                                                                                                                |
| 6.                                 | Invert garbage/trash containers and allow to air dry.                                                                                                                                                                                   |
| 7.                                 | Trashcans must stay covered when not in use.                                                                                                                                                                                            |
| End of procedure                   |                                                                                                                                                                                                                                         |

## Lesson Review

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### Purpose

The intention of this exercise is to help you confirm what you have learned about the major components of the food service facility and the methods and tasks used in cleaning and sanitizing the facility.

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### Procedure

Test your knowledge of the concepts and principles of this lesson by choosing the best, most correct answer to each question below. Some questions require you to create answers, fill in blanks or choose the best, most correct answer. Use the lesson material and references to assist you as necessary.

When you have finished answering the questions, compare your answers to the correct answers in the “Lesson Review Feedback” section at the end of this lesson. Note any differences between your answers and the correct ones so you can learn from them, and discuss them when you meet with your supervisor.

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### Questions

1–3. You are teaching someone how to clean and sanitize sneeze guards. How would you complete this paragraph: “Sneeze guards are usually made of (1)\_\_\_\_\_ or (2)\_\_\_\_\_. In order to keep from scratching these surfaces, you should (3)\_\_\_\_\_.”

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4. You’re cleaning and sanitizing a steam table. One of your first steps is to drain the water from the table, but this table does not have a drain valve. How do you remove the water?

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Continued next page

**Lesson Review, continued**

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**Questions,  
contd.**

5. How often should lowerators be cleaned?
  - a. After each use
  - b. Daily
  - c. Weekly
  - d. Both a and c
6. What is descaling?
  - a. The process of drawing off a liquid without disturbing the sediment or the lower liquid layers
  - b. The process of removing rust, lime, and scale deposits
  - c. A process that helps steam tables operate efficiently
  - d. Both b and c
7. You should never use this to cool a hot griddle.
  - a. Cool air
  - b. Time
  - c. Water
  - d. Turning the griddle off
8. When cleaning a toaster, what should you do first?
  - a. Wash and rinse the catch tray.
  - b. Remove the catch tray.
  - c. Disconnect the electric power supply.
  - d. Allow the toaster to cool.
9. You should defrost a milk dispenser when the ice deposits on it are how thick?
  - a.  $\frac{1}{4}$ -inch or greater
  - b.  $\frac{1}{3}$ -inch or greater
  - c.  $\frac{1}{2}$ -inch or greater
  - d. 1 inch or greater
10. When cleaning and sanitizing a soft ice cream dispenser, which of these should you do?
  - a. Rinse the freezer with water at 120 °F.
  - b. Brush the hopper with a soft bristle brush while pouring a detergent solution and water at 140 °F into the freezer.
  - c. Wear gloves.
  - d. All of the above

Continued next page

**Lesson Review, continued**

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**Questions,  
contd.**

11. When cleaning overheads on the mess deck, which of these is your first step?
    - a. Clear pipes, ventilation, ducts, and cableways of dust and loose materials.
    - b. Cover or remove equipment and food as necessary to protect them from falling dust particles.
    - c. Open the windows and turn on the fan to allow fresh air to circulate.
    - d. Vacuum or brush acoustic tile and other porous surfaces to remove dust and dirt.
  12. In addition to meal times, the ship's dining area is also used by the ship's crewmembers in the evening as a crew's lounge. Because of this, when should the dining area be swept and cleaned?
    - a. After dinner
    - b. After each meal
    - c. Before breakfast
    - d. Before breakfast and after each meal
  13. Which of the following is a precaution you should take when cleaning and defrosting a salad bar?
    - a. Do not allow cleaning solution to remain on the stainless steel for a long period of time.
    - b. Do not allow sanitizing solution to remain on the stainless steel for a long period of time.
    - c. Do not use metal objects to remove ice.
    - d. All of the above
  14. How often should coffee urns be de-stained?
    - a. After each use
    - b. At least daily
    - c. At least weekly
    - d. At least monthly
  15. What should you do with the tops of condiment containers before putting them in a dishwasher?
    - a. Place them in a hotel pan filled with detergent.
    - b. Place them in a perforated dish rack.
    - c. Place them in empty coffee mugs.
    - d. Cover them with plastic (such as a garbage bag).
-

## Practicing What You Have Learned

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### Overview

This lesson covers material associated with three EPQs, so there are three performance evaluations for you to complete. Before you attempt to pass the performance evaluations, however, we recommend that you practice the core tasks in this lesson:

- ❑ Clean and sanitize the following:
    - All food and non-food contact surfaces in the food service facility
    - Ice machines
    - Walk-in freezers/reefers
    - Reach-in freezers/reefers
- 

### Practicing the Core Tasks

Once you have finished reading the lesson and have completed the lesson review, you should meet with your supervisor and observe a demonstration of the following:

- ❑ How to clean and sanitize all food and non-food contact surfaces
- ❑ How to clean and sanitize ice machines
- ❑ How to clean and sanitize walk-in freezers/reefers
- ❑ How to clean and sanitize reach-in freezers/reefers

Once you have observed each of these tasks, you should, under supervision, perform the tasks yourself and receive corrective feedback about your performance from your supervisor.

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## Performance Evaluation

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Once you have completed this lesson—meaning you have read the material, completed the lesson review, observed demonstrations of the core tasks, and then practiced the core tasks enough to be moderately competent in them—you are ready to demonstrate the tasks for sign-off.

Your supervisor will discuss this sign-off process with you. It will involve your demonstrating the core tasks under the supervisor's observation, so that he or she can determine whether or not you are able to perform the tasks in a satisfactory manner. Using the Performance Evaluation sheets as a guide, he or she will mark "go" for tasks you perform well and "no go" for tasks where you need improvement. Performing the core tasks well enough to receive a "go" from your supervisor will mean that you met the Enlisted Performance Qualifications (EPQs) associated with the lesson. If you receive a "no go," you must practice the core tasks, receive feedback, and practice again until you are able to perform the tasks well enough for sign-off.

The EPQs/core tasks for this lesson are:

- 4.C.02 – Clean and sanitize all food and non-food contact surfaces
  - 4.C.05 – Clean and sanitize ice machines
  - 4.C.06 – Clean and sanitize reefers/freezers
-

## Lesson Summary

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### Summary

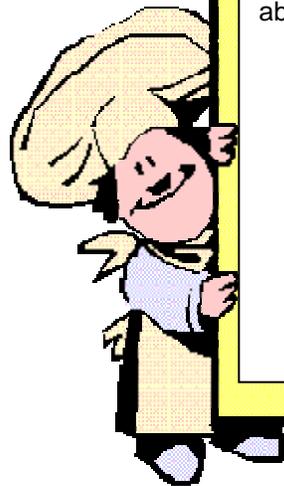
Having completed this lesson, you can:

- ❑ Match the food service facility tool, equipment, or utensil with its preferred cleaning method
  - ❑ Clean and sanitize the following:
    - All food and non-food contact surfaces in the food service facility
    - Ice machines
    - Walk-in freezers/reefers
    - Reach-in freezers/reefers
- 

### Next in this Unit

In the next lesson you will learn how clean and sanitize dishes and utensils. More specifically, you will learn about:

- Cleaning and sanitizing dishes and utensils using the manual dishwashing method (washing dishes by hand)
- Cleaning and sanitizing dishes and utensils using a mechanical dishwasher



## Topic Review Feedback

**Directions**

Compare your answers in the “Topic Review” to the answers below (correct answers are in **bold**). Note any differences between your answers and the text so you can learn from them and discuss them with your supervisor.

**Answers**

1. Food service facilities are made up of several areas. The lesson mentions four main areas. Name three of these four areas.

**(1) The Galley, (2) The Serving Line, (3) The Mess Deck,**

**(4) The Scullery and Food Waste Area**

2–10. Review the table. Place Xs in the intersections where the item on the left should be cleaned using the corresponding method. Some items may be cleaned using more than one method. The first one has been done for you.

| METHODS FOR CLEANING AND SANITIZING |                                 |                               |                |
|-------------------------------------|---------------------------------|-------------------------------|----------------|
| ITEM TO BE CLEANED AND SANITIZED    | MECHANICAL (DISH-WASHER) METHOD | THREE-COMPARTMENT SINK METHOD | TWO-PAN METHOD |
| 2. Griddle                          |                                 |                               | X              |
| 3. Eating utensils                  | X                               | X (OK)                        |                |
| 4. Food mixer                       |                                 |                               | X              |
| 5. Meat slicer                      |                                 |                               | X              |
| 6. Steam-jacketed kettle            |                                 |                               | X              |
| 7. Convection oven                  |                                 |                               | X              |
| 8. Proof box                        |                                 |                               | X              |
| 9. Ice machine                      |                                 |                               | X              |
| 10. Reach-in reefer                 |                                 |                               | X              |

## Lesson Review Feedback

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### Procedure

Compare your answers in the “Lesson Review” to the answers below (correct answers are in **bold**). Note any differences between your answers and the text so you can learn from them and discuss them with your supervisor.

---

### Answers

1–3. You are teaching someone how to clean and sanitize sneeze guards. How would you complete this paragraph: “Sneeze guards are usually made of (1)\_\_\_\_\_ or (2)\_\_\_\_\_. In order to keep from scratching these surfaces, you should (3)\_\_\_\_\_.”

**(1) glass, (2) plastic, (3) never use abrasive materials or cleaners to clean them**

4. You’re cleaning and sanitizing a steam table. One of your first steps is to drain the water from the table, but this table does not have a drain valve. How do you remove the water?

**Remove the water by using a scoop and/or an absorbent towel. Soak up water with the towel and wring it out.**

5. How often should lowerators be cleaned?

- a. After each use
- b. Daily**
- c. Weekly
- d. Both a and c

6. What is descaling?

- a. The process of drawing off a liquid without disturbing the sediment or the lower liquid layers
- b. The process of removing rust, lime, and scale deposits
- c. A process that helps steam tables operate efficiently
- d. Both b and c**

7. You should never use this to cool a hot griddle.

- a. Cool air
- b. Time
- c. Water**
- d. Turning the griddle off

Continued next page

**Lesson Review Feedback, continued**

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**Answers,  
contd.**

8. When cleaning a toaster, what should you do first?
- Wash and rinse the catch tray.
  - Remove the catch tray.
  - Disconnect the electric power supply.**
  - Allow the toaster to cool.
9. You should defrost a milk dispenser when the ice deposits on it are how thick?
- 1/4-inch or greater**
  - 1/3-inch or greater
  - 1/2-inch or greater
  - 1 inch or greater
10. When cleaning and sanitizing a soft ice cream dispenser, which of these should you do?
- Rinse the freezer with water at 120 °F.
  - Brush the hopper with a soft bristle brush while pouring a detergent solution and water at 140 °F into the freezer.
  - Wear gloves.
  - All of the above**
11. When cleaning overheads on the mess deck, which of these is your first step?
- Clear pipes, ventilation, ducts, and cableways of dust and loose materials.
  - Cover or remove equipment and food as necessary to protect them from falling dust particles.**
  - Open the windows and turn on the fan to allow fresh air to circulate.
  - Vacuum or brush acoustic tile and other porous surfaces to remove dust and dirt.
12. In addition to meal times, the ship's dining area is also used by the ship's crewmembers in the evening as a crew's lounge. Because of this, when should the dining area be swept and cleaned?
- After dinner
  - After each meal
  - Before breakfast
  - Before breakfast and after each meal**

Continued next page

**Lesson Review Feedback, continued**

---

**Answers,  
contd.**

13. Which of the following is a precaution you should take when cleaning and defrosting a salad bar?
- a. Do not allow cleaning solution to remain on the stainless steel for a long period of time.
  - b. Do not allow sanitizing solution to remain on the stainless steel for a long period of time.
  - c. Do not use metal objects to remove ice.
  - d. All of the above**
14. How often should coffee urns be de-stained?
- a. After each use
  - b. At least daily
  - c. At least weekly**
  - d. At least monthly
15. What should you do with the tops of condiment containers before putting them in a dishwasher?
- a. Place them in a hotel pan filled with detergent.
  - b. Place them in a perforated dish rack.**
  - c. Place them in empty coffee mugs.
  - d. Cover them with plastic (such as a garbage bag).
-

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**PERFORMANCE EVALUATION 3.5.1****Clean and Sanitize Food and Non-Food Contact Surfaces**

---

**Goal**

The student will perform the following:

- Clean and sanitize a food and non-food contact surface
- 

**Process**

The supervisor will assign the student an equipment (s) to clean.

---

**Directions**

Using the tools and supplies provided by the supervisor, you will:

**Hands–On  
Practice**

1. Obtain the appropriate job aid.
  2. Follow the job aid correctly.
- 

**Checklist**

Fill in your name on the Unit 3 Performance Evaluation Checklist and hand it to your supervisor prior to completing the hands-on exercise.

---

**Feedback**

Your supervisor will review your performance for accuracy and completeness and provide any comments directly to you.

---

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### PERFORMANCE EVALUATION 3.5.1

#### Clean and Sanitize Food and Non-Food Contact Surfaces

|                           |                                                 |                                                              |
|---------------------------|-------------------------------------------------|--------------------------------------------------------------|
| <b>Location:</b><br>_____ | <b>Completed by:</b> _____<br>(Enter your name) | <b>Reviewed by:</b> _____<br>(Obtain Supervisor's signature) |
|---------------------------|-------------------------------------------------|--------------------------------------------------------------|

**EPQ**  
**4.C.02 Clean/Sanitize** all food and non-food contact surfaces within food service spaces IAW Food Service Sanitation Manual, COMDTINST M6240.4 (series).  
 SupGuide: Ensure trashcans are included while performing this task.

- |                                             |                                            |                                                |                                                   |                                              |
|---------------------------------------------|--------------------------------------------|------------------------------------------------|---------------------------------------------------|----------------------------------------------|
| <input type="checkbox"/> Beverage Dispenser | <input type="checkbox"/> Food Mixer        | <input type="checkbox"/> Grills                | <input type="checkbox"/> Proof Box                | <input type="checkbox"/> Steam-Jacked Kettle |
| <input type="checkbox"/> Bulkheads          | <input type="checkbox"/> Food Processor    | <input type="checkbox"/> Heating Warming Lamps | <input type="checkbox"/> Rangetops                | <input type="checkbox"/> Tilt Skillet        |
| <input type="checkbox"/> Cereal Dispenser   | <input type="checkbox"/> Floor Coverings   | <input type="checkbox"/> Lowerators            | <input type="checkbox"/> Salad Bars               | <input type="checkbox"/> Toaster             |
| <input type="checkbox"/> Coffee Urn         | <input type="checkbox"/> Garbage Container | <input type="checkbox"/> Meat Slicer           | <input type="checkbox"/> Soft Ice Cream Dispenser |                                              |
| <input type="checkbox"/> Cold Bar           | <input type="checkbox"/> Garbage Disposal  | <input type="checkbox"/> Milk Dispenser        | <input type="checkbox"/> Sneeze Guard             |                                              |
| <input type="checkbox"/> Deep Fat Fryer     | <input type="checkbox"/> Garbage Grinders  | <input type="checkbox"/> Oven                  | <input type="checkbox"/> Stainless Steel Surface  |                                              |
| <input type="checkbox"/> Dishwasher         | <input type="checkbox"/> Griddle           | <input type="checkbox"/> Overheads             | <input type="checkbox"/> Steam / Hot Table        |                                              |

- |                                                                                                                                   |                                                                                                                                                                                |
|-----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Criteria</b><br><b>Accuracy:</b> <ul style="list-style-type: none"> <li>Proper equipment selected 100% of the time.</li> </ul> | <b>Safety:</b> <ul style="list-style-type: none"> <li>Follow the proper procedure for sanitation and cleaning.</li> <li>Proper equipment selected 100% of the time.</li> </ul> |
|-----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| TASK                                                                          | COMMENTS                 |                          |                                                               |  |                          |                          |                                                               |  |                          |                          |                                                               |  |
|-------------------------------------------------------------------------------|--------------------------|--------------------------|---------------------------------------------------------------|--|--------------------------|--------------------------|---------------------------------------------------------------|--|--------------------------|--------------------------|---------------------------------------------------------------|--|
|                                                                               |                          |                          | 1 <sup>st</sup> Attempt                                       |  |                          |                          | 2 <sup>nd</sup> Attempt                                       |  |                          |                          | 3 <sup>rd</sup> Attempt                                       |  |
|                                                                               | Y                        | N                        | ____/____/____<br>Date                                        |  | Y                        | N                        | ____/____/____<br>Date                                        |  | Y                        | N                        | ____/____/____<br>Date                                        |  |
| 1. The performer obtained the appropriate job aid for the assigned equipment. | <input type="checkbox"/> | <input type="checkbox"/> |                                                               |  | <input type="checkbox"/> | <input type="checkbox"/> |                                                               |  | <input type="checkbox"/> | <input type="checkbox"/> |                                                               |  |
| 2. The performer followed correctly the job aid.                              | <input type="checkbox"/> | <input type="checkbox"/> |                                                               |  | <input type="checkbox"/> | <input type="checkbox"/> |                                                               |  | <input type="checkbox"/> | <input type="checkbox"/> |                                                               |  |
|                                                                               |                          |                          | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go |  |                          |                          | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go |  |                          |                          | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go |  |

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**PERFORMANCE EVALUATION 3.5.2****Clean and Sanitize Ice Machines**

---

**Goal**

The student will perform the following:

- Perform daily cleaning of an ice machine
  - Perform weekly cleaning of an ice machine
- 

**Process**

Given an ice machine, you will perform the appropriate cleaning procedures.

---

**Directions**

Using the tools and equipment provided by the supervisor, you will:

**Hands-On Practice**

Perform daily cleaning of an ice machine:

1. Clean the exterior of the ice machine.
2. Wipe the inside of the bin cover.

Perform weekly cleaning of an ice machine:

1. Disconnect power to the ice machine.
  2. Remove any ice from the ice bin.
  3. Using the two-pan method, clean and rinse the inside of the ice machine.
  4. Reconnect power to the ice machine.
- 

**Checklist**

Fill in your name on the Unit 3 Performance Evaluation Checklist and hand it to your supervisor prior to completing the hands-on exercise.

---

**Feedback**

Your supervisor will review your performance for accuracy and completeness and provide any comments directly to you.

---

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### PERFORMANCE EVALUATION 3.5.2

#### Clean and Sanitize Ice Machines

|                                    |                                                 |                                                              |
|------------------------------------|-------------------------------------------------|--------------------------------------------------------------|
| <b>Location:</b><br>_____<br>_____ | <b>Completed by:</b> _____<br>(Enter your name) | <b>Reviewed by:</b> _____<br>(Obtain Supervisor's signature) |
|------------------------------------|-------------------------------------------------|--------------------------------------------------------------|

**EPQ**  
**4.C.05 CLEAN/SANITIZE** ice machines IAW Food Service Sanitation Manual, COMDTINST M6240.4 (series) and Food Service Management General Messes, NAVSUP Publication 486.

|                                                                                                                                     |                                                                                                                                                                                    |
|-------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Criteria</b><br><u>Accuracy:</u> <ul style="list-style-type: none"> <li>• Proper equipment selected 100% of the time.</li> </ul> | <u>Safety:</u> <ul style="list-style-type: none"> <li>• Follow the proper procedure for sanitation and cleaning.</li> <li>• Proper equipment selected 100% of the time.</li> </ul> |
|-------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| <b>TASK</b>                                                                                                                              | <b>COMMENTS</b>               |                          |                               |   |                               |                          |                               |   |                               |                          |                               |   |   |
|------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|--------------------------|-------------------------------|---|-------------------------------|--------------------------|-------------------------------|---|-------------------------------|--------------------------|-------------------------------|---|---|
|                                                                                                                                          | <b>1<sup>st</sup> Attempt</b> |                          | <b>2<sup>nd</sup> Attempt</b> |   | <b>3<sup>rd</sup> Attempt</b> |                          | <b>1<sup>st</sup> Attempt</b> |   | <b>2<sup>nd</sup> Attempt</b> |                          | <b>3<sup>rd</sup> Attempt</b> |   |   |
|                                                                                                                                          | Y                             | N                        | /                             | / | /                             | /                        | /                             | / | /                             | /                        | /                             | / | / |
|                                                                                                                                          |                               | Date                     |                               | Y | N                             | Date                     |                               | Y | N                             | Date                     |                               |   |   |
| 1. The performer secured (disconnected) power to the ice machine.                                                                        | <input type="checkbox"/>      | <input type="checkbox"/> |                               |   | <input type="checkbox"/>      | <input type="checkbox"/> |                               |   | <input type="checkbox"/>      | <input type="checkbox"/> |                               |   |   |
| 2. The performer removed any ice from the ice bin.                                                                                       | <input type="checkbox"/>      | <input type="checkbox"/> |                               |   | <input type="checkbox"/>      | <input type="checkbox"/> |                               |   | <input type="checkbox"/>      | <input type="checkbox"/> |                               |   |   |
| 3. The performer sanitized the interior of the ice bin with a cleaning solution of mild detergent and water using a nylon bristle brush. | <input type="checkbox"/>      | <input type="checkbox"/> |                               |   | <input type="checkbox"/>      | <input type="checkbox"/> |                               |   | <input type="checkbox"/>      | <input type="checkbox"/> |                               |   |   |
| 4. The performer rinsed the interior of the ice bin with clean water until all traces of cleaning solution were removed.                 | <input type="checkbox"/>      | <input type="checkbox"/> |                               |   | <input type="checkbox"/>      | <input type="checkbox"/> |                               |   | <input type="checkbox"/>      | <input type="checkbox"/> |                               |   |   |

continued next page

|                                                        |                                                               |                          |                                                               |                          |                                                               |                          |
|--------------------------------------------------------|---------------------------------------------------------------|--------------------------|---------------------------------------------------------------|--------------------------|---------------------------------------------------------------|--------------------------|
| <b>Location:</b><br>_____<br>_____                     | <b>Completed by:</b> _____<br>(Enter your name)               |                          | <b>Reviewed by:</b> _____<br>(Obtain Supervisor's signature)  |                          |                                                               |                          |
| 5. The performer reconnected power to the ice machine. | <input type="checkbox"/>                                      | <input type="checkbox"/> | <input type="checkbox"/>                                      | <input type="checkbox"/> | <input type="checkbox"/>                                      | <input type="checkbox"/> |
|                                                        | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go |                          | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go |                          | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go |                          |

## PERFORMANCE EVALUATION 3.5.3

### Clean and Sanitize Reefers and Freezers

---

**Goal**

The student will perform the following:

- Clean and sanitize walk-in reefers
  - Clean and sanitize walk-in freezers
  - Clean and sanitize reach-in reefers
  - Clean and sanitize reach-in freezers
- 

**Process**

Given a reefer or freezer, you will perform the appropriate cleaning procedures.

---

**Directions**

Using the tools and materials provided by the supervisor, you will:

**Hands-On  
Practice**

1. Clean the interior of the walk-in reefer.
  2. Clean the exterior of the walk-in reefer.
  3. Clean the rubber door gasket of the walk-in reefer.
  4. Perform daily cleaning of the reach-in reefer.
  5. Perform weekly cleaning of the reach-in reefer, its shelving, and any loose equipment.
  6. Clean the interior of the walk-in freezer.
  7. Clean the exterior of the walk-in freezer.
  8. Clean the rubber door gasket of the walk-in freezer.
  9. Perform daily cleaning of the reach-in freezer.
  10. Perform weekly cleaning of the reach-in freezer, its shelving, and any loose equipment.
- 

**Checklist**

Fill in your name on the Unit 3 Performance Evaluation Checklist and hand it to your supervisor prior to completing the hands-on exercise.

---

---

## Clean and Sanitize Reefers and Freezers

---

**Feedback**

Your supervisor will review your performance for accuracy and completeness and provide any comments directly to you.

---

## PERFORMANCE EVALUATION 3.5.3

### Clean and Sanitize Reefers and Freezers

|                           |                                                 |                                                              |
|---------------------------|-------------------------------------------------|--------------------------------------------------------------|
| <b>Location:</b><br>_____ | <b>Completed by:</b> _____<br>(Enter your name) | <b>Reviewed by:</b> _____<br>(Obtain Supervisor's signature) |
|---------------------------|-------------------------------------------------|--------------------------------------------------------------|

**EPQ**  
**4.C.06 CLEAN/SANITIZE** reefers/freezers IAW Food Service Sanitation Manual, COMDTINST M6240.4 (series) and Food Service Management General Messes, NAVSUP Publication 486.

|                                                                                                                                        |                                                                                                                                                                                       |
|----------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Criteria</b><br><u>Accuracy:</u><br><ul style="list-style-type: none"> <li>• Proper equipment selected 100% of the time.</li> </ul> | <b>Safety:</b><br><ul style="list-style-type: none"> <li>• Follow the proper procedure for sanitation and cleaning.</li> <li>• Proper equipment selected 100% of the time.</li> </ul> |
|----------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| <b>TASK</b>                                                                                | <b>COMMENTS</b>               |                          |                               |   |                               |                          |                               |   |                               |   |                               |                          |   |  |  |
|--------------------------------------------------------------------------------------------|-------------------------------|--------------------------|-------------------------------|---|-------------------------------|--------------------------|-------------------------------|---|-------------------------------|---|-------------------------------|--------------------------|---|--|--|
|                                                                                            | <b>1<sup>st</sup> Attempt</b> |                          | <b>2<sup>nd</sup> Attempt</b> |   | <b>3<sup>rd</sup> Attempt</b> |                          | <b>1<sup>st</sup> Attempt</b> |   | <b>2<sup>nd</sup> Attempt</b> |   | <b>3<sup>rd</sup> Attempt</b> |                          |   |  |  |
|                                                                                            | Y                             | N                        | /                             | / | /                             | /                        | /                             | / | /                             | / | /                             | /                        | / |  |  |
|                                                                                            |                               | Date                     |                               |   | Y                             | N                        | Date                          |   |                               | Y | N                             | Date                     |   |  |  |
| 1. The performer obtained cleaning supplies including pans, scrub brushes, and washcloths. | <input type="checkbox"/>      | <input type="checkbox"/> |                               |   |                               | <input type="checkbox"/> | <input type="checkbox"/>      |   |                               |   | <input type="checkbox"/>      | <input type="checkbox"/> |   |  |  |
| 2. The performer transferred stores to a protected temporary storage facility.             | <input type="checkbox"/>      | <input type="checkbox"/> |                               |   |                               | <input type="checkbox"/> | <input type="checkbox"/>      |   |                               |   | <input type="checkbox"/>      | <input type="checkbox"/> |   |  |  |
| 3. The performer secured power to the reefer or freezer.                                   | <input type="checkbox"/>      | <input type="checkbox"/> |                               |   |                               | <input type="checkbox"/> | <input type="checkbox"/>      |   |                               |   | <input type="checkbox"/>      | <input type="checkbox"/> |   |  |  |
| 4. The performer removed all shelving and loose equipment.                                 | <input type="checkbox"/>      | <input type="checkbox"/> |                               |   |                               | <input type="checkbox"/> | <input type="checkbox"/>      |   |                               |   | <input type="checkbox"/>      | <input type="checkbox"/> |   |  |  |
| 5. (Freezers only) The performer allowed the freezer to defrost.                           | <input type="checkbox"/>      | <input type="checkbox"/> |                               |   |                               | <input type="checkbox"/> | <input type="checkbox"/>      |   |                               |   | <input type="checkbox"/>      | <input type="checkbox"/> |   |  |  |
| 6. Using the two-pan method, the performer sanitized all overheads.                        | <input type="checkbox"/>      | <input type="checkbox"/> |                               |   |                               | <input type="checkbox"/> | <input type="checkbox"/>      |   |                               |   | <input type="checkbox"/>      | <input type="checkbox"/> |   |  |  |
| 7. Using the two-pan method, the performer sanitized all bulkheads.                        | <input type="checkbox"/>      | <input type="checkbox"/> |                               |   |                               | <input type="checkbox"/> | <input type="checkbox"/>      |   |                               |   | <input type="checkbox"/>      | <input type="checkbox"/> |   |  |  |

Continued next page

|                                                                                                                                               |                                                               |                          |                                                               |                          |                                                               |                          |
|-----------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|--------------------------|---------------------------------------------------------------|--------------------------|---------------------------------------------------------------|--------------------------|
| <b>Location:</b><br>_____                                                                                                                     | <b>Completed by:</b> _____<br>(Enter your name)               |                          | <b>Reviewed by:</b> _____<br>(Obtain Supervisor's signature)  |                          |                                                               |                          |
| 8. Using the two-pan method, the performer sanitized all decks.                                                                               | <input type="checkbox"/>                                      | <input type="checkbox"/> | <input type="checkbox"/>                                      | <input type="checkbox"/> | <input type="checkbox"/>                                      | <input type="checkbox"/> |
| 9. Using the two-pan method, the performer sanitized all doors.                                                                               | <input type="checkbox"/>                                      | <input type="checkbox"/> | <input type="checkbox"/>                                      | <input type="checkbox"/> | <input type="checkbox"/>                                      | <input type="checkbox"/> |
| 10. Using the two-pan method, the performer sanitized all gaskets.                                                                            | <input type="checkbox"/>                                      | <input type="checkbox"/> | <input type="checkbox"/>                                      | <input type="checkbox"/> | <input type="checkbox"/>                                      | <input type="checkbox"/> |
| 11. The performer left the freezer door open, and allowed the interior to air dry.                                                            | <input type="checkbox"/>                                      | <input type="checkbox"/> | <input type="checkbox"/>                                      | <input type="checkbox"/> | <input type="checkbox"/>                                      | <input type="checkbox"/> |
| 12. The performer scrubbed and sanitized all shelving.                                                                                        | <input type="checkbox"/>                                      | <input type="checkbox"/> | <input type="checkbox"/>                                      | <input type="checkbox"/> | <input type="checkbox"/>                                      | <input type="checkbox"/> |
| 13. The performer secured all cleaning supplies.                                                                                              | <input type="checkbox"/>                                      | <input type="checkbox"/> | <input type="checkbox"/>                                      | <input type="checkbox"/> | <input type="checkbox"/>                                      | <input type="checkbox"/> |
| 14. The performer allowed the shelves to air dry.                                                                                             | <input type="checkbox"/>                                      | <input type="checkbox"/> | <input type="checkbox"/>                                      | <input type="checkbox"/> | <input type="checkbox"/>                                      | <input type="checkbox"/> |
| 15. Once the shelves and reefer or freezer have dried, the performer energized the power.                                                     | <input type="checkbox"/>                                      | <input type="checkbox"/> | <input type="checkbox"/>                                      | <input type="checkbox"/> | <input type="checkbox"/>                                      | <input type="checkbox"/> |
| 16. The performer replaced all shelves and loose equipment.                                                                                   | <input type="checkbox"/>                                      | <input type="checkbox"/> | <input type="checkbox"/>                                      | <input type="checkbox"/> | <input type="checkbox"/>                                      | <input type="checkbox"/> |
| 17. Once the reefer or freezer has returned to its set temperature, the performer transferred the foodstuffs back into the reefer or freezer. | <input type="checkbox"/>                                      | <input type="checkbox"/> | <input type="checkbox"/>                                      | <input type="checkbox"/> | <input type="checkbox"/>                                      | <input type="checkbox"/> |
|                                                                                                                                               | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go |                          | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go |                          | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go |                          |

## LESSON 6

### How to Clean and Sanitize Dishes and Utensils

#### Introduction

---

##### Overview

This lesson explains how to clean and sanitize dishes and utensils including pots, pans, containers, hand tools, and knives.

This section of the lesson includes:

- Performance qualifications
  - Objectives
  - Performance evaluation
  - Tools and references
  - Recommended reading
  - Topics covered by this lesson
- 

##### Performance Qualifications

This lesson consists of two Enlisted Performance Qualifications (EPQs):

**4.C.03 Wash** dishes utilizing a dishwashing machine IAW the Food Service Sanitation Manual, COMDTINST M6240.4 (series) and Food Service Management General Messes, NAVSUP Publication 486.

**SupGuide:** The member will assemble, operate, de-scale, and disassemble the dishwashing machine.

**4.C.04 Wash** dishes utilizing manual dishwashing procedures IAW the Food Service Sanitation Manual, COMDTINST M6240.4 (series) and Food Service Management General Messes, NAVSUP Publication 486.

---

##### Objectives

Upon completion of this lesson, you will:

- Locate and interpret the procedures used to clean and sanitize dishes and utensils using the manual dishwashing method (washing dishes by hand)
  - Demonstrate how to clean and sanitize dishes and utensils using the manual dishwashing method
  - Locate and interpret the procedures used to clean and sanitize dishes and utensils using a mechanical dishwasher
  - Demonstrate how to clean and sanitize dishes and utensils using a mechanical dishwasher
-

## Introduction, continued

---

**Performance Evaluation** There will be a performance evaluation in this lesson. This evaluation will cover the EPQs 4.C.03 and 4.C.04 listed above.

---

**Recommended Reading** References for this lesson include:

- ❑ *Professional Cooking*, by Wayne Gisslen
- ❑ Food Service Sanitation Manual, COMDTINST M6240.4A
- ❑ NAVSUP P-486 – Food Service Management

---

**Tools and References** To get the most out of this lesson, be sure to read the following:

- ❑ *Professional Cooking*, Sanitation and Safety: Cleaning and Sanitizing Equipment.
- ❑ Food Service Sanitation Manual, COMDTINST M6240.4A, pp. 5-1 – 5-7
- ❑ Unit 1, Appendix C, Glossary of Key Terms

---

**Topics Covered by This Lesson** This lesson explains how to clean and sanitize dishes, utensils, pots, pans, containers, hand tools, and knives. It covers:

- ❑ Washing dishes by hand
- ❑ Washing dishes using a machine

---

## Washing Dishes by Hand

---

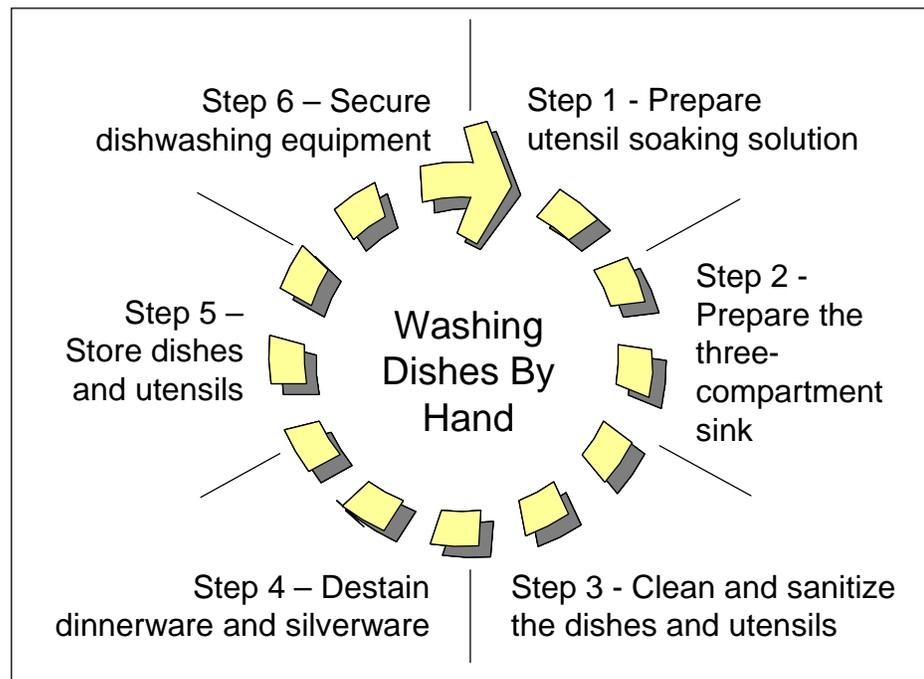
### Overview

This section will explain how to wash dishes by hand. It covers the following:

- ❑ The manual dishwashing method
  - ❑ Preparing the utensil soaking solution
  - ❑ Preparing a three-compartment sink
  - ❑ Cleaning and sanitizing dishes and utensils
  - ❑ Destaining dinnerware and silverware
  - ❑ Storing dinnerware, silverware, and utensils
  - ❑ Securing dishwashing equipment
- 

### The Manual Dishwashing Method

The manual dishwashing method has six steps. The figure below shows these steps.



The sections that follow explain in greater detail how to perform each of these steps.

---

## Washing Dishes by Hand, continued

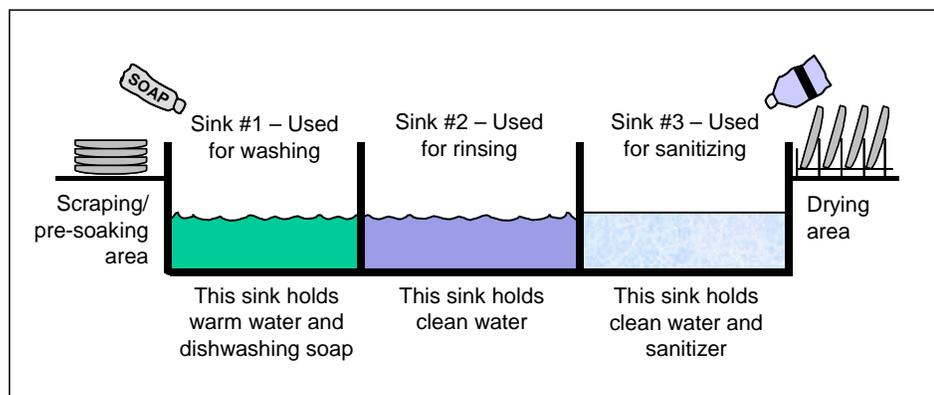
### Preparing the Utensil Soaking Solution

To prepare the soaking solution for utensils, follow the steps below:

| HOW TO PREPARE A UTENSIL SOAKING SOLUTION |                                                                                                                        |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| STEP                                      | ACTION                                                                                                                 |
| 1.                                        | Obtain a container suitable for holding utensils used for the current meal (hotel pan, bus pan, etc.).                 |
| 2.                                        | Add water (at 120–125 °F) to the container.                                                                            |
| 3.                                        | Add to the water 3 oz of dishwashing compound per gallon.                                                              |
| 4.                                        | Stir or mix the pre-soaking solution into the water.                                                                   |
| 5.                                        | Place the container near the window-entrance to the scullery, so patrons can place their soiled eating utensils in it. |
| End of procedure                          |                                                                                                                        |

### Preparing a Three-Compartment Sink

Review the graphic below to help you recall the components of the three-compartment sink.



After reviewing this graphic, see the table on the next page to learn how to prepare a three-compartment sink.

Continued next page

## Washing Dishes by Hand, continued

### Preparing a Three-Compartment Sink, contd.

The table below explains how to prepare a three-compartment sink.

| HOW TO PREPARE A THREE-COMPARTMENT SINK |                                                                                                                          |                                                                           |                      |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|----------------------|
| STEP                                    | ACTION                                                                                                                   |                                                                           |                      |
| 1.                                      | Fill sinks with potable water to the desired level at the temperatures listed in the table below:                        |                                                                           |                      |
|                                         | SINK...                                                                                                                  | USED FOR...                                                               | TEMPERATURES OF...   |
|                                         | #1                                                                                                                       | Washing                                                                   | Not less than 110 °F |
|                                         | #2                                                                                                                       | Rinsing                                                                   | Not less than 110 °F |
| #3                                      | Sanitizing                                                                                                               | 171 °F or greater (for booster heater)<br>75 °F or greater (for chemical) |                      |
| 2.                                      | Verify water temperatures in the sinks using a numerically-scaled indicating thermometer accurate to plus or minus 3 °F. |                                                                           |                      |
| 3.                                      | Add detergent to the washing sink (sink #1), as per manufacturer's directions.                                           |                                                                           |                      |
| 4.                                      | Determine the sanitizing method.                                                                                         |                                                                           |                      |
|                                         | IF THE SANITIZING SINK USES...                                                                                           | THEN...                                                                   |                      |
|                                         | A booster heater,                                                                                                        | Continue to step 5.                                                       |                      |
| Chemicals,                              | Refer to the Food Service Sanitation Manual (COMDTINST M6240.4A), Enclosure 2 pages 5.2 – 5.3 and skip to step 7.        |                                                                           |                      |
| 5.                                      | Turn on the booster heater.                                                                                              |                                                                           |                      |
| Continued next page                     |                                                                                                                          |                                                                           |                      |

## Washing Dishes by Hand, continued

|                                                   |                                                          |                                                |                                                                                                    |
|---------------------------------------------------|----------------------------------------------------------|------------------------------------------------|----------------------------------------------------------------------------------------------------|
| <b>Preparing a Three-Compartment Sink, contd.</b> | <b>STEP</b>                                              | <b>ACTION</b>                                  |                                                                                                    |
|                                                   | 6.                                                       | Verify that the booster heater is operational. |                                                                                                    |
|                                                   |                                                          | <b>IF THE BOOSTER HEATER...</b>                | <b>THEN...</b>                                                                                     |
|                                                   |                                                          | Is operational,                                | Continue to step 7.                                                                                |
|                                                   |                                                          | Is not operational,                            | Follow procedures for chemical sanitation and refer the booster heater problem to your supervisor. |
| 7.                                                | Continue with the procedure for washing dishes manually. |                                                |                                                                                                    |
| End of procedure                                  |                                                          |                                                |                                                                                                    |

Key points:

- ❑ When using a three-compartment sink, ensure the three-compartment sink is:
  - Cleaned prior to each use
  - Large enough to permit the complete immersion of dishes and utensils
  - Supplied with hot and cold potable running water for each compartment
- ❑ Three-compartment sinks are normally used for larger pots, pans, (for example, hotel, baking, and sheet pans) and containers that will not fit into the dishwasher.
- ❑ The three-compartment sink can also be used when it is not feasible to start up the dishwasher and break it down after use.

## Washing Dishes by Hand, continued

### Cleaning and Sanitizing Dishes and Utensils

To wash dishes, utensils, pots, pans, containers, hand tools, and knives manually, follow the steps below.

| WASHING DISHES AND UTENSILS MANUALLY |                                                                                                                                          |
|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| STEP                                 | ACTION                                                                                                                                   |
| 1.                                   | Pre-soak eating utensils in the sanitizing solution.                                                                                     |
| 2.                                   | Pre-flush and pre-scrape large pots, pans, and containers, dishes, and utensils (to remove gross food particles and soil).               |
| 3.                                   | Wash large pots, pans, and containers, dishes, and utensils in the washing soap and water solution (sink #1).                            |
| 4.                                   | Rinse large pots, pans, containers, dishes, and utensils in the rinse water (sink #2).                                                   |
| 5.                                   | Place large pots, pans, and containers, dishes, and utensils in the sanitizing solution (sink #3).                                       |
| 6.                                   | Allow large pots, pans, and containers, dishes, and utensils to remain in the sanitizing solution (sink #3) for the required time.       |
| 7.                                   | Remove large pots, pans, containers, dishes, and utensils from the sanitizing solution (sink #3) and allow to air-dry. Do not towel dry. |
| End of procedure                     |                                                                                                                                          |

Key points:

- When dishes and utensils are heavily soiled, pre-soaking makes removal of gross food particles and soil easier.
- Wash in a hot detergent solution that is kept clean. Change the water often to keep it clean.
- Rinse in clean, warm water to remove detergent and abrasives. Replace at the first appearance of grease or dinginess.

Continued next page

## Washing Dishes by Hand, continued

### Cleaning and Sanitizing Dishes and Utensils, contd.

- ❑ Sanitize tableware and food contact surfaces of other tools and equipment using one of the following methods (test all temperatures with a thermometer):
  - Immersing for 10 seconds in a chlorine solution at the proper temperature according to Table 5-1 of the Food Service Sanitation Manual, Page 5-2
  - Immersing for at least 30 seconds in clean, hot water at a temperature of at least 171 °F
  - Immersing for at least one minute in a clean solution containing 12.5–25 ppm of available iodine, a pH not greater than 5.0 (tested using pH strips) and having a temperature of at least 75 °F
  - For equipment too large to immerse, steam or chemical sanitizing solution at least twice the recommended strength
- ❑ Air-dry all utensils before stacking and storing. Do not towel dry utensils.

**Note:** Be careful and cautious when cleaning and sanitizing knives. DO NOT leave a knife in a sink where it cannot be seen and might cause harm.

### Destaining Dinnerware and Silverware

Destaining is the process of removing stains from dinnerware and silverware. It is done at least weekly.

To destain dinnerware and silverware, follow the steps below.

| DESTAINING DINNERWARE AND SILVERWARE |                                                                                                                                                   |
|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| STEP                                 | ACTION                                                                                                                                            |
| 1.                                   | Obtain a plastic bus bin or other large container suitable for holding dinnerware and silverware (may use a steam-jacketed kettle).               |
| 2.                                   | Add hot water to the container obtained in step 1.                                                                                                |
| 3.                                   | Dissolve destaining compound in hot water according to the destaining compound manufacturer instructions. (Use a milder solution for silverware.) |
| 4.                                   | Place dinnerware and silverware in the destaining solution.                                                                                       |
| Continued next page                  |                                                                                                                                                   |

## Washing Dishes by Hand, continued

### Destaining Dinnerware and Silverware, contd.

| STEP             | ACTION                                                                                                                               |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| 5.               | Allow the dinnerware and silverware to remain in the destaining solution for 30 minutes.                                             |
| 6.               | Rinse the dinnerware and silverware with clear water.                                                                                |
| 7.               | Place the dinnerware and silverware in the three-compartment sink (or dishwashing machine, if available) for washing and sanitizing. |
| 8.               | Allow the dinnerware and silverware to air-dry before returning them to storage.                                                     |
| End of procedure |                                                                                                                                      |

### Storing Dinnerware, Silverware, and Utensils

To store clean and sanitized dinnerware and utensils, follow the steps below.

| <b>STORING DINNERWARE, SILVERWARE, AND UTENSILS</b> |                                                                                                                                                  |
|-----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| STEP                                                | ACTION                                                                                                                                           |
| 1.                                                  | Grasp cleaned and sanitized dinnerware and utensils by the handle (or any surface other than the cooking or eating area).                        |
| 2.                                                  | Place the dinnerware and utensils in their designated locations face down (or handle up) to prevent contaminating the cooking or eating surface. |
| End of procedure                                    |                                                                                                                                                  |

Key points:

When storing clean and sanitized dinnerware and utensils, ensure:

- The storage area is clean, free of dirt, grease, and food particles
- That dinnerware and utensils do not come into contact with clothing while transporting them to the storage area

## Washing Dishes by Hand, continued

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### Securing Dishwashing Equipment

When securing dishwashing equipment, follow the steps below.

| <b>SECURING DISHWASHING EQUIPMENT</b> |                                                              |
|---------------------------------------|--------------------------------------------------------------|
| <b>STEP</b>                           | <b>ACTION</b>                                                |
| 1.                                    | Remove all food particles from the stainless steel surfaces. |
| 2.                                    | Wash the surfaces with warm soapy water.                     |
| 3.                                    | Rinse the surfaces with clean water.                         |
| 4.                                    | Allow the surfaces to air-dry.                               |
| End of procedure                      |                                                              |

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## Washing Dishes Using a Machine

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### Overview

In this section you will learn about washing dishes using mechanical means (that is to say, using a dishwasher). This section covers:

- ❑ Introduction to mechanical dishwashing
  - ❑ The mechanical dishwashing method
  - ❑ Preparing the utensil soaking solution
  - ❑ Assembling the dishwasher
  - ❑ Preparing the dishwasher
  - ❑ Cleaning and sanitizing dishes and utensils
  - ❑ Destaining dinnerware and silverware (as required)
  - ❑ Storing dinnerware, silverware, and utensils
  - ❑ Descaling the dishwasher (as required)
  - ❑ Disassembling the dishwasher
- 

### Introduction to Mechanical Dishwashing

Using a mechanical dishwasher to clean and sanitize dishes, pots, pans, containers, and utensils is similar to using manual dishwashing procedures in that:

- ❑ Utensils that have been used should be soaked in a warm detergent solution shortly after being collected
- ❑ Dinnerware (plates, bowls, cups, saucers, etc.) and cookware (pots, pans, and containers) must be rinsed and/or scrubbed clean of loose or hardened particles before being placed on a washware rack and sent into the dishwasher
- ❑ Cookware (pots, pans, and containers) too large to be placed in the dishwasher must be cleaned and sanitized using the three-compartment sink
- ❑ All items cleaned and sanitized using the dishwasher must be allowed to air-dry before being returned to their proper storage location (for example lowerators for plates, bowls, and saucers, or pot, pan, and container storage)

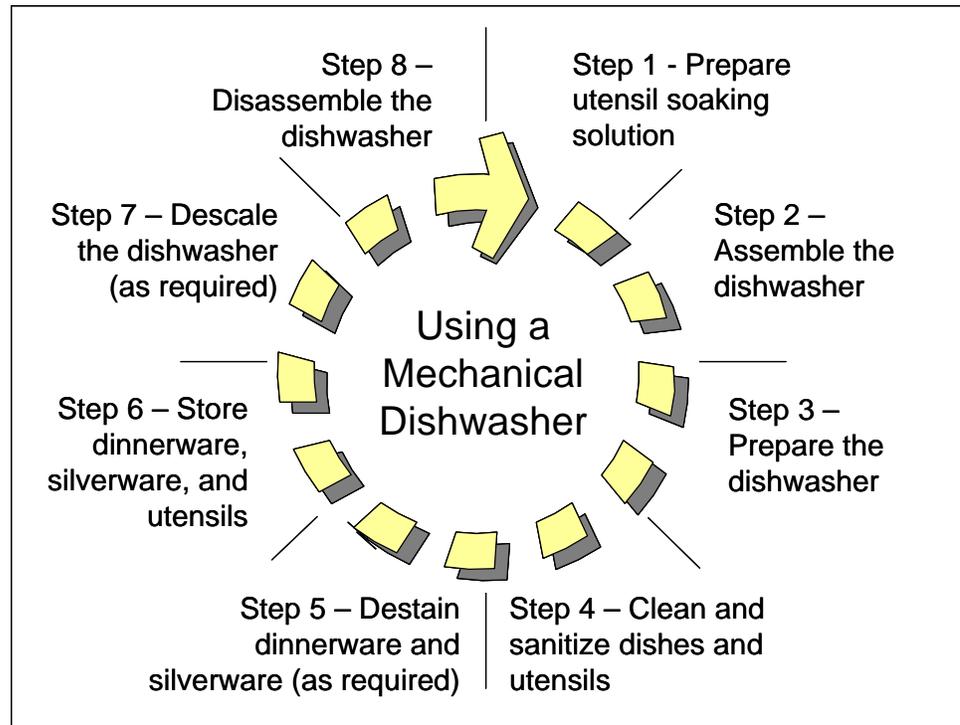


A double-tank dishwasher

## Washing Dishes Using a Machine, continued

### The Mechanical Dishwashing Method

The mechanical dishwashing method has eight steps. The figure below shows these steps.



The sections that follow explain in greater detail how to perform each of these steps.

**Note:** Some of the steps and procedures are identical to those used in the manual method.

### Preparing the Utensil Soaking Solution

The preparation of a utensil soaking solution is the same as for manual dishwashing. Refer back to the procedure on page 6-5.

## Washing Dishes Using a Machine, continued

### Assembling the Dishwasher

To assemble the dishwasher, follow the steps in the table below.

| <b>ASSEMBLING THE DISHWASHER</b> |                                                                                                      |
|----------------------------------|------------------------------------------------------------------------------------------------------|
| <b>STEP</b>                      | <b>ACTION</b>                                                                                        |
| 1.                               | Verify the dishwasher is plugged into an AC outlet.                                                  |
| 2.                               | Replace the sprinkler manifold end caps on all (upper and lower) sprinkler manifolds.                |
| 3.                               | Insert the upper sprinkler manifold on the right side.                                               |
| 4.                               | Insert the upper sprinkler manifold on the left side.                                                |
| 5.                               | Replace the bottom end tray near the output.                                                         |
| 6.                               | Replace the drain tubes at the front.                                                                |
| 7.                               | Replace the two bottom trays at the rear.                                                            |
| 8.                               | Replace the two notched bottom trays at the front.                                                   |
| 9.                               | Replace the two rectangular catch trays (strainers) in the bottom.                                   |
| 10.                              | Insert the lower sprinkler manifold on the right side.                                               |
| 11.                              | Insert the lower sprinkler manifold on the left side.                                                |
| 12.                              | Replace the curtains (four long and one short) in their proper positions.                            |
| 13.                              | Close the levers (push downward) inside the front of the dishwasher to keep the water from draining. |
| 14.                              | Close the dishwasher doors.                                                                          |
| End of procedure                 |                                                                                                      |

## Washing Dishes Using a Machine, continued

### Preparing the Dishwasher

To prepare the dishwasher, follow the steps below.

| <b>PREPARING THE DISHWASHER</b> |                                                                                                                                                                                                                                                                                                        |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>STEP</b>                     | <b>ACTION</b>                                                                                                                                                                                                                                                                                          |
| 1.                              | Turn the Vent switch to “On.”                                                                                                                                                                                                                                                                          |
| 2.                              | Turn the Power switch to “On” to: <ul style="list-style-type: none"> <li>■ Fill the wash and rinse tanks</li> <li>■ Charge the wash tank with dishwashing compound</li> <li>■ Fill the sanitizing tank</li> </ul>                                                                                      |
| 3.                              | Wait 15 minutes to allow the tanks to fill.                                                                                                                                                                                                                                                            |
| 4.                              | Turn the Motor switch to “On” for two minutes to mix the detergent.                                                                                                                                                                                                                                    |
| 5.                              | Turn the Water and Steam (booster heater) switch to “On.”                                                                                                                                                                                                                                              |
| 6.                              | Verify the temperature ranges for sprays, detergent, and jet dry according to the values below: <ul style="list-style-type: none"> <li>a. Wash temperature range: 140 °F–160 °F</li> <li>b. Rinse temperature range: 160 °F–180 °F</li> <li>c. Final rinse temperature range: 180 °F–194 °F</li> </ul> |
| 7.                              | In the event of an emergency (alarm conditions), check detergent levels, the drain plug, and notify your supervisor.                                                                                                                                                                                   |
| End of procedure                |                                                                                                                                                                                                                                                                                                        |

## Washing Dishes Using a Machine, continued

### Cleaning and Sanitizing Dishes and Utensils

Follow the steps below to clean and sanitize dishes, utensils, pots, pans, and containers using a dishwasher.

| CLEANING AND SANITIZING DISHES                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                 |         |                                   |                                  |                                                                                                                                                                               |                                                                         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|---------|-----------------------------------|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| STEP                                                                                                                                                                          | ACTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                 |         |                                   |                                  |                                                                                                                                                                               |                                                                         |
| 1.                                                                                                                                                                            | Receive used dishes, utensils, pots, pans, and containers.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                 |         |                                   |                                  |                                                                                                                                                                               |                                                                         |
| 2.                                                                                                                                                                            | Determine the proper washing procedure for the items. <table border="1"> <thead> <tr> <th>IF POT, PAN, OR CONTAINER IS...</th> <th>THEN...</th> </tr> </thead> <tbody> <tr> <td>Small enough for a washware rack,</td> <td>Continue to step 3.</td> </tr> <tr> <td>Too large for a washware rack,</td> <td>Use the manual washing procedure.</td> </tr> </tbody> </table>                                                                                                                                                                                                                   | IF POT, PAN, OR CONTAINER IS... | THEN... | Small enough for a washware rack, | Continue to step 3.              | Too large for a washware rack,                                                                                                                                                | Use the manual washing procedure.                                       |
| IF POT, PAN, OR CONTAINER IS...                                                                                                                                               | THEN...                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                 |         |                                   |                                  |                                                                                                                                                                               |                                                                         |
| Small enough for a washware rack,                                                                                                                                             | Continue to step 3.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                 |         |                                   |                                  |                                                                                                                                                                               |                                                                         |
| Too large for a washware rack,                                                                                                                                                | Use the manual washing procedure.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                 |         |                                   |                                  |                                                                                                                                                                               |                                                                         |
| 3.                                                                                                                                                                            | To prepare used items for cleaning and sanitizing, follow the directions in the table below. <table border="1"> <thead> <tr> <th>IF THE ITEM IS A/AN...</th> <th>THEN...</th> </tr> </thead> <tbody> <tr> <td>Eating utensil,</td> <td>Soak it in a detergent solution.</td> </tr> <tr> <td> <ul style="list-style-type: none"> <li>■ Serving utensil,</li> <li>■ Plate,</li> <li>■ Bowl,</li> <li>■ Cup,</li> <li>■ Saucer,</li> <li>■ Pot, pan, or container,</li> </ul> </td> <td>Flush, scrub, or scrape it to remove gross or remaining food particles.</td> </tr> </tbody> </table> | IF THE ITEM IS A/AN...          | THEN... | Eating utensil,                   | Soak it in a detergent solution. | <ul style="list-style-type: none"> <li>■ Serving utensil,</li> <li>■ Plate,</li> <li>■ Bowl,</li> <li>■ Cup,</li> <li>■ Saucer,</li> <li>■ Pot, pan, or container,</li> </ul> | Flush, scrub, or scrape it to remove gross or remaining food particles. |
| IF THE ITEM IS A/AN...                                                                                                                                                        | THEN...                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                 |         |                                   |                                  |                                                                                                                                                                               |                                                                         |
| Eating utensil,                                                                                                                                                               | Soak it in a detergent solution.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                 |         |                                   |                                  |                                                                                                                                                                               |                                                                         |
| <ul style="list-style-type: none"> <li>■ Serving utensil,</li> <li>■ Plate,</li> <li>■ Bowl,</li> <li>■ Cup,</li> <li>■ Saucer,</li> <li>■ Pot, pan, or container,</li> </ul> | Flush, scrub, or scrape it to remove gross or remaining food particles.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                 |         |                                   |                                  |                                                                                                                                                                               |                                                                         |
| Continued next page                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                 |         |                                   |                                  |                                                                                                                                                                               |                                                                         |

## Washing Dishes Using a Machine, continued

### Cleaning and Sanitizing Dishes and Utensils, contd.

| STEP             | ACTION                                                                                                                                                                       |                                                                       |                                                                                                                                                                              |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4.               | Place items on a washware rack according to the table below.                                                                                                                 |                                                                       |                                                                                                                                                                              |
|                  | <b>IF THE ITEM IS A/AN...</b>                                                                                                                                                | <b>AND HAS BEEN...</b>                                                | <b>THEN...</b>                                                                                                                                                               |
|                  | Eating utensil,                                                                                                                                                              | Pre-soaked in a detergent solution,                                   | Place the utensils (no more than 15) handle-end down in a flatware dispenser basket.                                                                                         |
|                  | <ul style="list-style-type: none"> <li>■ Serving utensil,</li> <li>■ Plate,</li> <li>■ Bowl,</li> <li>■ Cup,</li> <li>■ Saucer</li> <li>■ Pot, pan, or container,</li> </ul> | Flushed, scrubbed, and/or scraped to remove remaining food particles, | Place the items so that food-contact surfaces are subject to unobstructed application of detergent wash and clean rinse waters and permitted to drain freely when air-dried. |
| 5.               | Place the rack, tray, or basket at the entrance to the dishwasher.                                                                                                           |                                                                       |                                                                                                                                                                              |
| 6.               | Press the booster heater on/off switch to “On.”                                                                                                                              |                                                                       |                                                                                                                                                                              |
| 7.               | Press the motor start switch to begin cleaning and sanitizing.                                                                                                               |                                                                       |                                                                                                                                                                              |
| 8.               | Observe the progress of the rack, tray, or basket in the dishwasher.                                                                                                         |                                                                       |                                                                                                                                                                              |
| 9.               | Remove the rack, tray, or basket from the dishwasher output.                                                                                                                 |                                                                       |                                                                                                                                                                              |
| 10.              | Turn the booster heater on/off switch to “Off.”                                                                                                                              |                                                                       |                                                                                                                                                                              |
| 11.              | Turn the motor on/off switch to “Off.”                                                                                                                                       |                                                                       |                                                                                                                                                                              |
| 12.              | Allow the items to air-dry on the drain board.                                                                                                                               |                                                                       |                                                                                                                                                                              |
| End of procedure |                                                                                                                                                                              |                                                                       |                                                                                                                                                                              |

## Washing Dishes Using a Machine, continued

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### **Destaining Dinnerware and Silverware**

The procedure for destaining dinnerware and silverware in the mechanical dishwashing method is the same as in the manual method. See the procedure for destaining on pp. 6-9 – 6-10.

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### **Storing Dinnerware, Silverware, and Utensils**

The procedure for storing dinnerware, silverware, and utensils in the mechanical dishwashing method is the same as in the manual method. See the procedure and key points for storing on p. 6-10.

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### **Descaling the Dishwasher**

The descaling of the dishwasher is an ordinary part of a scheduled maintenance and must be closely supervised. When you descale a dishwasher, you must wear:

- A face shield
- A rubber apron
- Chemical safety goggles
- Rubber gloves

To descale a dishwasher, follow the steps below.

| <b>DESCALING THE DISHWASHER</b> |                                                                                                                                                 |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>STEP</b>                     | <b>ACTION</b>                                                                                                                                   |
| 1.                              | Obtain and dress in the required protective clothing listed above.                                                                              |
| 2.                              | Drain the wash/rinse tanks (if applicable). Remove detergent from the carrier.                                                                  |
| 3.                              | Install the overflow pipes, scrap trays, screens, spray manifolds (except final rinse manifolds), and curtains (inlet and discharge ends only). |
| 4.                              | Place the final rinse spray manifold on top of the scrap tray in the wash tank.                                                                 |
| 5.                              | Close the drain valves.                                                                                                                         |
| 6.                              | Fill the tanks to within two inches of the top of the overflow pipe with clean, hot water.                                                      |
| Continued next page             |                                                                                                                                                 |

## Washing Dishes Using a Machine, continued

### Descaling the Dishwasher, contd.

| STEP                                             | ACTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                            |        |         |                                              |                  |                      |                                                  |                      |                            |
|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|--------|---------|----------------------------------------------|------------------|----------------------|--------------------------------------------------|----------------------|----------------------------|
| 7.                                               | <p>Add seven ounces of orthophosphoric acid and 1 fluid ounce of rinse additive for each gallon of water per tank.</p> <p><b>Note:</b> If orthophosphoric acid is not available, use only USDA approved chemicals and follow the manufacturer’s instructions.</p> <p><b>Note:</b> To determine the capacity in gallons of each tank, multiply the length (in inches) × width (in inches) × depth to overflow (in inches) and divide the result by 231.</p>                                                                                                                                                                                                                                                                                                                                                                         |                            |        |         |                                              |                  |                      |                                                  |                      |                            |
| 8.                                               | Complete the tank filling begun in step 6.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                            |        |         |                                              |                  |                      |                                                  |                      |                            |
| 9.                                               | Start the dishwasher.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                            |        |         |                                              |                  |                      |                                                  |                      |                            |
| 10.                                              | Allow the dishwasher to run for one hour while maintaining normal operating temperatures.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                            |        |         |                                              |                  |                      |                                                  |                      |                            |
| 11.                                              | Stop the machine after one hour of operation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                            |        |         |                                              |                  |                      |                                                  |                      |                            |
| 12.                                              | Open the drain valves to completely drain the acid solution from the dishwasher.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                            |        |         |                                              |                  |                      |                                                  |                      |                            |
| 13.                                              | <p>Inspect the interior of the dishwasher to determine if the parts are free of calcium or lime deposits.</p> <table border="1"> <thead> <tr> <th>IF...</th> <th>AND...</th> <th>THEN...</th> </tr> </thead> <tbody> <tr> <td>Parts are free of calcium and lime deposits,</td> <td>Parts are shiny,</td> <td>Continue to step 14.</td> </tr> <tr> <td>Parts are not free of calcium and lime deposits,</td> <td>Parts are not shiny,</td> <td>Repeat steps 5 through 12.</td> </tr> </tbody> </table> | IF...                      | AND... | THEN... | Parts are free of calcium and lime deposits, | Parts are shiny, | Continue to step 14. | Parts are not free of calcium and lime deposits, | Parts are not shiny, | Repeat steps 5 through 12. |
| IF...                                            | AND...                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | THEN...                    |        |         |                                              |                  |                      |                                                  |                      |                            |
| Parts are free of calcium and lime deposits,     | Parts are shiny,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Continue to step 14.       |        |         |                                              |                  |                      |                                                  |                      |                            |
| Parts are not free of calcium and lime deposits, | Parts are not shiny,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Repeat steps 5 through 12. |        |         |                                              |                  |                      |                                                  |                      |                            |
| 14.                                              | Close the drain valves, and fill the tanks with clean, hot water.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                            |        |         |                                              |                  |                      |                                                  |                      |                            |
| 15.                                              | Add two cups of dishwashing machine compound per tank.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                            |        |         |                                              |                  |                      |                                                  |                      |                            |
| 16.                                              | Close the dishwasher tank doors.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                            |        |         |                                              |                  |                      |                                                  |                      |                            |
| 17.                                              | Start the dishwasher.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                            |        |         |                                              |                  |                      |                                                  |                      |                            |
| Continued next page                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                            |        |         |                                              |                  |                      |                                                  |                      |                            |

### Washing Dishes Using a Machine, continued

**Descaling the Dishwasher, contd.**

| STEP             | ACTION                                                                            |
|------------------|-----------------------------------------------------------------------------------|
| 18.              | Operate the dishwasher for five minutes while maintaining operating temperatures. |
| 19.              | Stop the dishwasher.                                                              |
| 20.              | Drain the dishwasher tanks.                                                       |
| 21.              | Refill the dishwasher tanks with clear water.                                     |
| 22.              | Flush the dishwasher tanks to remove all traces of acid and detergent.            |
| 23.              | Replace detergent in the carrier.                                                 |
| End of procedure |                                                                                   |

**Disassembling the Dishwasher**

To disassemble the double-tank dishwasher, follow the steps listed in the table below.

| <b>DISASSEMBLING THE DISHWASHER</b> |                                                                                                                                                                               |
|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STEP                                | ACTION                                                                                                                                                                        |
| 1.                                  | Secure the booster heater pump. (Turn the booster heater switch to “Off.”)                                                                                                    |
| 2.                                  | Secure the dishwasher motor. (Turn the motor switch to “Off.”)                                                                                                                |
| 3.                                  | Secure the dishwasher power. (Turn the power switch to “Off.”)                                                                                                                |
| 4.                                  | Allow the vent to continue running.                                                                                                                                           |
| 5.                                  | Open the dishwasher doors and allow the dishwasher to cool and dry.                                                                                                           |
| 6.                                  | Remove any warewashing trays from inside or near the inlet or outlet of the dishwasher (to allow for room to place the internal parts of the dishwasher after being removed). |
| 7.                                  | Pull the drain handles at the front of the dishwasher (to allow the water to drain).                                                                                          |
| Continued next page                 |                                                                                                                                                                               |

### Washing Dishes Using a Machine, continued

|                                             |                  |                                                                                                                                                       |                                                     |  |
|---------------------------------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|--|
| <b>Disassembling the Dishwasher, contd.</b> | <b>STEP</b>      | <b>ACTION</b>                                                                                                                                         |                                                     |  |
|                                             | 8.               | Obtain the warewashing trays (for storing parts that are to be removed in the following steps).                                                       |                                                     |  |
|                                             | 9.               | Remove and place the curtains (four large, one small) in the warewashing tray.                                                                        |                                                     |  |
|                                             | 10.              | Check for loose curtain items.                                                                                                                        |                                                     |  |
|                                             |                  | <b>IF THE CURTAINS...</b>                                                                                                                             | <b>THEN...</b>                                      |  |
|                                             |                  | Have no loose items,                                                                                                                                  | Continue to step 11.                                |  |
|                                             |                  | Have loose items,                                                                                                                                     | Set the curtain aside and refer to your supervisor. |  |
|                                             | 11.              | Remove the two upper and two lower manifolds, and place the manifolds in the washware tray to drain.                                                  |                                                     |  |
|                                             | 12.              | Obtain a small container, and fill it with clean water.                                                                                               |                                                     |  |
|                                             | 13.              | Remove the rubber plugs from the ends of the manifolds and place them in the small container obtained in step 12 (to keep the plugs from drying out). |                                                     |  |
|                                             | 14.              | Remove the two strainer baskets from the bottoms of the tanks.                                                                                        |                                                     |  |
|                                             | 15.              | Rinse the strainer baskets (to remove debris).                                                                                                        |                                                     |  |
|                                             | 16.              | Place the strainer baskets in the washware tray (to dry).                                                                                             |                                                     |  |
|                                             | 17.              | Remove the strainer trays (four pieces) from the bottoms of the tanks.                                                                                |                                                     |  |
|                                             |                  | <b>Note:</b> These trays hold the strainer baskets.                                                                                                   |                                                     |  |
|                                             | 18.              | Rinse the strainer trays (to remove debris).                                                                                                          |                                                     |  |
|                                             | 19.              | Place strainer trays in the washware tray (to dry).                                                                                                   |                                                     |  |
|                                             | 20.              | Secure the vent motor. (Turn the vent switch to “Off.”)                                                                                               |                                                     |  |
|                                             | 21.              | Dry the sump area and sides of the tanks using a wet/damp cloth to ensure they are free of all food debris.                                           |                                                     |  |
|                                             | End of procedure |                                                                                                                                                       |                                                     |  |

## Lesson Review

---

**Purpose** The intention of this exercise is to help you confirm what you have learned about how to clean and sanitize dishes and utensils.

---

**Directions** Test your knowledge of the concepts and principles of this lesson by choosing the best, most correct answer to each question below. Some questions require you to create answers or fill in blanks. Use the lesson material and references to assist you as necessary.

When you have finished answering the questions, compare your answers to the correct answers in the “Lesson Review Feedback” section at the end of this lesson. Note any differences between your answers and the correct ones so you can learn from them, and discuss them when you meet with your supervisor.

---

**Questions** 1. What are the six steps for washing dishes by hand?

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2–5. Complete the table below.

| PREPARING THE THREE-COMPARTMENT SINK |                          |                    |
|--------------------------------------|--------------------------|--------------------|
| SINK                                 | THIS SINK IS USED FOR... | THIS SINK HOLDS... |
| #1                                   | Washing                  | 2.                 |
| #2                                   | 3.                       | Clean water        |
| #3                                   | 4.                       | 5.                 |

Continued next page

**Lesson Review, continued**

---

**Questions,  
contd.**

6. Define destaining.

---

---

---

7. When destaining, how long should you allow dinnerware and silverware to remain in the destaining solution?
- 5 minutes
  - 10 minutes
  - 20 minutes
  - 30 minutes
8. Which one of these steps for using a mechanical dishwasher is out of order?
- Assemble the dishwasher
  - Prepare the dishwasher
  - Prepare the utensil soaking solution
  - Clean and sanitize dishes and utensils
9. When disassembling the dishwasher, what is the last step you should perform?
- Dry the sump area and sides of the tanks using a damp cloth.
  - Place the strainer trays in a washware tray to dry.
  - Remove the rubber plugs from the ends of the manifolds and place them in a small container filled with clean water.
  - Turn the Vent switch to "Off."
-

## Practicing What You Have Learned

---

### Overview

This lesson covers material associated with two EPQs, so there are two sets of performance evaluations for you to complete. Before you attempt to pass the performance evaluations, however, we recommend that you practice the core tasks of the lesson:

- Washing dishes and utensils by hand
  - Washing dishes and utensils using a dishwashing machine.
- 

### Practicing the Core Tasks

Once you have finished reading the lesson and have completed the lesson review, you should meet with your supervisor and observe demonstrations of the following:

For manual dishwashing:

- How to prepare a utensil sanitizing solution
- How to prepare the three-compartment sink for use
- How to clean/sanitize dishes, utensils, pots, pans, and containers
- How to destain dinnerware and silverware
- How to store dishes, utensils, pots, pans, and containers
- How to secure dishwashing equipment

For mechanical dishwashing:

- How to assemble the dishwasher
- How to prepare the dishwasher
- How to clean and sanitize dishes and utensils using the dishwasher
- How to descale the dishwasher
- How to disassemble the dishwasher

Once you have observed the tasks involved in the demonstrations, you should, under supervision, perform the tasks yourself and receive corrective feedback about your performance from your supervisor.

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## Performance Evaluation

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Once you have completed this lesson—meaning you have read the material, completed the lesson review, observed demonstrations of the core tasks, and then practiced the core tasks enough to be moderately competent in them—you are ready to demonstrate the tasks for sign-off.

Your supervisor will discuss this sign-off process with you. It will involve your demonstrating the core tasks under the supervisor’s observation, so that he or she can determine whether or not you are able to perform the tasks in a satisfactory manner. Using the Performance Evaluation sheets as a guide, he or she will mark “go” for tasks you perform well and “no go” for tasks where you need improvement. Performing the core tasks well enough to receive a “go” from your supervisor will mean that you met the Enlisted Performance Qualification (EPQ) associated with the lesson. If you receive a “no go,” you must practice the core tasks, receive feedback, and practice again until you are able to perform the tasks well enough for sign-off.

The EPQs/core tasks for this lesson are:

- ❑ 4.C.04 – Wash dishes and utensils by hand.
  - ❑ 4.C.03 – Wash dishes and utensils using a dishwashing machine (including assembling, operating, descaling, and disassembling the dishwashing machine).
-

## Lesson Summary

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### Summary

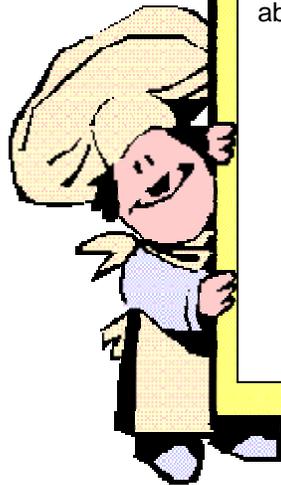
Having completed this lesson, you are now able to:

- ❑ Locate and interpret the procedures used to clean and sanitize dishes and utensils using the manual dishwashing method (washing dishes by hand)
  - ❑ Demonstrate how to clean and sanitize dishes and utensils using the manual dishwashing method
  - ❑ Locate and interpret the procedures used to clean and sanitize dishes and utensils using a mechanical dishwasher
  - ❑ Demonstrate how to clean and sanitize dishes and utensils using a mechanical dishwasher
- 

### Next in this Unit

In the next lesson you will learn how to work safely in a food service facility. More specifically, you will learn about:

- What conditions are unsafe
- How to recognize unsafe conditions
- How to respond to unsafe conditions



## Lesson Review Feedback

---

### Directions

Compare your answers in the “Lesson Review” to the answers below (correct answers are in **bold**). Note any differences between your answers and the text so you can learn from them and discuss them with your supervisor.

---

### Answers

1. What are the six steps for washing dishes by hand?

**(1) Prepare the utensil soaking solution**

---

**(2) Prepare the three-compartment sink**

---

**(3) Clean and sanitize the dishes and utensils**

---

**(4) Destain dinnerware and silverware**

---

**(5) Store dishes and utensils**

---

**(6) Secure dishwashing equipment.**

---

2–5. Complete the table below.

| PREPARING THE THREE-COMPARTMENT SINK |                          |                                           |
|--------------------------------------|--------------------------|-------------------------------------------|
| SINK                                 | THIS SINK IS USED FOR... | THIS SINK HOLDS...                        |
| #1                                   | Washing                  | 2. <b>Warm water and dishwashing soap</b> |
| #2                                   | 3. <b>Rinsing</b>        | Clean water                               |
| #3                                   | 4. <b>Sanitizing</b>     | 5. <b>Clean water and sanitizer</b>       |

6. Define destaining.

**Destaining is the process of removing stains. (In this lesson we’re focusing on the removal of stains from dinnerware and silverware.)**

Continued next page

## Lesson Review Feedback, continued

---

**Answers,  
contd.**

7. When destaining, how long should you allow dinnerware and silverware to remain in the destaining solution?
    - a. 5 minutes
    - b. 10 minutes
    - c. 20 minutes
    - d. 30 minutes**
  
  8. Which one of these steps for using a mechanical dishwasher is out of order?
    - a. Assemble the dishwasher
    - b. Prepare the dishwasher
    - c. Prepare the utensil soaking solution**
    - d. Clean and sanitize dishes and utensils
  
  9. When disassembling the dishwasher, what is the last step you should perform?
    - a. Dry the sump area and sides of the tanks using a damp cloth.**
    - b. Place the strainer trays in a washware tray to dry.
    - c. Remove the rubber plugs from the ends of the manifolds and place them in a small container filled with clean water.
    - d. Turn the Vent switch to “Off.”
-

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**PERFORMANCE EVALUATION 3.6.1****Wash Dishes Using a Dishwashing Machine**

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**Goal**

The student will perform the following:

- Wash dishes and utensils using a dishwasher
- 

**Process**

Given dishes needing to be washed, you will wash them using a mechanical dishwasher.

---

**Directions**

Using the tools and materials provided by the supervisor, you will:

**Hands-On Practice**

1. Prepare a utensil soaking solution.
  2. Assemble the dishwasher.
  3. Prepare the dishwasher.
  4. Clean and sanitize dishes and utensils using the dishwasher.
  5. Destain the dinnerware and silverware.
  6. Store dinnerware, silverware, and utensils.
  7. Descal the dishwasher.
  8. Disassemble the dishwasher.
- 

**Checklist**

Fill in your name on the Unit 3 Performance Evaluation Checklists and hand them to your supervisor prior to completing the hands-on exercise.

---

**Feedback**

Your supervisor will review your performance for accuracy and completeness and provide any comments directly to you.

---

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## PERFORMANCE EVALUATION 3.6.1.A

### Wash Dishes Using a Dishwashing Machine Preparing the Dishwasher

|                           |                                                                |                                                                             |
|---------------------------|----------------------------------------------------------------|-----------------------------------------------------------------------------|
| <b>Location:</b><br>_____ | <b>Completed by:</b> _____<br><small>(Enter your name)</small> | <b>Reviewed by:</b> _____<br><small>(Obtain Supervisor's signature)</small> |
|---------------------------|----------------------------------------------------------------|-----------------------------------------------------------------------------|

**EPQ**  
**4.C.03 Wash** dishes utilizing a dishwashing machine IAW the Food Service Sanitation Manual, COMDTINST M6240.4 (series) and Food Service Management General Messes, NAVSUP Publication 486.  
**Sup Guide:** The member will assemble, operate, de-scale, and disassemble the dishwashing machine.

|                                                                                                                                               |                                                                                                                                                                                                      |
|-----------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Criteria</b><br><u><b>Accuracy:</b></u><br><ul style="list-style-type: none"> <li>• Proper equipment selected 100% of the time.</li> </ul> | <u><b>Safety:</b></u><br><ul style="list-style-type: none"> <li>• Exercise caution when working around hot water and hot surfaces.</li> <li>• Proper equipment selected 100% of the time.</li> </ul> |
|-----------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| <b>TASK</b>                                                                                                         | <b>COMMENTS</b>               |                          |                               |   |                               |                          |                               |   |                               |                          |                               |   |   |             |  |
|---------------------------------------------------------------------------------------------------------------------|-------------------------------|--------------------------|-------------------------------|---|-------------------------------|--------------------------|-------------------------------|---|-------------------------------|--------------------------|-------------------------------|---|---|-------------|--|
|                                                                                                                     | <b>1<sup>st</sup> Attempt</b> |                          | <b>2<sup>nd</sup> Attempt</b> |   | <b>3<sup>rd</sup> Attempt</b> |                          | <b>1<sup>st</sup> Attempt</b> |   | <b>2<sup>nd</sup> Attempt</b> |                          | <b>3<sup>rd</sup> Attempt</b> |   |   |             |  |
|                                                                                                                     | Y                             | N                        | /                             | / | /                             | /                        | /                             | / | /                             | /                        | /                             | / | / |             |  |
|                                                                                                                     |                               | <b>Date</b>              |                               |   |                               | <b>Date</b>              |                               |   |                               | <b>Date</b>              |                               |   |   | <b>Date</b> |  |
| 1. The performer obtained container (hotel pan, bus pan, etc.) suitable to hold utensils used for the current meal. | <input type="checkbox"/>      | <input type="checkbox"/> |                               |   | <input type="checkbox"/>      | <input type="checkbox"/> |                               |   | <input type="checkbox"/>      | <input type="checkbox"/> |                               |   |   |             |  |
| 2. The performer added water (120 °F – 125 °F) to container obtained in step 1.                                     | <input type="checkbox"/>      | <input type="checkbox"/> |                               |   | <input type="checkbox"/>      | <input type="checkbox"/> |                               |   | <input type="checkbox"/>      | <input type="checkbox"/> |                               |   |   |             |  |
| 3. The performer added 3 oz of dishwasher compound per gallon.                                                      | <input type="checkbox"/>      | <input type="checkbox"/> |                               |   | <input type="checkbox"/>      | <input type="checkbox"/> |                               |   | <input type="checkbox"/>      | <input type="checkbox"/> |                               |   |   |             |  |
| 4. The performer stirred or mixed solution into the water.                                                          | <input type="checkbox"/>      | <input type="checkbox"/> |                               |   | <input type="checkbox"/>      | <input type="checkbox"/> |                               |   | <input type="checkbox"/>      | <input type="checkbox"/> |                               |   |   |             |  |
| 5. The performer placed container near entrance window to scullery for collection of utensils.                      | <input type="checkbox"/>      | <input type="checkbox"/> |                               |   | <input type="checkbox"/>      | <input type="checkbox"/> |                               |   | <input type="checkbox"/>      | <input type="checkbox"/> |                               |   |   |             |  |
| 6. The performer verified dishwasher was plugged into AC outlet.                                                    | <input type="checkbox"/>      | <input type="checkbox"/> |                               |   | <input type="checkbox"/>      | <input type="checkbox"/> |                               |   | <input type="checkbox"/>      | <input type="checkbox"/> |                               |   |   |             |  |

Continued next page

|                                                                                                     |                                                 |                          |                                                                |                          |                          |                                                                |                          |                          |                                                                |
|-----------------------------------------------------------------------------------------------------|-------------------------------------------------|--------------------------|----------------------------------------------------------------|--------------------------|--------------------------|----------------------------------------------------------------|--------------------------|--------------------------|----------------------------------------------------------------|
| <b>Location:</b><br>_____<br>_____                                                                  | <b>Completed by:</b> _____<br>(Enter your name) |                          | <b>Reviewed by:</b> _____<br>(Obtain Supervisor's signature)   |                          |                          |                                                                |                          |                          |                                                                |
| <b>TASK</b>                                                                                         | <b>COMMENTS</b>                                 |                          |                                                                |                          |                          |                                                                |                          |                          |                                                                |
|                                                                                                     | <b>Y</b>                                        | <b>N</b>                 | <b>1<sup>st</sup> Attempt</b><br>____/____/____<br><b>Date</b> | <b>Y</b>                 | <b>N</b>                 | <b>2<sup>nd</sup> Attempt</b><br>____/____/____<br><b>Date</b> | <b>Y</b>                 | <b>N</b>                 | <b>3<sup>rd</sup> Attempt</b><br>____/____/____<br><b>Date</b> |
| 7. The performer replaced sprinkler manifold end caps on all (upper and lower) sprinkler manifolds. | <input type="checkbox"/>                        | <input type="checkbox"/> |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                |
| 8. The performer inserted upper sprinkler manifold on right side.                                   | <input type="checkbox"/>                        | <input type="checkbox"/> |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                |
| 9. The performer inserted upper sprinkler manifold on left side.                                    | <input type="checkbox"/>                        | <input type="checkbox"/> |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                |
| 10. The performer replaced bottom end tray near output.                                             | <input type="checkbox"/>                        | <input type="checkbox"/> |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                |
| 11. The performer replaced drain tubes at front.                                                    | <input type="checkbox"/>                        | <input type="checkbox"/> |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                |
| 12. The performer replaced the two bottom trays at the rear.                                        | <input type="checkbox"/>                        | <input type="checkbox"/> |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                |
| 13. The performer replaced the two notched bottom trays at the front.                               | <input type="checkbox"/>                        | <input type="checkbox"/> |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                |
| 14. The performer replaced the two rectangular catch trays (strainers) in the bottom.               | <input type="checkbox"/>                        | <input type="checkbox"/> |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                |
| 15. The performer inserted the lower sprinkler manifold on the right side.                          | <input type="checkbox"/>                        | <input type="checkbox"/> |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                |
| 16. The performer inserted the lower sprinkler manifold on the left side.                           | <input type="checkbox"/>                        | <input type="checkbox"/> |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                |
| 17. The performer replaced the curtains (four long and one short) in their proper positions.        | <input type="checkbox"/>                        | <input type="checkbox"/> |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                |
| Continued next page                                                                                 |                                                 |                          |                                                                |                          |                          |                                                                |                          |                          |                                                                |

|                                                                                                                                                                                                                                                 |                                                 |                          |                                                                |                          |                                                              |                                                                |                          |                          |                                                                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|--------------------------|----------------------------------------------------------------|--------------------------|--------------------------------------------------------------|----------------------------------------------------------------|--------------------------|--------------------------|----------------------------------------------------------------|
| <b>Location</b><br>FS "A" School<br>TRACEN Petaluma                                                                                                                                                                                             | <b>Completed by:</b> _____<br>(Enter your name) |                          |                                                                |                          | <b>Reviewed by:</b> _____<br>(Obtain Supervisor's signature) |                                                                |                          |                          |                                                                |
| <b>TASK</b>                                                                                                                                                                                                                                     | <b>COMMENTS</b>                                 |                          |                                                                |                          |                                                              |                                                                |                          |                          |                                                                |
|                                                                                                                                                                                                                                                 | <b>Y</b>                                        | <b>N</b>                 | <b>1<sup>st</sup> Attempt</b><br>____/____/____<br><b>Date</b> | <b>Y</b>                 | <b>N</b>                                                     | <b>2<sup>nd</sup> Attempt</b><br>____/____/____<br><b>Date</b> | <b>Y</b>                 | <b>N</b>                 | <b>3<sup>rd</sup> Attempt</b><br>____/____/____<br><b>Date</b> |
| 18. The performer closed the levers (push downward) inside the front of the dishwasher to keep the water from draining.                                                                                                                         | <input type="checkbox"/>                        | <input type="checkbox"/> |                                                                | <input type="checkbox"/> | <input type="checkbox"/>                                     |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                |
| 19. The performer closed the dishwasher doors.                                                                                                                                                                                                  | <input type="checkbox"/>                        | <input type="checkbox"/> |                                                                | <input type="checkbox"/> | <input type="checkbox"/>                                     |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                |
| 20. The performer turned the Vent switch to "On."                                                                                                                                                                                               | <input type="checkbox"/>                        | <input type="checkbox"/> |                                                                | <input type="checkbox"/> | <input type="checkbox"/>                                     |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                |
| 21. The performer turned the Power switch to "On" to:<br><input type="checkbox"/> Fill the wash and rinse tanks<br><input type="checkbox"/> Charge the wash tank with dishwashing compound<br><input type="checkbox"/> Fill the sanitizing tank | <input type="checkbox"/>                        | <input type="checkbox"/> |                                                                | <input type="checkbox"/> | <input type="checkbox"/>                                     |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                |
| 22. The performer waited fifteen minutes to allow the tanks to fill.                                                                                                                                                                            | <input type="checkbox"/>                        | <input type="checkbox"/> |                                                                | <input type="checkbox"/> | <input type="checkbox"/>                                     |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                |
| 23. The performer turned the Motor switch to "On" for two minutes to mix detergent.                                                                                                                                                             | <input type="checkbox"/>                        | <input type="checkbox"/> |                                                                | <input type="checkbox"/> | <input type="checkbox"/>                                     |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                |
| 24. The performer turned the Water and Steam (booster heater) switch to "On."                                                                                                                                                                   | <input type="checkbox"/>                        | <input type="checkbox"/> |                                                                | <input type="checkbox"/> | <input type="checkbox"/>                                     |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                |
| Continued next page                                                                                                                                                                                                                             |                                                 |                          |                                                                |                          |                                                              |                                                                |                          |                          |                                                                |

|                                                                                                                                                                                                                                                 |                                                 |                          |                                                                   |                          |                                                              |                                                                   |                          |                          |                                                                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|--------------------------|-------------------------------------------------------------------|--------------------------|--------------------------------------------------------------|-------------------------------------------------------------------|--------------------------|--------------------------|-------------------------------------------------------------------|
| <b>Location</b><br>FS "A" School<br>TRACEN Petaluma                                                                                                                                                                                             | <b>Completed by:</b> _____<br>(Enter your name) |                          |                                                                   |                          | <b>Reviewed by:</b> _____<br>(Obtain Supervisor's signature) |                                                                   |                          |                          |                                                                   |
| <b>TASK</b>                                                                                                                                                                                                                                     | <b>COMMENTS</b>                                 |                          |                                                                   |                          |                                                              |                                                                   |                          |                          |                                                                   |
|                                                                                                                                                                                                                                                 | Y                                               | N                        | <b>1<sup>st</sup> Attempt</b><br>_____/_____/_____<br><b>Date</b> | Y                        | N                                                            | <b>2<sup>nd</sup> Attempt</b><br>_____/_____/_____<br><b>Date</b> | Y                        | N                        | <b>3<sup>rd</sup> Attempt</b><br>_____/_____/_____<br><b>Date</b> |
| 25. Verify the temperature ranges for sprays, detergent, and jet dry according to the values below:<br>a) Wash temperature range: 140 °F–160 °F<br>b) Rinse temperature range: 160 °F–180 °F<br>c) Final rinse temperature range: 180 °F–194 °F | <input type="checkbox"/>                        | <input type="checkbox"/> |                                                                   | <input type="checkbox"/> | <input type="checkbox"/>                                     |                                                                   | <input type="checkbox"/> | <input type="checkbox"/> |                                                                   |
| 26. The performer checked detergent levels, the drain plug, and notified the supervisor. (This step applies only when there is an emergency)                                                                                                    | <input type="checkbox"/>                        | <input type="checkbox"/> |                                                                   | <input type="checkbox"/> | <input type="checkbox"/>                                     |                                                                   | <input type="checkbox"/> | <input type="checkbox"/> |                                                                   |
| <input type="checkbox"/> Go<br><input type="checkbox"/> No Go                                                                                                                                                                                   |                                                 |                          | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go     |                          |                                                              | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go     |                          |                          |                                                                   |

## PERFORMANCE EVALUATION 3.6.1.B

### Wash Dishes Using a Dishwashing Machine Clean and Sanitize

| <b>Location:</b><br>_____<br>_____                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>Completed by:</b> _____ <b>Reviewed by:</b> _____<br>(Enter your name) (Obtain Supervisor's signature)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                          |                                   |                          |                                |                                   |  |   |   |   |   |   |   |                |  |                |  |                |  |      |  |      |  |      |  |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-----------------------------------|--------------------------|--------------------------------|-----------------------------------|--|---|---|---|---|---|---|----------------|--|----------------|--|----------------|--|------|--|------|--|------|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <b>EPQ</b><br><b>4.C.03 Wash</b> dishes utilizing a dishwashing machine IAW the Food Service Sanitation Manual, COMDTINST M6240.4 (series) and Food Service Management General Messes, NAVSUP Publication 486.<br><b>Sup Guide:</b> The member will assemble, operate, de-scale, and disassemble the dishwashing machine.                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                          |                                   |                          |                                |                                   |  |   |   |   |   |   |   |                |  |                |  |                |  |      |  |      |  |      |  |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |
| <b>Criteria</b><br><b>Accuracy:</b> <ul style="list-style-type: none"> <li>• Proper equipment selected 100% of the time.</li> </ul>                                                                                                                                                                                                                                                                                                                       | <b>Safety:</b> <ul style="list-style-type: none"> <li>• Exercise caution when working around hot water and hot surfaces.</li> <li>• Proper equipment selected 100% of the time.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                          |                                   |                          |                                |                                   |  |   |   |   |   |   |   |                |  |                |  |                |  |      |  |      |  |      |  |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |
| <b>TASK</b>                                                                                                                                                                                                                                                                                                                                                                                                                                               | <b>COMMENTS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                          |                                   |                          |                                |                                   |  |   |   |   |   |   |   |                |  |                |  |                |  |      |  |      |  |      |  |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">1<sup>st</sup> Attempt</th> <th colspan="2">2<sup>nd</sup> Attempt</th> <th colspan="2">3<sup>rd</sup> Attempt</th> </tr> <tr> <th>Y</th> <th>N</th> <th>Y</th> <th>N</th> <th>Y</th> <th>N</th> </tr> <tr> <td colspan="2" style="text-align: center;">____/____/____</td> <td colspan="2" style="text-align: center;">____/____/____</td> <td colspan="2" style="text-align: center;">____/____/____</td> </tr> <tr> <td colspan="2" style="text-align: center;">Date</td> <td colspan="2" style="text-align: center;">Date</td> <td colspan="2" style="text-align: center;">Date</td> </tr> </thead> <tbody> <tr> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </tbody> </table> | 1 <sup>st</sup> Attempt  |                                   | 2 <sup>nd</sup> Attempt  |                                | 3 <sup>rd</sup> Attempt           |  | Y | N | Y | N | Y | N | ____/____/____ |  | ____/____/____ |  | ____/____/____ |  | Date |  | Date |  | Date |  | <input type="checkbox"/> |
| 1 <sup>st</sup> Attempt                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 2 <sup>nd</sup> Attempt  |                                   | 3 <sup>rd</sup> Attempt  |                                |                                   |  |   |   |   |   |   |   |                |  |                |  |                |  |      |  |      |  |      |  |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |
| Y                                                                                                                                                                                                                                                                                                                                                                                                                                                         | N                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Y                        | N                                 | Y                        | N                              |                                   |  |   |   |   |   |   |   |                |  |                |  |                |  |      |  |      |  |      |  |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |
| ____/____/____                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | ____/____/____           |                                   | ____/____/____           |                                |                                   |  |   |   |   |   |   |   |                |  |                |  |                |  |      |  |      |  |      |  |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |
| Date                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Date                     |                                   | Date                     |                                |                                   |  |   |   |   |   |   |   |                |  |                |  |                |  |      |  |      |  |      |  |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |
| <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                  | <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <input type="checkbox"/> | <input type="checkbox"/>          | <input type="checkbox"/> | <input type="checkbox"/>       |                                   |  |   |   |   |   |   |   |                |  |                |  |                |  |      |  |      |  |      |  |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |
| <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                  | <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <input type="checkbox"/> | <input type="checkbox"/>          | <input type="checkbox"/> | <input type="checkbox"/>       |                                   |  |   |   |   |   |   |   |                |  |                |  |                |  |      |  |      |  |      |  |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |
| 1. The performer received used dishes, utensils, pots, pans, and containers.                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                          |                                   |                          |                                |                                   |  |   |   |   |   |   |   |                |  |                |  |                |  |      |  |      |  |      |  |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |
| 2. The performer determined the proper washing procedure for the items. <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td style="width: 20%;"><b>IF pot, pan, or container is:</b></td> <td><b>THEN:</b></td> </tr> <tr> <td>Small enough for a washware rack,</td> <td>Continue to step 3.</td> </tr> <tr> <td>Too large for a washware rack,</td> <td>Use the manual washing procedure.</td> </tr> </table> | <b>IF pot, pan, or container is:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>THEN:</b>             | Small enough for a washware rack, | Continue to step 3.      | Too large for a washware rack, | Use the manual washing procedure. |  |   |   |   |   |   |   |                |  |                |  |                |  |      |  |      |  |      |  |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |
| <b>IF pot, pan, or container is:</b>                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>THEN:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                          |                                   |                          |                                |                                   |  |   |   |   |   |   |   |                |  |                |  |                |  |      |  |      |  |      |  |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |
| Small enough for a washware rack,                                                                                                                                                                                                                                                                                                                                                                                                                         | Continue to step 3.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                          |                                   |                          |                                |                                   |  |   |   |   |   |   |   |                |  |                |  |                |  |      |  |      |  |      |  |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |
| Too large for a washware rack,                                                                                                                                                                                                                                                                                                                                                                                                                            | Use the manual washing procedure.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                          |                                   |                          |                                |                                   |  |   |   |   |   |   |   |                |  |                |  |                |  |      |  |      |  |      |  |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |                          |
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|                                                                                                             |                                                 |                                                                    |                                                                   |   |   |                                                                   |                          |                          |                                                                   |
|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------|--------------------------------------------------------------------|-------------------------------------------------------------------|---|---|-------------------------------------------------------------------|--------------------------|--------------------------|-------------------------------------------------------------------|
| <b>Location:</b><br>_____<br>_____                                                                          | <b>Completed by:</b> _____<br>(Enter your name) |                                                                    | <b>Reviewed by:</b> _____<br>(Obtain Supervisor's signature)      |   |   |                                                                   |                          |                          |                                                                   |
| <b>TASK</b>                                                                                                 | <b>COMMENTS</b>                                 |                                                                    |                                                                   |   |   |                                                                   |                          |                          |                                                                   |
|                                                                                                             | Y                                               | N                                                                  | <b>1<sup>st</sup> Attempt</b><br>_____/_____/_____<br><b>Date</b> | Y | N | <b>2<sup>nd</sup> Attempt</b><br>_____/_____/_____<br><b>Date</b> | Y                        | N                        | <b>3<sup>rd</sup> Attempt</b><br>_____/_____/_____<br><b>Date</b> |
| 3. The performer prepared used items for cleaning and sanitizing, follow the directions in the table below. |                                                 |                                                                    |                                                                   |   |   |                                                                   |                          |                          |                                                                   |
| <b>IF the item is a/an:</b>                                                                                 |                                                 | <b>THEN:</b>                                                       |                                                                   |   |   |                                                                   |                          |                          |                                                                   |
| Eating utensil,                                                                                             |                                                 | Soak it in detergent solution.                                     |                                                                   |   |   |                                                                   |                          |                          |                                                                   |
| Serving utensil,                                                                                            |                                                 | <input type="checkbox"/>                                           | <input type="checkbox"/>                                          |   |   | <input type="checkbox"/>                                          | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>                                          |
| Plate,                                                                                                      |                                                 |                                                                    |                                                                   |   |   |                                                                   |                          |                          |                                                                   |
| Bowl,                                                                                                       |                                                 |                                                                    |                                                                   |   |   |                                                                   |                          |                          |                                                                   |
| Cup,                                                                                                        |                                                 |                                                                    |                                                                   |   |   |                                                                   |                          |                          |                                                                   |
| Saucer,                                                                                                     |                                                 |                                                                    |                                                                   |   |   |                                                                   |                          |                          |                                                                   |
| Pot, pan, or container,                                                                                     |                                                 | Flush/scrub/scrape it to remove gross or remaining food particles. |                                                                   |   |   |                                                                   |                          |                          |                                                                   |
| Continued next page                                                                                         |                                                 |                                                                    |                                                                   |   |   |                                                                   |                          |                          |                                                                   |

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| <b>Location:</b><br>_____<br>_____ | <b>Completed by:</b> _____<br>(Enter your name) | <b>Reviewed by:</b> _____<br>(Obtain Supervisor's signature) |
|------------------------------------|-------------------------------------------------|--------------------------------------------------------------|

4. The performer placed items on washware rack according to the table below.

| IF the item is a/an:    | AND:                                                               | THEN:                                                                                                                                                                        |                          |                          |  |                          |                          |  |
|-------------------------|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|--|--------------------------|--------------------------|--|
| Eating utensil,         | Has been pre-soaked in a detergent solution,                       | Place the utensils (no more than 15) handle-end down in a flatware dispenser basket.                                                                                         |                          |                          |  |                          |                          |  |
| Serving utensil,        | Flushed, scrubbed, and scraped to remove remaining food particles. | Place the items so that food-contact surfaces are subject to unobstructed application of detergent wash and clean rinse waters and permitted to drain freely when air-dried. | <input type="checkbox"/> | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| Plate,                  |                                                                    |                                                                                                                                                                              |                          |                          |  |                          |                          |  |
| Bowl,                   |                                                                    |                                                                                                                                                                              |                          |                          |  |                          |                          |  |
| Cup,                    |                                                                    |                                                                                                                                                                              |                          |                          |  |                          |                          |  |
| Saucer                  |                                                                    |                                                                                                                                                                              |                          |                          |  |                          |                          |  |
| Pot, pan, or container, |                                                                    |                                                                                                                                                                              |                          |                          |  |                          |                          |  |

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| <b>Location</b><br>FS "A" School<br>TRACEN Petaluma                                    | <b>Completed by:</b> _____<br>(Enter your name) |                          |                                                                   |                          | <b>Reviewed by:</b> _____<br>(Obtain Supervisor's signature) |                                                                   |                          |                          |                                                                   |
| <b>TASK</b>                                                                            | <b>COMMENTS</b>                                 |                          |                                                                   |                          |                                                              |                                                                   |                          |                          |                                                                   |
|                                                                                        | Y                                               | N                        | <b>1<sup>st</sup> Attempt</b><br>_____/_____/_____<br><b>Date</b> | Y                        | N                                                            | <b>2<sup>nd</sup> Attempt</b><br>_____/_____/_____<br><b>Date</b> | Y                        | N                        | <b>3<sup>rd</sup> Attempt</b><br>_____/_____/_____<br><b>Date</b> |
| 5. The performer placed the rack, tray, or basket at the entrance to the dishwasher.   | <input type="checkbox"/>                        | <input type="checkbox"/> |                                                                   | <input type="checkbox"/> | <input type="checkbox"/>                                     |                                                                   | <input type="checkbox"/> | <input type="checkbox"/> |                                                                   |
| 6. The performer pressed the booster heater on/off switch to "On."                     | <input type="checkbox"/>                        | <input type="checkbox"/> |                                                                   | <input type="checkbox"/> | <input type="checkbox"/>                                     |                                                                   | <input type="checkbox"/> | <input type="checkbox"/> |                                                                   |
| 7. The performer pressed the motor start switch to begin cleaning and sanitizing.      | <input type="checkbox"/>                        | <input type="checkbox"/> |                                                                   | <input type="checkbox"/> | <input type="checkbox"/>                                     |                                                                   | <input type="checkbox"/> | <input type="checkbox"/> |                                                                   |
| 8. The performer observed the progress of the rack, tray, or basket in the dishwasher. | <input type="checkbox"/>                        | <input type="checkbox"/> |                                                                   | <input type="checkbox"/> | <input type="checkbox"/>                                     |                                                                   | <input type="checkbox"/> | <input type="checkbox"/> |                                                                   |
| 9. The performer removed the rack, tray, or basket from the dishwasher output.         | <input type="checkbox"/>                        | <input type="checkbox"/> |                                                                   | <input type="checkbox"/> | <input type="checkbox"/>                                     |                                                                   | <input type="checkbox"/> | <input type="checkbox"/> |                                                                   |
| 10. The performer turned the booster heater on/off switch to "Off."                    | <input type="checkbox"/>                        | <input type="checkbox"/> |                                                                   | <input type="checkbox"/> | <input type="checkbox"/>                                     |                                                                   | <input type="checkbox"/> | <input type="checkbox"/> |                                                                   |
| 11. The performer turned the motor on/off switch to "Off."                             | <input type="checkbox"/>                        | <input type="checkbox"/> |                                                                   | <input type="checkbox"/> | <input type="checkbox"/>                                     |                                                                   | <input type="checkbox"/> | <input type="checkbox"/> |                                                                   |
| 12. The performer allowed the items to air dry on the drain board.                     | <input type="checkbox"/>                        | <input type="checkbox"/> |                                                                   | <input type="checkbox"/> | <input type="checkbox"/>                                     |                                                                   | <input type="checkbox"/> | <input type="checkbox"/> |                                                                   |
| <input type="checkbox"/> Go<br><input type="checkbox"/> No Go                          |                                                 |                          | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go     |                          |                                                              | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go     |                          |                          |                                                                   |

### PERFORMANCE EVALUATION 3.6.1.C

#### Wash Dishes Using a Dishwashing Machine Destain and Store Dinnerware and Silverware

|                           |                                                                |                                                                             |
|---------------------------|----------------------------------------------------------------|-----------------------------------------------------------------------------|
| <b>Location:</b><br>_____ | <b>Completed by:</b> _____<br><small>(Enter your name)</small> | <b>Reviewed by:</b> _____<br><small>(Obtain Supervisor's signature)</small> |
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**EPQ**  
**4.C.03 Wash** dishes utilizing a dishwashing machine IAW the Food Service Sanitation Manual, COMDTINST M6240.4 (series) and Food Service Management General Messes, NAVSUP Publication 486.  
**Sup Guide:** The member will assemble, operate, de-scale, and disassemble the dishwashing machine.

|                                                                                                                                        |                                                                                                                                                                                               |
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| <b>Criteria</b><br><u>Accuracy:</u><br><ul style="list-style-type: none"> <li>• Proper equipment selected 100% of the time.</li> </ul> | <b>Safety:</b><br><ul style="list-style-type: none"> <li>• Exercise caution when working around hot water and hot surfaces.</li> <li>• Proper equipment selected 100% of the time.</li> </ul> |
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| TASK                                                                                                                                                                | COMMENTS                 |                          |                         |                          |                          |                        |                          |                          |                         |                          |                          |                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|-------------------------|--------------------------|--------------------------|------------------------|--------------------------|--------------------------|-------------------------|--------------------------|--------------------------|------------------------|
|                                                                                                                                                                     | 1 <sup>st</sup> Attempt  |                          | 2 <sup>nd</sup> Attempt |                          | 3 <sup>rd</sup> Attempt  |                        | 1 <sup>st</sup> Attempt  |                          | 2 <sup>nd</sup> Attempt |                          | 3 <sup>rd</sup> Attempt  |                        |
|                                                                                                                                                                     | Y                        | N                        | Y                       | N                        | Y                        | N                      | Y                        | N                        | Y                       | N                        | Y                        | N                      |
| 1. The performer obtained a plastic bus bin or other large container suitable for holding dinnerware and silverware (may use a steam-jacketed kettle).              | <input type="checkbox"/> | <input type="checkbox"/> | ____/____/____<br>Date  | <input type="checkbox"/> | <input type="checkbox"/> | ____/____/____<br>Date | <input type="checkbox"/> | <input type="checkbox"/> | ____/____/____<br>Date  | <input type="checkbox"/> | <input type="checkbox"/> | ____/____/____<br>Date |
| 2. The performer added hot water to the container obtained in step 48.                                                                                              | <input type="checkbox"/> | <input type="checkbox"/> | ____/____/____<br>Date  | <input type="checkbox"/> | <input type="checkbox"/> | ____/____/____<br>Date | <input type="checkbox"/> | <input type="checkbox"/> | ____/____/____<br>Date  | <input type="checkbox"/> | <input type="checkbox"/> | ____/____/____<br>Date |
| 3. The performer dissolved destaining compound in hot water according to the destaining compound manufacturer instructions. (Use a milder solution for silverware.) | <input type="checkbox"/> | <input type="checkbox"/> | ____/____/____<br>Date  | <input type="checkbox"/> | <input type="checkbox"/> | ____/____/____<br>Date | <input type="checkbox"/> | <input type="checkbox"/> | ____/____/____<br>Date  | <input type="checkbox"/> | <input type="checkbox"/> | ____/____/____<br>Date |
| 4. The performer placed the dinnerware and silverware in the destaining solution.                                                                                   | <input type="checkbox"/> | <input type="checkbox"/> | ____/____/____<br>Date  | <input type="checkbox"/> | <input type="checkbox"/> | ____/____/____<br>Date | <input type="checkbox"/> | <input type="checkbox"/> | ____/____/____<br>Date  | <input type="checkbox"/> | <input type="checkbox"/> | ____/____/____<br>Date |
| 5. The performer allowed the dinnerware and silverware to remain in the destaining solution for 30 minutes.                                                         | <input type="checkbox"/> | <input type="checkbox"/> | ____/____/____<br>Date  | <input type="checkbox"/> | <input type="checkbox"/> | ____/____/____<br>Date | <input type="checkbox"/> | <input type="checkbox"/> | ____/____/____<br>Date  | <input type="checkbox"/> | <input type="checkbox"/> | ____/____/____<br>Date |

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|                                                                                                                                              |                                                 |                          |                                                                |                          |                          |                                                                |                          |                          |                                                                |
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| <b>Location:</b><br>_____                                                                                                                    | <b>Completed by:</b> _____<br>(Enter your name) |                          | <b>Reviewed by:</b> _____<br>(Obtain Supervisor's signature)   |                          |                          |                                                                |                          |                          |                                                                |
| <b>TASK</b>                                                                                                                                  | <b>COMMENTS</b>                                 |                          |                                                                |                          |                          |                                                                |                          |                          |                                                                |
|                                                                                                                                              | <b>Y</b>                                        | <b>N</b>                 | <b>1<sup>st</sup> Attempt</b><br>____/____/____<br><b>Date</b> | <b>Y</b>                 | <b>N</b>                 | <b>2<sup>nd</sup> Attempt</b><br>____/____/____<br><b>Date</b> | <b>Y</b>                 | <b>N</b>                 | <b>3<sup>rd</sup> Attempt</b><br>____/____/____<br><b>Date</b> |
| 6. The performer rinsed the dinnerware and silverware with clean water.                                                                      | <input type="checkbox"/>                        | <input type="checkbox"/> |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                |
| 7. The performer placed the dinnerware and silverware in the dishwashing machine for washing and sanitizing.                                 | <input type="checkbox"/>                        | <input type="checkbox"/> |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                |
| 8. The performer grasped the cleaned and sanitized dinnerware and utensils by the handle.                                                    | <input type="checkbox"/>                        | <input type="checkbox"/> |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                |
| 9. The performer placed the dinnerware and utensils serving side down (or handle up) to prevent contaminating the cooking or eating surface. | <input type="checkbox"/>                        | <input type="checkbox"/> |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                |
|                                                                                                                                              |                                                 |                          | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go  |                          |                          | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go  |                          |                          | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go  |

## PERFORMANCE EVALUATION 3.6.1.D

### Wash Dishes Using a Dishwashing Machine Descale the Dishwasher

|                           |                                                                |                                                                             |
|---------------------------|----------------------------------------------------------------|-----------------------------------------------------------------------------|
| <b>Location:</b><br>_____ | <b>Completed by:</b> _____<br><small>(Enter your name)</small> | <b>Reviewed by:</b> _____<br><small>(Obtain Supervisor's signature)</small> |
|---------------------------|----------------------------------------------------------------|-----------------------------------------------------------------------------|

**EPQ**  
**4.C.03 Wash** dishes utilizing a dishwashing machine IAW the Food Service Sanitation Manual, COMDTINST M6240.4 (series) and Food Service Management General Messes, NAVSUP Publication 486.  
**Sup Guide:** The member will assemble operate, de-scale, and disassemble the dishwashing machine.

|                                                                                                                                        |                                                                                                                                                                                               |
|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Criteria</b><br><b>Accuracy:</b><br><ul style="list-style-type: none"> <li>• Proper equipment selected 100% of the time.</li> </ul> | <b>Safety:</b><br><ul style="list-style-type: none"> <li>• Exercise caution when working around hot water and hot surfaces.</li> <li>• Proper equipment selected 100% of the time.</li> </ul> |
|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| TASKS                                                                                                                                                              | COMMENTS                 |                          |                         |   |                          |                          |                         |   |                          |                          |                         |   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|-------------------------|---|--------------------------|--------------------------|-------------------------|---|--------------------------|--------------------------|-------------------------|---|
|                                                                                                                                                                    | 1 <sup>st</sup> Attempt  |                          | 2 <sup>nd</sup> Attempt |   | 3 <sup>rd</sup> Attempt  |                          | 1 <sup>st</sup> Attempt |   | 2 <sup>nd</sup> Attempt  |                          | 3 <sup>rd</sup> Attempt |   |
|                                                                                                                                                                    | Y                        | N                        | /                       | / | /                        | /                        | /                       | / | /                        | /                        | /                       | / |
|                                                                                                                                                                    |                          | Date                     |                         |   |                          | Date                     |                         |   |                          | Date                     |                         |   |
| 1. The performer obtained and dress in the required protective clothing listed above.                                                                              | <input type="checkbox"/> | <input type="checkbox"/> |                         |   | <input type="checkbox"/> | <input type="checkbox"/> |                         |   | <input type="checkbox"/> | <input type="checkbox"/> |                         |   |
| 2. The performer drained the wash/rinse tanks (if applicable) and removed detergent from carrier.                                                                  | <input type="checkbox"/> | <input type="checkbox"/> |                         |   | <input type="checkbox"/> | <input type="checkbox"/> |                         |   | <input type="checkbox"/> | <input type="checkbox"/> |                         |   |
| 3. The performer installed the overflow pipes, scrap trays, screens, spray manifolds (except final rinse manifolds), and curtains (inlet and discharge ends only). | <input type="checkbox"/> | <input type="checkbox"/> |                         |   | <input type="checkbox"/> | <input type="checkbox"/> |                         |   | <input type="checkbox"/> | <input type="checkbox"/> |                         |   |
| 4. The performer placed the final rinse spray manifold on top of the scrap tray in the wash tank.                                                                  | <input type="checkbox"/> | <input type="checkbox"/> |                         |   | <input type="checkbox"/> | <input type="checkbox"/> |                         |   | <input type="checkbox"/> | <input type="checkbox"/> |                         |   |
| 5. The performer closed the drain valves.                                                                                                                          | <input type="checkbox"/> | <input type="checkbox"/> |                         |   | <input type="checkbox"/> | <input type="checkbox"/> |                         |   | <input type="checkbox"/> | <input type="checkbox"/> |                         |   |
| 6. The performer filled the tanks to within two inches from the top of the overflow pipe with clean, hot water.                                                    | <input type="checkbox"/> | <input type="checkbox"/> |                         |   | <input type="checkbox"/> | <input type="checkbox"/> |                         |   | <input type="checkbox"/> | <input type="checkbox"/> |                         |   |

Continued next page

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                 |                            |                                                                |                          |                          |                                                                |                          |                          |                                                                |                                              |                  |                      |                                                  |                      |                            |  |  |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|----------------------------|----------------------------------------------------------------|--------------------------|--------------------------|----------------------------------------------------------------|--------------------------|--------------------------|----------------------------------------------------------------|----------------------------------------------|------------------|----------------------|--------------------------------------------------|----------------------|----------------------------|--|--|--|
| <b>Location:</b><br>_____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Completed by:</b> _____<br>(Enter your name) |                            | <b>Reviewed by:</b> _____<br>(Obtain Supervisor's signature)   |                          |                          |                                                                |                          |                          |                                                                |                                              |                  |                      |                                                  |                      |                            |  |  |  |
| <b>TASKS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <b>COMMENTS</b>                                 |                            |                                                                |                          |                          |                                                                |                          |                          |                                                                |                                              |                  |                      |                                                  |                      |                            |  |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <b>Y</b>                                        | <b>N</b>                   | <b>1<sup>st</sup> Attempt</b><br>____/____/____<br><b>Date</b> | <b>Y</b>                 | <b>N</b>                 | <b>2<sup>nd</sup> Attempt</b><br>____/____/____<br><b>Date</b> | <b>Y</b>                 | <b>N</b>                 | <b>3<sup>rd</sup> Attempt</b><br>____/____/____<br><b>Date</b> |                                              |                  |                      |                                                  |                      |                            |  |  |  |
| 7. The performer completed the tank filling begun in step 6.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <input type="checkbox"/>                        | <input type="checkbox"/>   |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                |                                              |                  |                      |                                                  |                      |                            |  |  |  |
| 8. The performer started the dishwasher.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <input type="checkbox"/>                        | <input type="checkbox"/>   |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                |                                              |                  |                      |                                                  |                      |                            |  |  |  |
| 9. The performer allowed the dishwasher to run for one hour while maintaining normal operating temperatures.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <input type="checkbox"/>                        | <input type="checkbox"/>   |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                |                                              |                  |                      |                                                  |                      |                            |  |  |  |
| 10. The performer stopped machine after one hour of operation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <input type="checkbox"/>                        | <input type="checkbox"/>   |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                |                                              |                  |                      |                                                  |                      |                            |  |  |  |
| 11. The performer opened the drain valves to completely drain the acid solution from the dishwasher.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <input type="checkbox"/>                        | <input type="checkbox"/>   |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                |                                              |                  |                      |                                                  |                      |                            |  |  |  |
| 12. The performer inspected the interior of the dishwasher to determine if the parts are free of calcium or lime deposits.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <input type="checkbox"/>                        | <input type="checkbox"/>   |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                |                                              |                  |                      |                                                  |                      |                            |  |  |  |
| <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="text-align: center; padding: 2px;"><b>IF:</b></td> <td style="text-align: center; padding: 2px;"><b>AND:</b></td> <td style="text-align: center; padding: 2px;"><b>THEN:</b></td> </tr> <tr> <td style="padding: 2px;">Parts are free of calcium and lime deposits,</td> <td style="padding: 2px;">Parts are shiny,</td> <td style="padding: 2px;">Continue to step 14.</td> </tr> <tr> <td style="padding: 2px;">Parts are not free of calcium and lime deposits,</td> <td style="padding: 2px;">Parts are not shiny,</td> <td style="padding: 2px;">Repeat steps 5 through 12.</td> </tr> </table> |                                                 |                            | <b>IF:</b>                                                     |                          |                          | <b>AND:</b>                                                    |                          |                          | <b>THEN:</b>                                                   | Parts are free of calcium and lime deposits, | Parts are shiny, | Continue to step 14. | Parts are not free of calcium and lime deposits, | Parts are not shiny, | Repeat steps 5 through 12. |  |  |  |
| <b>IF:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                 |                            | <b>AND:</b>                                                    |                          |                          | <b>THEN:</b>                                                   |                          |                          |                                                                |                                              |                  |                      |                                                  |                      |                            |  |  |  |
| Parts are free of calcium and lime deposits,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Parts are shiny,                                | Continue to step 14.       |                                                                |                          |                          |                                                                |                          |                          |                                                                |                                              |                  |                      |                                                  |                      |                            |  |  |  |
| Parts are not free of calcium and lime deposits,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Parts are not shiny,                            | Repeat steps 5 through 12. |                                                                |                          |                          |                                                                |                          |                          |                                                                |                                              |                  |                      |                                                  |                      |                            |  |  |  |
| 13. The performer closed the drain valves, and filled the tanks with clean, hot water.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <input type="checkbox"/>                        | <input type="checkbox"/>   |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                | <input type="checkbox"/> | <input type="checkbox"/> |                                                                |                                              |                  |                      |                                                  |                      |                            |  |  |  |
| Continued next page                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                 |                            |                                                                |                          |                          |                                                                |                          |                          |                                                                |                                              |                  |                      |                                                  |                      |                            |  |  |  |

|                                                                                                      |                                                               |                          |                                                              |                                                               |                          |                                                   |                                                               |                          |                                                   |
|------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|--------------------------|--------------------------------------------------------------|---------------------------------------------------------------|--------------------------|---------------------------------------------------|---------------------------------------------------------------|--------------------------|---------------------------------------------------|
| <b>Location:</b><br>_____                                                                            | <b>Completed by:</b> _____<br>(Enter your name)               |                          | <b>Reviewed by:</b> _____<br>(Obtain Supervisor's signature) |                                                               |                          |                                                   |                                                               |                          |                                                   |
| <b>TASKS</b>                                                                                         | <b>COMMENTS</b>                                               |                          |                                                              |                                                               |                          |                                                   |                                                               |                          |                                                   |
|                                                                                                      | Y                                                             | N                        | 1 <sup>st</sup> Attempt<br>____/____/____<br>Date            | Y                                                             | N                        | 2 <sup>nd</sup> Attempt<br>____/____/____<br>Date | Y                                                             | N                        | 3 <sup>rd</sup> Attempt<br>____/____/____<br>Date |
| 14. The performer added two cups of dishwashing machine compound per tank.                           | <input type="checkbox"/>                                      | <input type="checkbox"/> |                                                              | <input type="checkbox"/>                                      | <input type="checkbox"/> |                                                   | <input type="checkbox"/>                                      | <input type="checkbox"/> |                                                   |
| 15. The performer closed the dishwasher tank doors.                                                  | <input type="checkbox"/>                                      | <input type="checkbox"/> |                                                              | <input type="checkbox"/>                                      | <input type="checkbox"/> |                                                   | <input type="checkbox"/>                                      | <input type="checkbox"/> |                                                   |
| 16. The performer started the dishwasher.                                                            | <input type="checkbox"/>                                      | <input type="checkbox"/> |                                                              | <input type="checkbox"/>                                      | <input type="checkbox"/> |                                                   | <input type="checkbox"/>                                      | <input type="checkbox"/> |                                                   |
| 17. The performer operated the dishwasher for five minutes while maintaining operating temperatures. | <input type="checkbox"/>                                      | <input type="checkbox"/> |                                                              | <input type="checkbox"/>                                      | <input type="checkbox"/> |                                                   | <input type="checkbox"/>                                      | <input type="checkbox"/> |                                                   |
| 18. The performer stopped the dishwasher.                                                            | <input type="checkbox"/>                                      | <input type="checkbox"/> |                                                              | <input type="checkbox"/>                                      | <input type="checkbox"/> |                                                   | <input type="checkbox"/>                                      | <input type="checkbox"/> |                                                   |
| 19. The performer drained the dishwasher tanks.                                                      | <input type="checkbox"/>                                      | <input type="checkbox"/> |                                                              | <input type="checkbox"/>                                      | <input type="checkbox"/> |                                                   | <input type="checkbox"/>                                      | <input type="checkbox"/> |                                                   |
| 20. The performer refilled the dishwasher tanks with clear water.                                    | <input type="checkbox"/>                                      | <input type="checkbox"/> |                                                              | <input type="checkbox"/>                                      | <input type="checkbox"/> |                                                   | <input type="checkbox"/>                                      | <input type="checkbox"/> |                                                   |
| 21. The performer flushed the dishwasher tanks to remove all traces of acid and detergent.           | <input type="checkbox"/>                                      | <input type="checkbox"/> |                                                              | <input type="checkbox"/>                                      | <input type="checkbox"/> |                                                   | <input type="checkbox"/>                                      | <input type="checkbox"/> |                                                   |
| 22. The performer replaced detergent in carrier.                                                     | <input type="checkbox"/>                                      | <input type="checkbox"/> |                                                              | <input type="checkbox"/>                                      | <input type="checkbox"/> |                                                   | <input type="checkbox"/>                                      | <input type="checkbox"/> |                                                   |
|                                                                                                      | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go |                          |                                                              | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go |                          |                                                   | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go |                          |                                                   |

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## PERFORMANCE EVALUATION 3.6.1.E

### Wash Dishes Using a Dishwashing Machine Disassemble the Dishwasher

|                                    |                                                 |                                                              |
|------------------------------------|-------------------------------------------------|--------------------------------------------------------------|
| <b>Location:</b><br>_____<br>_____ | <b>Completed by:</b> _____<br>(Enter your name) | <b>Reviewed by:</b> _____<br>(Obtain Supervisor's signature) |
|------------------------------------|-------------------------------------------------|--------------------------------------------------------------|

**EPQ**  
**4.C.03 Wash** dishes utilizing a dishwashing machine IAW the Food Service Sanitation Manual, COMDTINST M6240.4 (series) and Food Service Management General Messes, NAVSUP Publication 486.  
**Sup Guide:** The member will assemble, operate, de-scale, and disassemble the dishwashing machine.

|                                                                                                                                     |                                                                                                                                                                                            |
|-------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Criteria</b><br><b>Accuracy:</b> <ul style="list-style-type: none"> <li>• Proper equipment selected 100% of the time.</li> </ul> | <b>Safety:</b> <ul style="list-style-type: none"> <li>• Exercise caution when working around hot water and hot surfaces.</li> <li>• Proper equipment selected 100% of the time.</li> </ul> |
|-------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| TASK                                                                               | COMMENTS                 |                          |                         |  |                          |                          |                         |  |                          |                          |                         |  |
|------------------------------------------------------------------------------------|--------------------------|--------------------------|-------------------------|--|--------------------------|--------------------------|-------------------------|--|--------------------------|--------------------------|-------------------------|--|
|                                                                                    |                          |                          | 1 <sup>st</sup> Attempt |  |                          |                          | 2 <sup>nd</sup> Attempt |  |                          |                          | 3 <sup>rd</sup> Attempt |  |
|                                                                                    | Y                        | N                        | ____/____/____<br>Date  |  | Y                        | N                        | ____/____/____<br>Date  |  | Y                        | N                        | ____/____/____<br>Date  |  |
| 1. The performer secured the booster heater pump (Booster heater switch to "Off"). | <input type="checkbox"/> | <input type="checkbox"/> |                         |  | <input type="checkbox"/> | <input type="checkbox"/> |                         |  | <input type="checkbox"/> | <input type="checkbox"/> |                         |  |
| 2. The performer secured the dishwasher motor (Motor switch to "Off").             | <input type="checkbox"/> | <input type="checkbox"/> |                         |  | <input type="checkbox"/> | <input type="checkbox"/> |                         |  | <input type="checkbox"/> | <input type="checkbox"/> |                         |  |
| 3. The performer secured the dishwasher power (Power switch to "Off").             | <input type="checkbox"/> | <input type="checkbox"/> |                         |  | <input type="checkbox"/> | <input type="checkbox"/> |                         |  | <input type="checkbox"/> | <input type="checkbox"/> |                         |  |
| 4. The performer allowed the vent to continue running.                             | <input type="checkbox"/> | <input type="checkbox"/> |                         |  | <input type="checkbox"/> | <input type="checkbox"/> |                         |  | <input type="checkbox"/> | <input type="checkbox"/> |                         |  |
| 5. The performer opened the dishwasher doors and allow the dishwasher to cool/dry. | <input type="checkbox"/> | <input type="checkbox"/> |                         |  | <input type="checkbox"/> | <input type="checkbox"/> |                         |  | <input type="checkbox"/> | <input type="checkbox"/> |                         |  |

Continued next page

| <b>Location:</b><br>_____<br>_____                                                                                                                                                              | <b>Completed by:</b> _____<br>(Enter your name)     |                          | <b>Reviewed by:</b> _____<br>(Obtain Supervisor's signature) |                          |                          |                                                   |                          |                          |                                                   |                      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|--------------------------|--------------------------------------------------------------|--------------------------|--------------------------|---------------------------------------------------|--------------------------|--------------------------|---------------------------------------------------|----------------------|
| TASK                                                                                                                                                                                            | COMMENTS                                            |                          |                                                              |                          |                          |                                                   |                          |                          |                                                   |                      |
|                                                                                                                                                                                                 | Y                                                   | N                        | 1 <sup>st</sup> Attempt<br>____/____/____<br>Date            | Y                        | N                        | 2 <sup>nd</sup> Attempt<br>____/____/____<br>Date | Y                        | N                        | 3 <sup>rd</sup> Attempt<br>____/____/____<br>Date |                      |
| 6. The performer removed any warewashing trays from inside or near the inlet or outlet of the dishwasher (to allow for room to place the internal parts of the dishwasher after being removed). | <input type="checkbox"/>                            | <input type="checkbox"/> |                                                              | <input type="checkbox"/> | <input type="checkbox"/> |                                                   | <input type="checkbox"/> | <input type="checkbox"/> |                                                   |                      |
| 7. The performer pulled the drain handles at the front of dishwasher (to allow the water to drain).                                                                                             | <input type="checkbox"/>                            | <input type="checkbox"/> |                                                              | <input type="checkbox"/> | <input type="checkbox"/> |                                                   | <input type="checkbox"/> | <input type="checkbox"/> |                                                   |                      |
| 8. The performer obtained warewashing trays (for the storing of parts that are to be removed in the following steps).                                                                           | <input type="checkbox"/>                            | <input type="checkbox"/> |                                                              | <input type="checkbox"/> | <input type="checkbox"/> |                                                   | <input type="checkbox"/> | <input type="checkbox"/> |                                                   |                      |
| 9. The performer removed and placed the curtains (four large, one small) in the warewashing tray.                                                                                               | <input type="checkbox"/>                            | <input type="checkbox"/> |                                                              | <input type="checkbox"/> | <input type="checkbox"/> |                                                   | <input type="checkbox"/> | <input type="checkbox"/> |                                                   |                      |
| 10. The performer checked for loose curtain items.                                                                                                                                              | <input type="checkbox"/>                            | <input type="checkbox"/> |                                                              | <input type="checkbox"/> | <input type="checkbox"/> |                                                   | <input type="checkbox"/> | <input type="checkbox"/> |                                                   |                      |
| <b>IF the:</b>                                                                                                                                                                                  |                                                     |                          |                                                              |                          |                          |                                                   |                          |                          |                                                   | <b>THEN:</b>         |
| Curains have no loose items,                                                                                                                                                                    |                                                     |                          |                                                              |                          |                          |                                                   |                          |                          |                                                   | Continue to step 11. |
| Curains have loose items,                                                                                                                                                                       | Set the curtain aside and refer to your supervisor. |                          |                                                              |                          |                          |                                                   |                          |                          |                                                   |                      |
| 11. The performer removed the two upper and two lower manifolds, and place the manifolds in washware tray to drain.                                                                             | <input type="checkbox"/>                            | <input type="checkbox"/> |                                                              | <input type="checkbox"/> | <input type="checkbox"/> |                                                   | <input type="checkbox"/> | <input type="checkbox"/> |                                                   |                      |
| 12. The performer obtained a small container, and fill it with clean water.                                                                                                                     | <input type="checkbox"/>                            | <input type="checkbox"/> |                                                              | <input type="checkbox"/> | <input type="checkbox"/> |                                                   | <input type="checkbox"/> | <input type="checkbox"/> |                                                   |                      |
| Continued next page                                                                                                                                                                             |                                                     |                          |                                                              |                          |                          |                                                   |                          |                          |                                                   |                      |

|                                                                                                                                                                         |                                                 |                          |                                                                   |                          |                          |                                                                   |                          |                          |                                                                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|--------------------------|-------------------------------------------------------------------|--------------------------|--------------------------|-------------------------------------------------------------------|--------------------------|--------------------------|-------------------------------------------------------------------|
| <b>Location:</b><br>_____<br>_____                                                                                                                                      | <b>Completed by:</b> _____<br>(Enter your name) |                          | <b>Reviewed by:</b> _____<br>(Obtain Supervisor's signature)      |                          |                          |                                                                   |                          |                          |                                                                   |
| <b>Location</b><br><b>FS "A" School</b><br><b>TRACEN Petaluma</b>                                                                                                       | <b>Completed by:</b> _____<br>(Enter your name) |                          | <b>Reviewed by:</b> _____<br>(Obtain Supervisor's signature)      |                          |                          |                                                                   |                          |                          |                                                                   |
| <b>TASK</b>                                                                                                                                                             | <b>COMMENTS</b>                                 |                          |                                                                   |                          |                          |                                                                   |                          |                          |                                                                   |
|                                                                                                                                                                         | Y                                               | N                        | <b>1<sup>st</sup> Attempt</b><br>_____/_____/_____<br><b>Date</b> | Y                        | N                        | <b>2<sup>nd</sup> Attempt</b><br>_____/_____/_____<br><b>Date</b> | Y                        | N                        | <b>3<sup>rd</sup> Attempt</b><br>_____/_____/_____<br><b>Date</b> |
| 13. The performer removed the rubber plugs from the end of the manifolds and place them in the small container obtained in step 12 (to keep the plugs from drying out). | <input type="checkbox"/>                        | <input type="checkbox"/> |                                                                   | <input type="checkbox"/> | <input type="checkbox"/> |                                                                   | <input type="checkbox"/> | <input type="checkbox"/> |                                                                   |
| 14. The performer removed the two strainer baskets from the bottoms of the tanks.                                                                                       | <input type="checkbox"/>                        | <input type="checkbox"/> |                                                                   | <input type="checkbox"/> | <input type="checkbox"/> |                                                                   | <input type="checkbox"/> | <input type="checkbox"/> |                                                                   |
| 15. The performer rinsed the strainer baskets (to remove debris).                                                                                                       | <input type="checkbox"/>                        | <input type="checkbox"/> |                                                                   | <input type="checkbox"/> | <input type="checkbox"/> |                                                                   | <input type="checkbox"/> | <input type="checkbox"/> |                                                                   |
| 16. The performer placed the strainer baskets in the washware tray (to dry).                                                                                            | <input type="checkbox"/>                        | <input type="checkbox"/> |                                                                   | <input type="checkbox"/> | <input type="checkbox"/> |                                                                   | <input type="checkbox"/> | <input type="checkbox"/> |                                                                   |
| 17. The performer removed the strainer trays (four pieces) from the bottoms of the tanks.                                                                               | <input type="checkbox"/>                        | <input type="checkbox"/> |                                                                   | <input type="checkbox"/> | <input type="checkbox"/> |                                                                   | <input type="checkbox"/> | <input type="checkbox"/> |                                                                   |
| 18. The performer rinsed the strainer trays (to remove debris).                                                                                                         | <input type="checkbox"/>                        | <input type="checkbox"/> |                                                                   | <input type="checkbox"/> | <input type="checkbox"/> |                                                                   | <input type="checkbox"/> | <input type="checkbox"/> |                                                                   |
| 19. The performer placed strainer trays in washware tray (to dry).                                                                                                      | <input type="checkbox"/>                        | <input type="checkbox"/> |                                                                   | <input type="checkbox"/> | <input type="checkbox"/> |                                                                   | <input type="checkbox"/> | <input type="checkbox"/> |                                                                   |
| 20. The performer secured the vent motor (Vent switch to "Off").                                                                                                        | <input type="checkbox"/>                        | <input type="checkbox"/> |                                                                   | <input type="checkbox"/> | <input type="checkbox"/> |                                                                   | <input type="checkbox"/> | <input type="checkbox"/> |                                                                   |
| 21. The performer dried the sump area and sides of the tanks using a wet/damp cloth to ensure they are free of all food debris.                                         | <input type="checkbox"/>                        | <input type="checkbox"/> |                                                                   | <input type="checkbox"/> | <input type="checkbox"/> |                                                                   | <input type="checkbox"/> | <input type="checkbox"/> |                                                                   |
|                                                                                                                                                                         |                                                 |                          | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go     |                          |                          | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go     |                          |                          | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go     |

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## PERFORMANCE EVALUATION 3.6.2

### Wash Dishes Using Manual Dishwashing Procedures

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|                          |                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Goal</b>              | The student will perform the following: <ul style="list-style-type: none"><li>• Wash dishes by hand</li></ul> <hr/>                                                                                                                                                                                                                                                                                 |
| <b>Process</b>           | Given dishes needing to be washed, you will wash them using manual dishwashing procedures. <hr/>                                                                                                                                                                                                                                                                                                    |
| <b>Directions</b>        | Using the tools and materials provided by the supervisor, you will:                                                                                                                                                                                                                                                                                                                                 |
| <b>Hands–On Practice</b> | <ol style="list-style-type: none"><li>1. Prepare a utensil sanitizing solution.</li><li>2. Prepare the three-compartment sink for use.</li><li>3. Clean/sanitize dishes, utensils, pots, pans and containers.</li><li>4. Destain dinnerware and silverware (when required).</li><li>5. Secure dishwashing equipment.</li><li>6. Store dishes, utensils, pots, pans, and containers.</li></ol> <hr/> |
| <b>Checklist</b>         | Fill in your name on the Unit 3 Performance Evaluation Checklist and hand it to your supervisor prior to completing the hands-on exercise. <hr/>                                                                                                                                                                                                                                                    |
| <b>Feedback</b>          | Your supervisor will review your performance for accuracy and completeness and provide any comments directly to you. <hr/>                                                                                                                                                                                                                                                                          |

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### PERFORMANCE EVALUATION 3.6.2.A

## Wash Dishes Using Manual Dishwashing Procedures Prepare Compartment

|                                    |                                                                                                           |
|------------------------------------|-----------------------------------------------------------------------------------------------------------|
| <b>Location:</b><br>_____<br>_____ | <b>Completed by:</b> _____ <b>Reviewed by:</b> _____<br>(Enter your name) (Obtain Supervisor's signature) |
|------------------------------------|-----------------------------------------------------------------------------------------------------------|

**EPQ**  
**4.C.04 Wash** dishes utilizing manual dishwashing procedures IAW the Food Service Sanitation Manual, COMDTINST M6240.4 (series) and Food Service Management General Messes, NAVSUP Publication 486.

|                                                                                                                                     |                                                                                                                                                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Criteria</b><br><b>Accuracy:</b> <ul style="list-style-type: none"> <li>• Proper equipment selected 100% of the time.</li> </ul> | <b>Safety:</b> <ul style="list-style-type: none"> <li>• Exercise caution when working around hot water and hot surface.</li> <li>• Proper equipment selected 100% of the time.</li> </ul> |
|-------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| TASK                                                                                                                              | COMMENTS                 |                          |                          |                          |                          |                          |                          |                          |                          |                          |
|-----------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
|                                                                                                                                   | 1 <sup>st</sup> Attempt  |                          | 2 <sup>nd</sup> Attempt  |                          | 3 <sup>rd</sup> Attempt  |                          |                          |                          |                          |                          |
|                                                                                                                                   | Y                        | N                        | Y                        | N                        | Y                        | N                        |                          |                          |                          |                          |
| 1. The performer obtained a hotel pan suitable to hold utensils used for the current meal.                                        | <input type="checkbox"/> |
| 2. The performer added water to the hotel pan obtained in step 1.                                                                 | <input type="checkbox"/> |
| 3. The performer added 3 oz of dishwashing compound per gallon.                                                                   | <input type="checkbox"/> |
| 4. The performer stirred or mixed the pre-soak solution into the water.                                                           | <input type="checkbox"/> |
| 5. The performer placed the hotel pan near the entrance window to the scullery for members to place their soiled eating utensils. | <input type="checkbox"/> |

Continued next page

| TASKS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | COMMENTS                 |                                        |                                                   |                          |                          |                                                   |                          |                          |                                                   |    |            |                                        |                          |                          |  |                          |                          |  |                          |                          |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|----------------------------------------|---------------------------------------------------|--------------------------|--------------------------|---------------------------------------------------|--------------------------|--------------------------|---------------------------------------------------|----|------------|----------------------------------------|--------------------------|--------------------------|--|--------------------------|--------------------------|--|--------------------------|--------------------------|--|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Y                        | N                                      | 1 <sup>st</sup> Attempt<br>____/____/____<br>Date | Y                        | N                        | 2 <sup>nd</sup> Attempt<br>____/____/____<br>Date | Y                        | N                        | 3 <sup>rd</sup> Attempt<br>____/____/____<br>Date |    |            |                                        |                          |                          |  |                          |                          |  |                          |                          |  |
| 6. The performer filled sinks with potable water to desired level at temperatures listed in the table below: <table border="1" style="width: 100%; margin-top: 10px;"> <thead> <tr> <th>Sink:</th> <th>Used for:</th> <th>Temperatures of:</th> </tr> </thead> <tbody> <tr> <td>#1</td> <td>Washing</td> <td>Not less than 110 °F</td> </tr> <tr> <td>#2</td> <td>Rinsing</td> <td>Not less than 110 °F</td> </tr> <tr> <td>#3</td> <td>Sanitizing</td> <td>171 °F or greater (for booster heater)</td> </tr> </tbody> </table> | Sink:                    | Used for:                              | Temperatures of:                                  | #1                       | Washing                  | Not less than 110 °F                              | #2                       | Rinsing                  | Not less than 110 °F                              | #3 | Sanitizing | 171 °F or greater (for booster heater) | <input type="checkbox"/> | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| Sink:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Used for:                | Temperatures of:                       |                                                   |                          |                          |                                                   |                          |                          |                                                   |    |            |                                        |                          |                          |  |                          |                          |  |                          |                          |  |
| #1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Washing                  | Not less than 110 °F                   |                                                   |                          |                          |                                                   |                          |                          |                                                   |    |            |                                        |                          |                          |  |                          |                          |  |                          |                          |  |
| #2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Rinsing                  | Not less than 110 °F                   |                                                   |                          |                          |                                                   |                          |                          |                                                   |    |            |                                        |                          |                          |  |                          |                          |  |                          |                          |  |
| #3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Sanitizing               | 171 °F or greater (for booster heater) |                                                   |                          |                          |                                                   |                          |                          |                                                   |    |            |                                        |                          |                          |  |                          |                          |  |                          |                          |  |
| 7. The performer verified water temperatures in the sinks using a numerically scaled indicating thermometer accurate to plus or minus 3 °F.                                                                                                                                                                                                                                                                                                                                                                                     | <input type="checkbox"/> | <input type="checkbox"/>               |                                                   | <input type="checkbox"/> | <input type="checkbox"/> |                                                   | <input type="checkbox"/> | <input type="checkbox"/> |                                                   |    |            |                                        |                          |                          |  |                          |                          |  |                          |                          |  |
| 8. The performer added detergent to washing sink (sink #1), as per manufacturer directions.                                                                                                                                                                                                                                                                                                                                                                                                                                     | <input type="checkbox"/> | <input type="checkbox"/>               |                                                   | <input type="checkbox"/> | <input type="checkbox"/> |                                                   | <input type="checkbox"/> | <input type="checkbox"/> |                                                   |    |            |                                        |                          |                          |  |                          |                          |  |                          |                          |  |
| Continued next page                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                          |                                        |                                                   |                          |                          |                                                   |                          |                          |                                                   |    |            |                                        |                          |                          |  |                          |                          |  |                          |                          |  |

| TASKS                                                                                                                                                                                                                                                                                                                                                                                                                                                           | COMMENTS                                                                                                |                          |                         |                     |                          |                                                                                                         |                          |                          |                          |                          |                          |                          |  |  |                          |                          |  |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|--------------------------|-------------------------|---------------------|--------------------------|---------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--|--|--------------------------|--------------------------|--|--|
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Y                                                                                                       | N                        | 1 <sup>st</sup> Attempt |                     | Y                        | N                                                                                                       | 2 <sup>nd</sup> Attempt  |                          | Y                        | N                        | 3 <sup>rd</sup> Attempt  |                          |  |  |                          |                          |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                         |                          | ____/____/____<br>Date  |                     |                          |                                                                                                         | ____/____/____<br>Date   |                          |                          |                          | ____/____/____<br>Date   |                          |  |  |                          |                          |  |  |
| 9. The performer determined sanitizing method. <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;"><b>IF sanitizing sink uses:</b></td> <td><b>THEN:</b></td> </tr> <tr> <td>A booster heater,</td> <td>Continue to step 5.</td> </tr> <tr> <td>Chemicals,</td> <td>Refer to the FS Sanitation Manual (COMDTINST M6240.4A), Enclosure 2 pages 5.2 – 5.3 and skip to step 7.</td> </tr> </table>                     | <b>IF sanitizing sink uses:</b>                                                                         | <b>THEN:</b>             | A booster heater,       | Continue to step 5. | Chemicals,               | Refer to the FS Sanitation Manual (COMDTINST M6240.4A), Enclosure 2 pages 5.2 – 5.3 and skip to step 7. | <input type="checkbox"/> | <input type="checkbox"/> |                          |                          | <input type="checkbox"/> | <input type="checkbox"/> |  |  | <input type="checkbox"/> | <input type="checkbox"/> |  |  |
| <b>IF sanitizing sink uses:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>THEN:</b>                                                                                            |                          |                         |                     |                          |                                                                                                         |                          |                          |                          |                          |                          |                          |  |  |                          |                          |  |  |
| A booster heater,                                                                                                                                                                                                                                                                                                                                                                                                                                               | Continue to step 5.                                                                                     |                          |                         |                     |                          |                                                                                                         |                          |                          |                          |                          |                          |                          |  |  |                          |                          |  |  |
| Chemicals,                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Refer to the FS Sanitation Manual (COMDTINST M6240.4A), Enclosure 2 pages 5.2 – 5.3 and skip to step 7. |                          |                         |                     |                          |                                                                                                         |                          |                          |                          |                          |                          |                          |  |  |                          |                          |  |  |
| 10. The performer turned on the booster heater.                                                                                                                                                                                                                                                                                                                                                                                                                 | <input type="checkbox"/>                                                                                | <input type="checkbox"/> |                         |                     | <input type="checkbox"/> | <input type="checkbox"/>                                                                                |                          |                          | <input type="checkbox"/> | <input type="checkbox"/> |                          |                          |  |  |                          |                          |  |  |
| 11. The performer verified that the booster heater is operational. <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;"><b>IF the booster heater:</b></td> <td><b>THEN:</b></td> </tr> <tr> <td>Is operational,</td> <td>Continue to step 7.</td> </tr> <tr> <td>Is not operational,</td> <td>Follow procedures for chemical sanitation and refer the booster heater problem to your supervisor.</td> </tr> </table> | <b>IF the booster heater:</b>                                                                           | <b>THEN:</b>             | Is operational,         | Continue to step 7. | Is not operational,      | Follow procedures for chemical sanitation and refer the booster heater problem to your supervisor.      | <input type="checkbox"/> | <input type="checkbox"/> |                          |                          | <input type="checkbox"/> | <input type="checkbox"/> |  |  | <input type="checkbox"/> | <input type="checkbox"/> |  |  |
| <b>IF the booster heater:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                   | <b>THEN:</b>                                                                                            |                          |                         |                     |                          |                                                                                                         |                          |                          |                          |                          |                          |                          |  |  |                          |                          |  |  |
| Is operational,                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Continue to step 7.                                                                                     |                          |                         |                     |                          |                                                                                                         |                          |                          |                          |                          |                          |                          |  |  |                          |                          |  |  |
| Is not operational,                                                                                                                                                                                                                                                                                                                                                                                                                                             | Follow procedures for chemical sanitation and refer the booster heater problem to your supervisor.      |                          |                         |                     |                          |                                                                                                         |                          |                          |                          |                          |                          |                          |  |  |                          |                          |  |  |

Continued next page

| TASKS                                                                   | COMMENTS |   |                                                               |  |   |   |                                                               |  |   |   |                                                               |  |
|-------------------------------------------------------------------------|----------|---|---------------------------------------------------------------|--|---|---|---------------------------------------------------------------|--|---|---|---------------------------------------------------------------|--|
|                                                                         | Y        | N | 1 <sup>st</sup> Attempt                                       |  | Y | N | 2 <sup>nd</sup> Attempt                                       |  | Y | N | 3 <sup>rd</sup> Attempt                                       |  |
|                                                                         |          |   | ____/____/____<br>Date                                        |  |   |   | ____/____/____<br>Date                                        |  |   |   | ____/____/____<br>Date                                        |  |
| 12. The performer continued with the procedure to wash dishes manually. |          |   |                                                               |  |   |   |                                                               |  |   |   |                                                               |  |
|                                                                         |          |   | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go |  |   |   | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go |  |   |   | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go |  |

## PERFORMANCE EVALUATION 3.6.2.B

### Wash Dishes Using Manual Dishwashing Procedures Clean and Sanitize Dishes and Utensils

|                                    |                                                                                                           |
|------------------------------------|-----------------------------------------------------------------------------------------------------------|
| <b>Location:</b><br>_____<br>_____ | <b>Completed by:</b> _____ <b>Reviewed by:</b> _____<br>(Enter your name) (Obtain Supervisor's signature) |
|------------------------------------|-----------------------------------------------------------------------------------------------------------|

**EPQ**  
**4.C.04 Wash** dishes utilizing manual dishwashing procedures IAW the Food Service Sanitation Manual, COMDTINST M6240.4 (series) and Food Service Management General Messes, NAVSUP Publication 486.

|                                                                                                                                          |                                                                                                                                                                                       |
|------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Criteria</b><br><u><b>Accuracy:</b></u> <ul style="list-style-type: none"> <li>Proper equipment selected 100% of the time.</li> </ul> | <b>Safety:</b> <ul style="list-style-type: none"> <li>Exercise caution when working around hot water and hot surface.</li> <li>Proper equipment selected 100% of the time.</li> </ul> |
|------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| TASK                                                                                                                                           | COMMENTS                 |                          |                         |  |                          |                          |                         |  |                          |                          |                         |  |
|------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|-------------------------|--|--------------------------|--------------------------|-------------------------|--|--------------------------|--------------------------|-------------------------|--|
|                                                                                                                                                |                          |                          | 1 <sup>st</sup> Attempt |  |                          |                          | 2 <sup>nd</sup> Attempt |  |                          |                          | 3 <sup>rd</sup> Attempt |  |
|                                                                                                                                                | Y                        | N                        | ____/____/____<br>Date  |  | Y                        | N                        | ____/____/____<br>Date  |  | Y                        | N                        | ____/____/____<br>Date  |  |
| 1. The performer pre-soaked eating utensils in the sanitizing solution.                                                                        | <input type="checkbox"/> | <input type="checkbox"/> |                         |  | <input type="checkbox"/> | <input type="checkbox"/> |                         |  | <input type="checkbox"/> | <input type="checkbox"/> |                         |  |
| 2. The performer pre-flushed and pre-scraped large pots, pans, and containers, dishes, and utensils (to remove gross food particles and soil). | <input type="checkbox"/> | <input type="checkbox"/> |                         |  | <input type="checkbox"/> | <input type="checkbox"/> |                         |  | <input type="checkbox"/> | <input type="checkbox"/> |                         |  |
| 3. The performer washed large pots, pans, and containers, dishes, and utensils in the washing soap and water solution (sink #1).               | <input type="checkbox"/> | <input type="checkbox"/> |                         |  | <input type="checkbox"/> | <input type="checkbox"/> |                         |  | <input type="checkbox"/> | <input type="checkbox"/> |                         |  |
| 4. The performer rinsed large pots, pans, containers, dishes, and utensils in the rinse water (sink #2).                                       | <input type="checkbox"/> | <input type="checkbox"/> |                         |  | <input type="checkbox"/> | <input type="checkbox"/> |                         |  | <input type="checkbox"/> | <input type="checkbox"/> |                         |  |

Continued next page

| <b>Location:</b><br>_____<br>_____                                                                                                                         |                          | <b>Completed by:</b> _____ <b>Reviewed by:</b> _____<br>(Enter your name) (Obtain Supervisor's signature) |                                                               |     |                                                               |     |                                                               |     |  |  |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|-----|---------------------------------------------------------------|-----|---------------------------------------------------------------|-----|--|--|--|
| TASK                                                                                                                                                       | Y                        | N                                                                                                         | 1 <sup>st</sup> Attempt                                       |     | 2 <sup>nd</sup> Attempt                                       |     | 3 <sup>rd</sup> Attempt                                       |     |  |  |  |
|                                                                                                                                                            |                          |                                                                                                           | ____/____/____<br>Date                                        | Y N | ____/____/____<br>Date                                        | Y N | ____/____/____<br>Date                                        | Y N |  |  |  |
| 5. The performer placed large pots, pans, and containers, dishes, and utensils in the sanitizing solution (sink #3).                                       | <input type="checkbox"/> | <input type="checkbox"/>                                                                                  |                                                               |     |                                                               |     |                                                               |     |  |  |  |
| 6. The performer allowed large pots, pans, and containers, dishes, and utensils to remain in the sanitizing solution (sink #3) for required time.          | <input type="checkbox"/> | <input type="checkbox"/>                                                                                  |                                                               |     |                                                               |     |                                                               |     |  |  |  |
| 7. The performer removed large pots, pans, containers, dishes, and utensils from the sanitizing solution (sink #3) and allow to air dry. Do not towel dry. | <input type="checkbox"/> | <input type="checkbox"/>                                                                                  |                                                               |     |                                                               |     |                                                               |     |  |  |  |
|                                                                                                                                                            |                          |                                                                                                           | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go |     | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go |     | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go |     |  |  |  |

### PERFORMANCE EVALUATION 3.6.2.C

#### Wash Dishes Using Manual Dishwashing Procedures Destaining Dinnerware and Silverware

|                                    |                                                                                                           |
|------------------------------------|-----------------------------------------------------------------------------------------------------------|
| <b>Location:</b><br>_____<br>_____ | <b>Completed by:</b> _____ <b>Reviewed by:</b> _____<br>(Enter your name) (Obtain Supervisor's signature) |
|------------------------------------|-----------------------------------------------------------------------------------------------------------|

**EPQ**  
**4.C.04 Wash** dishes utilizing manual dishwashing procedures IAW the Food Service Sanitation Manual, COMDTINST M6240.4 (series) and Food Service Management General Messes, NAVSUP Publication 486.

|                                                                                                                                     |                                                                                                                                                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Criteria</b><br><b>Accuracy:</b> <ul style="list-style-type: none"> <li>• Proper equipment selected 100% of the time.</li> </ul> | <b>Safety:</b> <ul style="list-style-type: none"> <li>• Exercise caution when working around hot water and hot surface.</li> <li>• Proper equipment selected 100% of the time.</li> </ul> |
|-------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| TASK                                                                                                                                                                | COMMENTS                 |                          |                         |                          |                          |                        |                          |                          |                         |                          |                          |                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------------|-------------------------|--------------------------|--------------------------|------------------------|--------------------------|--------------------------|-------------------------|--------------------------|--------------------------|------------------------|
|                                                                                                                                                                     | 1 <sup>st</sup> Attempt  |                          | 2 <sup>nd</sup> Attempt |                          | 3 <sup>rd</sup> Attempt  |                        | 1 <sup>st</sup> Attempt  |                          | 2 <sup>nd</sup> Attempt |                          | 3 <sup>rd</sup> Attempt  |                        |
|                                                                                                                                                                     | Y                        | N                        | ____/____/____<br>Date  | Y                        | N                        | ____/____/____<br>Date | Y                        | N                        | ____/____/____<br>Date  | Y                        | N                        | ____/____/____<br>Date |
| 1. The performer obtained a plastic bus bin or other large container suitable for holding dinnerware and silverware (may use a steam-jacketed kettle).              | <input type="checkbox"/> | <input type="checkbox"/> |                         | <input type="checkbox"/> | <input type="checkbox"/> |                        | <input type="checkbox"/> | <input type="checkbox"/> |                         | <input type="checkbox"/> | <input type="checkbox"/> |                        |
| 2. The performer added hot water to the container obtained in step 1.                                                                                               | <input type="checkbox"/> | <input type="checkbox"/> |                         | <input type="checkbox"/> | <input type="checkbox"/> |                        | <input type="checkbox"/> | <input type="checkbox"/> |                         | <input type="checkbox"/> | <input type="checkbox"/> |                        |
| 3. The performer dissolved destaining compound in hot water according to the destaining compound manufacturer instructions. (Use a milder solution for silverware.) | <input type="checkbox"/> | <input type="checkbox"/> |                         | <input type="checkbox"/> | <input type="checkbox"/> |                        | <input type="checkbox"/> | <input type="checkbox"/> |                         | <input type="checkbox"/> | <input type="checkbox"/> |                        |
| 4. The performer placed dinnerware and silverware in the destaining solution.                                                                                       | <input type="checkbox"/> | <input type="checkbox"/> |                         | <input type="checkbox"/> | <input type="checkbox"/> |                        | <input type="checkbox"/> | <input type="checkbox"/> |                         | <input type="checkbox"/> | <input type="checkbox"/> |                        |

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|                                    |                                                                                                                                       |                                                                                                           |                                                                |                          |                          |                          |                                                                |                                                               |                          |                                                               |                                                                |                          |
|------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|--------------------------|--------------------------|--------------------------|----------------------------------------------------------------|---------------------------------------------------------------|--------------------------|---------------------------------------------------------------|----------------------------------------------------------------|--------------------------|
| <b>Location:</b><br>_____<br>_____ |                                                                                                                                       | <b>Completed by:</b> _____ <b>Reviewed by:</b> _____<br>(Enter your name) (Obtain Supervisor's signature) |                                                                |                          |                          |                          |                                                                |                                                               |                          |                                                               |                                                                |                          |
|                                    | <b>Y</b>                                                                                                                              | <b>N</b>                                                                                                  | <b>1<sup>st</sup> Attempt</b><br>____/____/____<br><b>Date</b> |                          | <b>Y</b>                 | <b>N</b>                 | <b>2<sup>nd</sup> Attempt</b><br>____/____/____<br><b>Date</b> |                                                               | <b>Y</b>                 | <b>N</b>                                                      | <b>3<sup>rd</sup> Attempt</b><br>____/____/____<br><b>Date</b> |                          |
| 5.                                 | The performer allowed the dinnerware and silverware to remain in the destaining solution for 30 minutes.                              |                                                                                                           | <input type="checkbox"/>                                       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>                                       | <input type="checkbox"/>                                      | <input type="checkbox"/> | <input type="checkbox"/>                                      | <input type="checkbox"/>                                       | <input type="checkbox"/> |
| 6.                                 | The performer rinsed the dinnerware and silverware with clear water.                                                                  |                                                                                                           | <input type="checkbox"/>                                       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>                                       | <input type="checkbox"/>                                      | <input type="checkbox"/> | <input type="checkbox"/>                                      | <input type="checkbox"/>                                       | <input type="checkbox"/> |
| 7.                                 | The performer placed the dinnerware and silverware in the three-compartment sink (or dishwashing machine) for washing and sanitizing. |                                                                                                           | <input type="checkbox"/>                                       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>                                       | <input type="checkbox"/>                                      | <input type="checkbox"/> | <input type="checkbox"/>                                      | <input type="checkbox"/>                                       | <input type="checkbox"/> |
| 8.                                 | The performer allowed the dinnerware and silverware to air dry before returning them to storage.                                      |                                                                                                           | <input type="checkbox"/>                                       | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/>                                       | <input type="checkbox"/>                                      | <input type="checkbox"/> | <input type="checkbox"/>                                      | <input type="checkbox"/>                                       | <input type="checkbox"/> |
|                                    |                                                                                                                                       |                                                                                                           | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go  |                          |                          |                          |                                                                | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go |                          | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go |                                                                |                          |

**PERFORMANCE EVALUATION 3.6.2.D**

**Wash Dishes Using Manual Dishwashing Procedures  
Storing Dinnerware and Securing Dishwashing Equipment**

|                           |                                                 |                                                              |
|---------------------------|-------------------------------------------------|--------------------------------------------------------------|
| <b>Location:</b><br>_____ | <b>Completed by:</b> _____<br>(Enter your name) | <b>Reviewed by:</b> _____<br>(Obtain Supervisor's signature) |
|---------------------------|-------------------------------------------------|--------------------------------------------------------------|

**EPQ**  
**4.C.04 Wash** dishes utilizing manual dishwashing procedures IAW the Food Service Sanitation Manual, COMDTINST M6240.4 (series) and Food Service Management General Messes, NAVSUP Publication 486.

|                                                                                                                                        |                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Criteria</b><br><u>Accuracy:</u><br><ul style="list-style-type: none"> <li>• Proper equipment selected 100% of the time.</li> </ul> | <b>Safety:</b><br><ul style="list-style-type: none"> <li>• Exercise caution when working around hot water and hot surface.</li> <li>• Proper equipment selected 100% of the time.</li> </ul> |
|----------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| <b>TASK</b>                                                                                                                              | <b>COMMENTS</b>                                               |                          |                        |                                                               |                          |                        |                                                               |                          |                        |  |  |  |
|------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|--------------------------|------------------------|---------------------------------------------------------------|--------------------------|------------------------|---------------------------------------------------------------|--------------------------|------------------------|--|--|--|
|                                                                                                                                          | <b>1<sup>st</sup> Attempt</b>                                 |                          |                        | <b>2<sup>nd</sup> Attempt</b>                                 |                          |                        | <b>3<sup>rd</sup> Attempt</b>                                 |                          |                        |  |  |  |
|                                                                                                                                          | Y                                                             | N                        | ____/____/____<br>Date | Y                                                             | N                        | ____/____/____<br>Date | Y                                                             | N                        | ____/____/____<br>Date |  |  |  |
| 1. The performer grasped cleaned and sanitized dinnerware and utensils by the handle (or surface other than the cooking or eating area). | <input type="checkbox"/>                                      | <input type="checkbox"/> |                        | <input type="checkbox"/>                                      | <input type="checkbox"/> |                        | <input type="checkbox"/>                                      | <input type="checkbox"/> |                        |  |  |  |
| 2. The performer placed the dinnerware and utensils face down (or handle up) to prevent contaminating the cooking or eating surface.     | <input type="checkbox"/>                                      | <input type="checkbox"/> |                        | <input type="checkbox"/>                                      | <input type="checkbox"/> |                        | <input type="checkbox"/>                                      | <input type="checkbox"/> |                        |  |  |  |
| 3. The performer removed all food particles from the stainless steel surfaces.                                                           | <input type="checkbox"/>                                      | <input type="checkbox"/> |                        | <input type="checkbox"/>                                      | <input type="checkbox"/> |                        | <input type="checkbox"/>                                      | <input type="checkbox"/> |                        |  |  |  |
| 4. The performer washed the surfaces with warm soapy water.                                                                              | <input type="checkbox"/>                                      | <input type="checkbox"/> |                        | <input type="checkbox"/>                                      | <input type="checkbox"/> |                        | <input type="checkbox"/>                                      | <input type="checkbox"/> |                        |  |  |  |
| 5. The performer rinsed the surfaces with clean water.                                                                                   | <input type="checkbox"/>                                      | <input type="checkbox"/> |                        | <input type="checkbox"/>                                      | <input type="checkbox"/> |                        | <input type="checkbox"/>                                      | <input type="checkbox"/> |                        |  |  |  |
| 6. The performer allowed the surfaces to air dry.                                                                                        | <input type="checkbox"/>                                      | <input type="checkbox"/> |                        | <input type="checkbox"/>                                      | <input type="checkbox"/> |                        | <input type="checkbox"/>                                      | <input type="checkbox"/> |                        |  |  |  |
|                                                                                                                                          | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go |                          |                        | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go |                          |                        | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go |                          |                        |  |  |  |

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## LESSON 7

### Safety in the Workplace

#### Introduction

---

**Overview**

This lesson provides instruction on workplace safety.

This section of the lesson includes:

- Objectives
- Tools and references
- Recommended reading
- Topics covered by this lesson

There are no Enlisted Performance Qualifications (EPQs) for this lesson.

---

**Objectives**

Upon completion of this lesson, you will:

- Define what constitutes an unsafe condition
  - Identify unsafe conditions in the food service facility
  - Describe the procedures used to respond to an unsafe condition
  - Demonstrate the proper response to an unsafe condition
- 

**Tools and References**

The tools and references for this lesson include:

- Professional Cooking*, by Wayne Gisslen
  - Food Service Sanitation Manual, COMDTINST M6240.4A
  - NAVSUP P-486 – Food Service Management
  - Unit 1, Appendix C, Glossary of Key Terms
- 

**Recommended Reading**

To get the most out of this lesson, be sure to read the following:

- Professional Cooking*, “Sanitation and Safety: Safety,” Chapter 2.
  - Food Service Management General Messes, “Appendix P: Safety and 3M/PMS Standards” (pp. P-1 – P-14).
-

## Introduction, continued

---

### Topics Covered by This Lesson

The lesson covers the following specific topics:

- Introduction to workplace safety
  - Proactive safety precautions
  - Reactive safety precautions
-

## Introduction to Workplace Safety

---

### Overview

In this section, you will learn about:

- What is an unsafe condition?
  - Proactive safety precautions
  - Reactive safety precautions
  - Summary of safety practices
- 

### What Is an Unsafe Condition?

An unsafe condition exists when, in any given situation, there is an unacceptable risk of serious or fatal injury. For our purposes in this guide, an unsafe condition may be defined as any condition that could cause undue hazard or risk to life, limb or health of any person authorized, expected, or anticipated to be in or around a food service facility.

Here are a few examples of unsafe conditions:

- A chef begins cleaning a piece of electrical equipment without having secured the power.
- A chef tries to catch a falling knife.
- A chef tries to open a can with a meat cleaver.
- A patron drops a greasy piece of chicken on a tile surface and no one cleans it up.
- A chef reaches with his bare hands for a pot on a stove assuming that it is not hot.

In this lesson you will learn about precautions you can take to help prevent and/or respond to unsafe conditions.

---

### Proactive Safety Precautions

Workplace safety starts by observing and acting on safety precautions. These precautions may be either:

- Proactive
- Reactive

Continued next page

## Introduction to Workplace Safety, continued

---

### Proactive Safety Precautions, contd.

Proactive safety precautions are those acts that prevent or help avoid unsafe working conditions **BEFORE** they occur. There are three basic rules for being proactive around safety issues:

1. Be on the lookout for potential hazards. This can be done, for example, by paying close attention to what you are doing.
2. Use safe work procedures. An example of this is using proper lifting techniques.
3. Use protective equipment when needed. For example, wear safety toe shoes with a strong support and closed toe.

Proactive safety precautions may also be called “Preventive Safety Measures.” Preventive safety measures include “Planned Maintenance Subsystem” (PMS) procedures, which may vary from command to command, or from duty stations afloat to duty stations ashore. The PMS ensures that:

- ❑ Assignment of specific maintenance personnel is arranged with the engineering or public works department.
  - ❑ Only maintenance personnel are allowed to make repairs.
  - ❑ Equipment is not operated at speeds in excess of those recommended by the manufacturer.
  - ❑ Personnel are thoroughly trained in the proper use of equipment.
  - ❑ Inspections of equipment are conducted each morning to look for loose nuts, bolts, parts, connections, etc. before beginning operation.
  - ❑ Proper cleaning is performed on a regular basis.
  - ❑ The Food Service Officer is notified of any equipment problems or malfunctions.
-

## Introduction to Workplace Safety, continued

---

### Reactive Safety Precautions

Reactive safety precautions are those that occur **AFTER** an unsafe condition has been observed. When reacting to an unsafe condition you have just observed, you should follow three steps:

1. Recognize/identify the condition as unsafe.
  2. Determine the proper response to the unsafe condition.
  3. Respond to the unsafe condition according to current instructions.
- 

### Summary of Safety Practices

Here is a summary of safety practices from enclosure (1) of the Food Service Sanitation Manual (FSSM). Please review the (FSSM) manual for more information.

- ❑ Do not handle electrical appliances when hands and feet are wet.
  - ❑ Use the proper tool for the job:
    - Cleavers do not open cans; can openers open cans.
    - Do not use your fingers to force food into a chopper; use a pusher stick.
    - Do not leave glassware near food prep areas.
    - Assume that pots, pans, stoves, steam tables, coffee urns, and pipes are hot.
    - Be sure safety devices and guards are in their proper places and in proper operating condition.
-

## Proactive Safety Precautions

---

### Overview

In this section you will learn about proactive safety precautions. The precautions are grouped into the following categories:

- Practicing good personal hygiene
  - Using protective equipment
  - Using proper lifting and carrying techniques
  - Using knives safely
  - Using hand tools safely
  - Preventing spills and falls
  - Preventing fires
  - Preparing food safely
  - Operating food preparation and processing equipment safely
  - Using cleaning and sanitizing equipment safely
- 

### Practicing Good Personal Hygiene

Follow these guidelines for practicing good personal hygiene:

- Wash hands before beginning work in the galley, and wash hands at regular intervals during work.
  - Keep fingernails short and clean to prevent the spread of germs.
  - Cover any cuts with waterproof dressings or latex gloves.
  - Do not wear jewelry, hair extensions, hairpieces, or loose items of clothing.
  - Do not carry pencils, combs, cigarettes or other tobacco products, matches, or other items in shirt pockets, breast pockets of coats or jackets, caps, hats, or behind the ears.
  - Wash hands thoroughly with soap and water before leaving toilets.
  - Report unsanitary toilet or washroom conditions to the food service establishment supervisor and/or medical department.
  - Obtain immediate first aid for scratches and cuts. This is the safest, surest way of preventing infections.
-

## Proactive Safety Precautions, continued

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### Using Protective Equipment

Follow these guidelines for using protective equipment:

- ❑ Wear safety toe shoes with a strong support and closed toe.
  - ❑ Cover hands with a dry cloth before handling hot containers or before opening steam vessels or roasters. Wet cloths transmit heat readily and may cause burns.
  - ❑ Use hot pads and exercise care when handling hot pans.
  - ❑ Wear hearing protection during dishwasher operation.
  - ❑ Ensure that protective covers are in place on all external moving parts of the dishwasher.
  - ❑ Wear arm-length rubber gloves (not electrical gloves) and rubber aprons when cleaning with hot water, strong detergents, or descaling solution to prevent burns.
  - ❑ Wear rubber gloves and exercise caution to prevent getting burned or coming into contact with the descaling solution.
  - ❑ Wear a mail glove in dangerous butchering or meat cutting operations to prevent hand injuries.
  - ❑ Wear a mail apron for stomach protection when using a boning knife.
-

## Proactive Safety Precautions, continued

---

### Using Proper Lifting and Carrying Techniques

Follow these guidelines for lifting and carrying items:

- ❑ Anticipate where a hot pot, pan, or container will be placed before removing it from rangetop or oven.
  - ❑ Clear the path you intend to take before picking up the item to move.
  - ❑ Ensure the destination location for your item is clear.
  - ❑ Exercise caution when carrying liquids—especially hot liquids.
  - ❑ Never lift beyond your own capability—get help if needed.
  - ❑ Bend your knees and use your legs to lift and distribute the weight when lifting heavy items.
  - ❑ Do not climb ladders with food or utensils unless you can hold onto a guardrail with one hand. If necessary, make another trip or get someone to help you.
  - ❑ Load food trays and other serving items in a manner that does not obstruct your vision while carrying the items from one location to another.
-

## Proactive Safety Precautions, continued

---

### Using Knives Safely

Follow these guidelines for being safe while using knives:

- Keep knife blades sharp and clean.
  - Hold handles for meat-cutting knives firmly.
  - Do not try to catch a falling knife: allow it to drop and pick it up after it has fallen.
  - Cut away from your body when using a proper cutting surface.
  - Point the cutting edge of a knife away from your hand when wiping knife blades.
  - Lay knives flat and away from counter edges.
  - Never leave knives lying in water when hand-washing dishes. This can injure an unsuspecting member who reaches into the water.
  - Return clean knives to their proper storage areas when finished.
  - Use knives and cleavers only for their intended purposes.
  - Do not use a knife as a screwdriver.
  - Do not use a cleaver to open cans, crates, or boxes.
  - Do not carry knives unnecessarily. If a knife must be carried, hold it closely by the handle with it pointing toward the deck and the cutting edge away from you.
  - Keep the handles of all meat-cutting knives free of grease to assure a good, safe grip, and keep your hand from slipping forward onto the blade.
  - Place knives in drawers, cabinets, and racks with the handle facing away from members.
  - When using a sharpening stone, be sure your guiding hand rides on the back of the knife blade.
  - Be extremely careful when using a boning knife. Always keep your hand behind the knife. Use a hand meat hook when boning meat to provide a firm hold.
  - Be careful when using the cleaver during dangerous butchering or meat cutting operations, because the chopping action is difficult to control. Keep your other hand away from the striking area.
  - Reduce the risk of cutting yourself by storing cleavers, saws, and knives properly.
  - After cleaning and sanitizing cleavers, saws, and knives, return them to their proper locations—locations provided for their storage.
-

## Proactive Safety Precautions, continued

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### Using Hand Tools Safely

Follow these guidelines when using hand tools:

- ❑ Follow the manufacturer's operating instructions when using hand tools.
  - ❑ Use only proper hand tools to remove nails, metal straps, and wire bands when opening containers and boxes.
  - ❑ Do not open cans with anything except a can opener. Remove the cut cover completely, as the jagged edge may cause a serious cut.
  - ❑ Keep the can opener blade and gears clean so tin will not be ground into foods.
  - ❑ Be careful of sharp pointed meat hooks in the chill box and refrigerator(s). Do not use them in the galley as hooks for hanging up utensils.
  - ❑ When using a handsaw, do not force the saw blade. Forcing it through a bone may cause it to "jump" and tear your fingers. (Let the saw do the work. As an added precaution, always place your index finger over the back of the blade.)
  - ❑ Remove all tools before placing meat on blocks or benches. The "hidden" tool is dangerous. (If you put a piece of meat on top of a sharp knife, you may forget the knife is there and cut yourself when you pick up the meat.)
-

## Proactive Safety Precautions, continued

---

### Preventing Spills and Falls

Follow these guidelines to prevent falls and spills:

- ❑ Clean up any food messes or liquids spilled on the deck immediately upon discovery to prevent falls.
  - ❑ Close cabinet doors and drawers after obtaining items.
  - ❑ Use a sturdy stepladder for reaching items out of reach. Do not use unsteady items or extend beyond one body width when reaching for items.
  - ❑ Keep decks as clean and dry as possible and free from spilled food, grease, and other substances.
  - ❑ Avoid swabbing or scrubbing deck areas that are in use. Limit cleaning to a small area, then swab this area dry before proceeding. Do not wet the entire deck at one time.
  - ❑ Flat-bottomed trucks or any other type of food conveyor shall not be left unattended in aisles, corridors, passageways, or any place where they may become a tripping or collision hazard or an obstruction to normal work functions.
  - ❑ Do not overfill food inserts in electric hot food tables.
  - ❑ Before removing containers of hot liquids from the range, be sure that no one is passing. Decide in advance where you are going to put such containers.
  - ❑ Handle pots or pans containing hot liquids or grease with great care.
  - ❑ Assume that all pots, pans, stoves, steam tables, coffee urns, and pipes are hot before touching them.
  - ❑ Assume all pots, pans, and containers on rangetops and in ovens are hot.
  - ❑ Fill hot liquid containers and carry them on serving equipment in such a way that liquid will not spill on you or the persons you may be serving.
  - ❑ While on board vessels underway, place hot liquid containers in secure positions at all times.
-

## Proactive Safety Precautions, continued

---

### Preventing Fires

Follow these guidelines to prevent fires:

- ❑ Keep flammable materials away from ranges and stoves.
  - ❑ Do not put napkins, paper towels, or paper containers on or close to the rangetop.
  - ❑ Do not leave items cooking on a rangetop unattended.
  - ❑ Do not leave deep fat fryers unattended when in use.
  - ❑ Exercise caution when lighting gas ovens or ranges that do not have a self-lighting feature.
  - ❑ Ensure gas pilot lights work on gas stoves. (If not, turn off the pilot lights and wait for gas to disperse before attempting to relight.)
  - ❑ Do not wear loose items of clothing when using a rangetop.
  - ❑ Check that all burners and ovens are turned off when finished cooking.
  - ❑ Do not block approaches to firefighting equipment.
  - ❑ Check fire extinguishers regularly to ensure they are at safe operating levels.
  - ❑ Ensure fire extinguishers are mounted above ranges and ovens and are easily accessible.
  - ❑ Do not have deep-fat pans more than two-thirds to three-fourths full of hot fat. (Make allowance for the roll or pitch of the ship; otherwise fat may splash onto the range and cause a serious fire and bad burns.)
  - ❑ Clean accumulations of grease and soot on ranges, ducts, and filters in range hoods at frequent intervals as a fire prevention measure. Grease filters in range hoods must be in place at all times while the range is in use.
  - ❑ Report leaking gas or oil-fired oven valves or joints immediately.
  - ❑ Maintain at least one fifteen-pound CO<sub>2</sub> or six-pound cartridge type dry chemical fire extinguisher in an easily accessible location near each galley range.
-

## Proactive Safety Precautions, continued

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### Preparing Food Safely

While the methods and procedures for keeping food safe were covered earlier in this unit, to refresh your memory here are some of the most important precautions:

- Wash fresh fruits and vegetables with clean water prior to cutting or eating.
  - Clean possible contaminated surfaces before placing food items on them.
  - Prepare, cook, and store food properly to ensure safety.
  - Keep supply rooms in an orderly condition at all times:
    - Keep aisles clear.
    - Place food items in all spaces on pallets or gratings to permit easy cleaning and to facilitate air circulation.
  - Label and keep separate from foodstuffs and food service equipment all insecticides, poisonous chemicals, and detergents.
  - Test alarm systems on walk-in refrigerators daily, and report any malfunction immediately to the food service establishment supervisor.
  - Do not leave glassware or glass containers near food preparation areas. If glass should break near foodstuffs, immediately notify your supervisor or the food service officer so that a decision can be made regarding the food suitability.
  - Do not use broken, cracked, or chipped glassware or china.
  - Do not throw broken glass into wastebaskets or other refuse.
  - Keep hands dry when preparing toast in a rotary toaster to avoid possible electric shock.
  - Do not use metal objects to dislodge jammed toast in a rotary toaster. Turn off power to the rotary toaster before removing toast by hand.
  - Exercise care when using hand tools to open foodstuff containers (to avoid getting foreign matter into foodstuffs).
-

## Proactive Safety Precautions, continued

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### Operating Food Preparation and Processing Equipment Safely

Follow these guidelines for safe practice when using food preparation and food processing equipment:

- Do not handle electrical appliances when your feet or hands are wet.
- Use electrical extension cords with extreme care, and avoid if at all possible.
- Stand to the side of a steam-jacketed kettle (or microwave oven) prior opening the lid (or door) to allow steam to escape and avoid injury.
- Never allow pan handles to extend over burners.
- Observe manufacturer's operating instructions when operating food choppers, meat slicers, or mechanical meat saws.
- Keep safety devices and guards in proper place, in proper operating condition, and securely fastened when operating food choppers, meat slicers, or mechanical meat saws.
- Do not use hands to force food products into food choppers. Use a pusher-stick.
- Do not leave deep-fat fryers unattended.
- Open doors of gas or oil-fired ovens at least one minute prior to lighting.
- Keep the meat slicer knife guard in place at all times except when slicer is unplugged and disassembled for cleaning. Always replace the blade guard as quickly as possible after cleaning.
- Clean the meat slicer blade with a clean, detergent-soaked cloth wrapped around a pad or block. Do not touch the blade with your hand.
- Use extreme care when working around steam cookers and coffee urns. Use a safe, non-collapsible platform to stand on when pouring hot water into the coffee bag at the top of the urn.
- Stand to one side when opening steam kettles, steam cabinets, and ovens.
- Do not wear hair extensions, hairpieces, loose shirtsleeves, ties, or aprons when working with grinders and mixers.
- Do not place your hand on the meat being sliced.
- Always keep your hands and fingers clear of the meat slicer blade.

Continued next page

## Proactive Safety Precautions, continued

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### Operating Food Preparation and Processing Equipment Safely, contd.

- Adjust the blade for the size of the cut BEFORE turning on power to the meat slicer.
  - Do not operate the meat slicer with wet hands.
  - Ensure all guards are secure before operating the meat slicer. Never use the slicer while the blade guard is off.
  - Disconnect the meat slicer from its power source before cleaning.
  - Never attempt to operate blade-equipped machinery with the blade guard in the raised position.
  - Do not use hands or other objects to push vegetables under the blade guard. If machines become clogged, secure power at the circuit breaker or unplug the machine from the AC outlet.
  - Always secure power to a machine when opening or making adjustments.
  - Always follow the operator's manual for complete instructions.
  - Never leave cooking unattended.
  - Shield yourself from steam when uncovering food, especially when uncovering microwave servings.
  - Never boil water in a cup using the microwave—it can explode!
  - Turn the handles of cooking utensils parallel to the front of the range so that they shall not protrude into passageways.
  - Immediately repair splintery worktables, faulty mess benches, sharp metal edges, loose handles, or other defective equipment.
  - Ensure the garbage grinder sealing plate is in the open position and the hinged top of the chute hopper is locked shut before operation.
-

## Proactive Safety Precautions, continued

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### Using Cleaning and Sanitizing Equipment Safely

Follow these guidelines when using cleaning and sanitizing equipment:

- ❑ Disconnect electric power prior to cleaning equipment.
  - ❑ Do not over-pack washware racks with utensils or dinnerware.
  - ❑ Do not use metal objects to scrape ice from the coils of a chilled salad bar; metal scrapers may damage or puncture the coils.
  - ❑ Do not soak or put knives in soapy or discolored water, as they cannot be seen and you may grasp the blade.
  - ❑ Keep garbage sheds or screened enclosures clean at all times:
    - Do not permit accumulations of refuse from day to day.
    - Do not attempt to handle large, filled garbage containers alone; get help.
    - Use caution when cleaning containers with a steam hose. Cover hands with cloth or wear gloves when handling a steam line. Be sure the nozzle of the steam hose is securely fastened before turning steam on to the hose.
    - Maintain wire-screened enclosures in good condition to prevent entrance of insects and rodents.
  - ❑ Verify that exhaust fans and openings are operating properly.
  - ❑ Ensure that protective rubber covers for electric on/off switches are in place and not damaged.
  - ❑ Verify that lights are operating properly.
  - ❑ Ensure that side doors of the dishwasher are closed.
  - ❑ Keep hands out of the dishwasher while steam is turned on or during machine operation.
  - ❑ Disconnect electric power and the steam supply before removing stuck or jammed washware racks on the conveyor.
  - ❑ Report dishwasher malfunctions in accordance with local established procedures. Do not try to fix the malfunction yourself.
  - ❑ Consult the manufacturer's operating instructions when operating scullery equipment. This includes dishwashers and garbage grinders.
-

## Reactive Safety Precautions

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### Introduction

In this section, you will learn about:

- ❑ The three-step reactive safety process
- ❑ Examples of reactive safety precautions

Recall that reactive safety precautions are those acts that address or respond to unsafe working conditions **AFTER** they have been observed.

---

### The Three-Step Reactive Safety Process

Reactive safety precautions involve a three-step process:

1. Recognize/identify an unsafe condition.
  2. Determine the proper response to the unsafe condition.
  3. Respond to the unsafe condition according to current instructions.
- 

### Examples of Reactive Safety Precautions

Examples of reactive safety precautions include:

| <b>EXEMPLARY RESPONSES TO UNSAFE CONDITIONS</b>                                                                                 |                                                                                                              |
|---------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| <b>CONDITION</b>                                                                                                                | <b>RESPONSE</b>                                                                                              |
| A fellow food service worker spills soup on the floor.                                                                          | Help clean up the spill using proper procedures.                                                             |
| A patron has dropped a plate of salmon on the floor.                                                                            | Clean up the spill using proper procedures.                                                                  |
| You accidentally cut yourself.                                                                                                  | Obtain immediate first aid. (This is the safest, surest way to prevent infections.)                          |
| You find a damaged, frayed electrical extension cord.                                                                           | Do not use the cord. Note that the cord is damaged and have the cord checked out by a qualified electrician. |
| You discover a defective oven door (stove lid, pilot light, thermostat, electrical appliance, or any type of galley equipment). | Secure the equipment and report the defective equipment immediately.                                         |

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## Lesson Review

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**Purpose** The intention of this exercise is to help you confirm what you have learned about safety precautions in the workplace.

---

**Directions** Test your knowledge of the concepts and principles of this lesson by choosing the best, most correct answer to each question below. Some questions require you to create answers or fill in blanks. Use the lesson material and references to assist you as necessary.

When you have finished answering the questions, compare your answers to the correct answers in the “Lesson Review Feedback” section at the end of this lesson. Note any differences between your answers and the correct ones so you can learn from them, and discuss them when you meet with your supervisor.

---

**Questions** 1. Complete the following sentence: “An unsafe condition exists when \_\_\_\_\_.”

---



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---

2–8. Identify each of the following workplace conditions as safe or unsafe by placing as “X” in the appropriate cell. The first one has been completed for you.

| SAFE AND UNSAFE WORK PRACTICES                                                                         |      |        |
|--------------------------------------------------------------------------------------------------------|------|--------|
| PRACTICE                                                                                               | SAFE | UNSAFE |
| Ex. Confirming that an exhaust fan is operating properly.                                              | X    |        |
| 2. Using a metal object to scrape ice from salad bar coils.                                            |      |        |
| 3. Placing your hand on meat while the meat is being sliced using a meat slicer.                       |      |        |
| 4. Adjusting the meat slicer blade for the size of the cut before turning on power to the meat slicer. |      |        |
| Continued next page                                                                                    |      |        |

**Lesson Review, continued**

**Questions, contd.**

| <b>PRACTICE</b>                                                                                       | <b>SAFE</b> | <b>UNSAFE</b> |
|-------------------------------------------------------------------------------------------------------|-------------|---------------|
| 5. Keeping flammable materials away from ranges and stoves.                                           |             |               |
| 6. Bending your knees and using your legs to lift and distribute the weight when lifting heavy items. |             |               |
| 7. Wearing loose items of clothing when operating mixers.                                             |             |               |
| 8. Clearing the path you intend to take before picking up the item you intend to move.                |             |               |

9. When observing an unsafe condition, what are the three steps you should take?

**Step 1.**

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**Step 2.**

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**Step 3.**

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## Performance Evaluation

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There are no performance qualifications for this lesson; therefore, no performance evaluations are included.

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## Practicing What You Have Learned

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### **From Theory to Practice**

In order to help you put into practice what you have learned in this lesson, you must move from reading to doing. Meet with your supervisor to discuss how to practice what you have read about in this lesson.

Consult with your supervisor and do the following:

1. Define an unsafe condition
  2. Discuss how to identify unsafe conditions in the food service facility
  3. Identify any unsafe conditions in the food service facility
  4. Discuss the procedures used to respond to an unsafe condition
  5. After observing a demonstration of how to remedy unsafe conditions, under supervision practice the procedures used to remedy those conditions.
-

## Lesson Summary

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### Summary

Having completed this lesson, you can:

- Define what constitutes an unsafe condition
  - Identify unsafe conditions in the food service facility
  - Describe the procedures used to respond to an unsafe condition
  - Demonstrate the proper response to an unsafe condition
- 

### Rule of Thumb

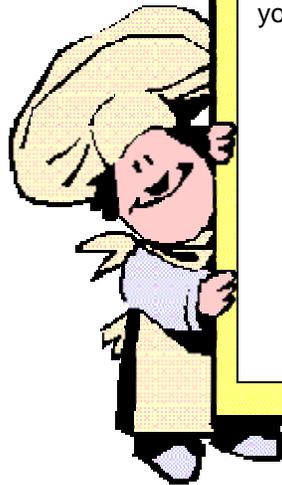
Most accidents are due to one cause—inattention. Do not take chances. Concentrate on what you are doing, and be safe.

---

### Next in this Unit

In the next lesson you will learn how to maintain the most commonly used kitchen knives. More specifically, you will learn how to sharpen and maintain:

- A chef's knife
- A boning knife
- A paring knife



## Lesson Review Feedback

**Directions**

Compare your answers in the Lesson Review to the answers below (correct answers are in **bold**). Note any differences between your answers and the text so you can learn from them and discuss them with your supervisor.

**Answers**

1. Complete the following sentence: “An unsafe condition exists when \_\_\_\_\_.”

**there is an unacceptable risk of serious or fatal injury**

2–8. Identify each of the following workplace conditions as safe or unsafe by placing an “X” in the appropriate cell. The first one has been completed for you.

| SAFE AND UNSAFE WORK PRACTICES                                                                         |          |          |
|--------------------------------------------------------------------------------------------------------|----------|----------|
| PRACTICE                                                                                               | SAFE     | UNSAFE   |
| Ex. Confirming that an exhaust fan is operating properly.                                              | <b>X</b> |          |
| 2. Using a metal object to scrape ice from salad bar coils.                                            |          | <b>X</b> |
| 3. Placing your hand on meat while the meat is being sliced using a meat slicer.                       |          | <b>X</b> |
| 4. Adjusting the meat slicer blade for the size of the cut before turning on power to the meat slicer. | <b>X</b> |          |
| 5. Keeping flammable materials away from ranges and stoves.                                            | <b>X</b> |          |
| 6. Bending your knees and using your legs to lift and distribute the weight when lifting heavy items.  | <b>X</b> |          |
| Continued next page                                                                                    |          |          |

**Lesson Review Feedback, continued**

| <b>Answers,<br/>contd.</b> | <b>PRACTICE</b>                                                                          | <b>SAFE</b> | <b>UNSAFE</b> |
|----------------------------|------------------------------------------------------------------------------------------|-------------|---------------|
|                            | 7. Wearing loose items of clothing when operating mixers.                                |             | <b>X</b>      |
|                            | 8. Clearing the path you intend to take before picking up a hot item you intend to move. | <b>X</b>    |               |

9. When observing an unsafe condition, what are the three steps you should take?

**Step 1. Recognize/identify the unsafe condition.**

**Step 2. Determine the proper response to make.**

**Step 3. Respond to the unsafe condition according to current instructions.**

## LESSON 8

### How to Sharpen and Maintain Knives

#### Introduction

---

##### Overview

This lesson explains how to sharpen and maintain knives. The focus is on the three most commonly used knives: the chef's knife, the boning knife, and the paring knife. The principles of sharpening, however, apply to any of the knives and similarly edged tools commonly used in a galley.

This section of the lesson includes:

- Performance qualifications
  - Objectives
  - Performance evaluation
  - Tools and references
  - Recommended reading
  - Topics covered by this lesson
- 

##### Performance Qualifications

This lesson addresses one Enlisted Performance Qualification (EPQ):

**4.B.02 Maintain** the following knives using a sharpening stone and steel IAW "Professional Cooking" by Wayne Gisslen:

- Chef's knife
  - Boning knife
  - Paring knife
- 

##### Objectives

Upon completion of this lesson, you will:

- Sharpen and maintain a chef's knife.
  - Sharpen and maintain a boning knife.
  - Sharpen and maintain a paring knife.
-

## Introduction, continued

---

### Performance Evaluation

There will be a performance evaluation in this lesson. This evaluation will cover the EPQ 4.B.02 listed above.

In order to prepare for this performance evaluation safely, we recommend that you read the material first, and then ask your supervisor for a demonstration of how to sharpen and maintain knives. After you have observed the demonstration, then you will practice sharpening and maintaining knives yourself.

---

### Tools and References

References for this lesson include:

- Professional Cooking*, by Wayne Gisslen
  - Unit 1, Appendix C, Glossary of Key Terms
  - Handouts
  - Tools and materials for practicing sharpening and steeling:
    - Cutting board(s)
    - Honing oil
    - Knives (including a chef's knife, boning knife, and paring knife)
    - Sharpening steel
    - Sharpening stones
    - Soft vegetables or fruits, such as tomatoes (for testing sharpness of recently sharpened knives)
    - Soft, wiping cloth
- 

### Recommended Reading

To get the most out of this lesson, be sure to read the following:

- Professional Cooking*, "Mise En Place: Using the Knife," Chapter 7
- 

### Topics Covered by This Lesson

The lesson covers the following topic areas:

- Introduction to knives, stones, and steels
  - Knife safety
  - Introduction to sharpening and maintaining knives
  - How to sharpen a knife
  - How to steel a knife
-

## Introduction to Knives, Stones, and Steels

### Overview

This section covers the following topics:

- A review of knives and metals
- Sharpening stones
- Honing oil
- Sharpening steel

### A Review of Knives and Metals

In this lesson you will work with three knives -- the three listed in the Enlisted Performance Qualification (4.B.02). Each of these knives has a different function.

Review the table below to recall these knives and their uses.

| KNIVES AND THEIR USES                                                                                                  |                                                                                                           |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| KNIFE                                                                                                                  | USE                                                                                                       |
| <p>French knife or chef's knife</p>  | <p>Most frequently used knife in the kitchen. Used for general-purpose chopping, slicing, and dicing.</p> |
| <p>Paring knife</p>                 | <p>Used for trimming and paring vegetables and fruits.</p>                                                |
| <p>Boning/Fillet knife</p>          | <p>Used for boning raw meats and poultry, and for filleting fish.</p>                                     |

Knives are made from several different types of materials. Each of these materials has different characteristics. Get to know your knives and how to maintain them, especially how long they hold an edge.

Continued next page

## Introduction to Knives, Stones, and Steels, continued

---

### A Review of Knives and Metals, contd.

Use the table below to help you recall each knife material.

| KNIFE MATERIALS AND THEIR CHARACTERISTICS |                                                                                                                                                                                   |
|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MATERIAL                                  | CHARACTERISTICS                                                                                                                                                                   |
| Carbon steel                              | <ul style="list-style-type: none"> <li>■ Can be easily honed to an extremely sharp edge</li> <li>■ Corrodes and discolors easily</li> <li>■ May leave a metallic taste</li> </ul> |
| Stainless-steel alloys                    | <ul style="list-style-type: none"> <li>■ Will not rust or corrode</li> <li>■ Harder to sharpen</li> </ul>                                                                         |
| High-carbon stainless steel               | <ul style="list-style-type: none"> <li>■ Takes an edge almost as well as carbon steel</li> <li>■ Will not rust, corrode, or discolor</li> </ul>                                   |

### Sharpening Stones

A sharpening stone is a flat piece of very hard stone with a rough surface used to grind knife edges. The roughness of the stone is called its “grit.”

The most common sharpening stone in Coast Guard dining facilities is the tri-stone. This type of stone consists of three stones, each with a different grit. These three stones are mounted in a tray on a roller that can be turned to face any of the three stones upward for sharpening.



Tri-Stone

## Introduction to Knives, Stones, and Steels, continued

---

### Honing Oil

Always apply honing oil to a stone before sharpening. The oil removes tiny metal particles from the surface of the stone, allowing the stone to sharpen more effectively.

Any mineral oil can be used to oil a sharpening stone. Never use vegetable oil on a sharpening stone.

If no honing oil is available, you can wet the stone with water. However, do not use water on a stone that has been oiled previously, and do not use oil on a stone that has been watered previously.



Honing Oil

---

### Sharpening Steels

A sharpening steel (also called a “steel”) is a roughened steel rod about 12 inches long, with a handle at one end and a slight taper at the other end. It is used for re-truing and re-aligning a knife-edge. A small guard between the rod and handle protects your hand while you use the steel.



## Knife Safety

---

### Overview

When it comes to preventing accidents with knives, being aware goes a long way. Never forget that a knife is dangerous.

This section on safe knife handling covers the following topics:

- The right tool for the right job
  - Handling a knife
  - Carrying a knife
  - Storing knives
- 

### The Right Tool for the Right Job

Every knife is crafted for a particular purpose. Study the knives presented in this guide (for reference, see Unit 2, Lesson 8) and become familiar with their uses. This will help you know which knife to choose for making a particular cut or creating a particular shape.

---

### Handling a Knife

When handling a knife, observe the following practices:

- Always grip the knife firmly, and keep your fingers away from the blade.
  - Keep the sharp edge facing away from you.
  - Do not leave knives in the sink, under a rag, or anywhere else they cannot be seen easily.
  - Move slowly and deliberately when holding a knife. Don't make sudden moves, especially if someone is nearby.
  - Cut away from your body and away from people around you.
  - If a knife falls, do not try to grab it—get out of the way.
-

## Knife Safety, continued

---

### Carrying a Knife

When carrying a knife, observe the following practices:

- Always carry a knife low and at your side, with the point down and the edge facing away from your body.
  - Verbally warn anyone nearby that you are carrying a knife.
  - Do not hold a knife when carrying other objects.
  - When handing a knife to someone,
    - Point the handle toward him or her, or
    - Place the knife on a sturdy surface and allow him or her to pick up the knife.
- 

### Storing Knives

When storing knives, follow these practices:

- Store knives in a knife rack fastened to some convenient place in the galley.
- Keep all knives in their permanent storage place.
- Keep blades protected when not in use.
- Store knives near where they are used.

**Note:** Never store knives in a drawer or with other cutlery or tools.

---

## Introduction to Sharpening and Maintaining Knives

---

### Overview

In this section, you will learn about:

- ❑ Why keep knives sharp?
  - ❑ Signs of dullness in a knife
  - ❑ Steps for sharpening a knife
- 

### Why Keep Knives Sharp?

Knives are not just sharpened in order to cut food more easily. Knives are also sharpened to:

- ❑ Prevent injuries to those using knives when cutting, mincing, slicing, and dicing food, and to
  - ❑ Improve accuracy and efficiency in cutting, mincing, slicing, and dicing food.
- 

### Signs of Dullness in a Knife

To get the most use out of knives in the galley, the knives must be kept sharp. A sharp knife is safer than a dull knife because it cuts objects more efficiently and more accurately.

Over time, a knife-edge develops tiny bends, which dull the blade and degrade the knife's cutting ability. Knives used on hard foods dull faster than knives used on soft foods.

A dull knife is a hazard and not only makes extra work for you, but forces you to press harder while cutting, increasing the danger of the knife slipping and causing injury or harm.

Signs of dullness in a knife include:

- ❑ Cutting requires more effort
- ❑ The knife 'tears' the food instead of making a straight, smooth cut

Recognizing that a knife is dull is the first step in sharpening a knife.

---

## **Introduction to Sharpening and Maintaining Knives, continued**

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### **Steps for Sharpening and Maintaining Knives**

Sharpening and maintaining knives requires several steps:

1. Testing the knife for sharpness (to determine whether the knife needs to be sharpened)
2. Obtaining and preparing the knife-sharpening supplies
3. Sharpening the knife
4. Steeling the knife
5. Storing the knife

In the next section you will learn more about these steps.

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## How to Sharpen a Knife

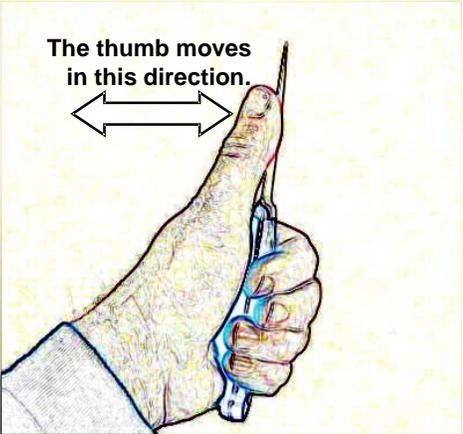
### Overview

This section covers:

- ❑ Testing the blade for sharpness
- ❑ Obtaining and preparing sharpening supplies
- ❑ Preparing the sharpening stone
- ❑ Positioning the blade
- ❑ Sharpening the knife

### Testing the Blade for Sharpness

To test the blade for sharpness, follow the procedure below.

| <b>TESTING THE BLADE FOR SHARPNESS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                     |         |                             |                    |                                      |                     |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------|-----------------------------|--------------------|--------------------------------------|---------------------|--|
| <b>STEP</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>ACTION</b>                                                                       |         |                             |                    |                                      |                     |  |
| <p>1.</p> <p>Touch the tip of your thumb to the edge. Rub your thumb <b>ACROSS</b> the edge.</p> <p><b>Note:</b> Never run your thumb along the edge. Even a dull knife can cut skin.</p>                                                                                                                                                                                                                                                                                                                                                                            |  |         |                             |                    |                                      |                     |  |
| <p>2.</p> <p>Determine the sharpness of the blade:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">IF YOUR THUMB...</th> <th style="text-align: center;">THEN...</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Slides easily off the edge,</td> <td style="text-align: center;">The blade is dull.</td> </tr> <tr> <td style="text-align: center;">‘Catches’ slightly against the edge,</td> <td style="text-align: center;">The blade is sharp.</td> </tr> </tbody> </table> | IF YOUR THUMB...                                                                    | THEN... | Slides easily off the edge, | The blade is dull. | ‘Catches’ slightly against the edge, | The blade is sharp. |  |
| IF YOUR THUMB...                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | THEN...                                                                             |         |                             |                    |                                      |                     |  |
| Slides easily off the edge,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | The blade is dull.                                                                  |         |                             |                    |                                      |                     |  |
| ‘Catches’ slightly against the edge,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | The blade is sharp.                                                                 |         |                             |                    |                                      |                     |  |
| Continued next page                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                     |         |                             |                    |                                      |                     |  |

## How to Sharpen a Knife, continued

### Testing the Blade for Sharpness, contd.

| STEP             | ACTION                                                                                  |                                                                                                 |
|------------------|-----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| 3.               | Test several places along the edge to ensure the edge is sharp along its entire length: |                                                                                                 |
|                  | IF...                                                                                   | THEN...                                                                                         |
|                  | The edge is sharp along its entire length,                                              | The knife was sharpened evenly. Return knife, steel, and used cloth to their proper locations.  |
|                  | The edge is sharp in some places and dull in others,                                    | The knife was sharpened unevenly. Sharpen again, using even pressure through the entire stroke. |
| End of procedure |                                                                                         |                                                                                                 |

### Obtaining and Preparing Sharpening Supplies

Before sharpening a knife using a sharpening stone, obtain the following supplies:

- The knife to be sharpened
- A sharpening stone
- Honing oil
- A clean, dry cloth

### Preparing the Sharpening Stone

Once the sharpening tools and materials have been obtained, the next step is to prepare the sharpening stone for sharpening. Follow the procedure below:

| PREPARING THE SHARPENING STONE |                                                                                       |
|--------------------------------|---------------------------------------------------------------------------------------|
| STEP                           | ACTION                                                                                |
| 1.                             | Place the sharpening stone on a flat, un-obscured surface.                            |
| 2.                             | If the stone slides, wet a paper or cloth towel, and place the towel under the stone. |
| 3.                             | Turn the coarse side of the stone up.                                                 |
| Continued next page            |                                                                                       |

## How to Sharpen a Knife, continued

### Preparing the Sharpening Stone, contd.

| STEP             | ACTION                                                                                                   |
|------------------|----------------------------------------------------------------------------------------------------------|
| 4.               | Apply honing oil to the face of the sharpening stone you will use. Use no more than a tablespoon of oil. |
| 5.               | Use the back of the knife or a cloth to spread the oil over the stone.                                   |
| End of procedure |                                                                                                          |

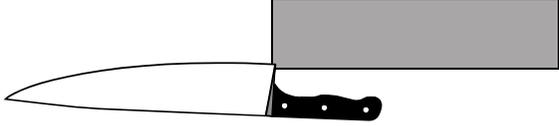
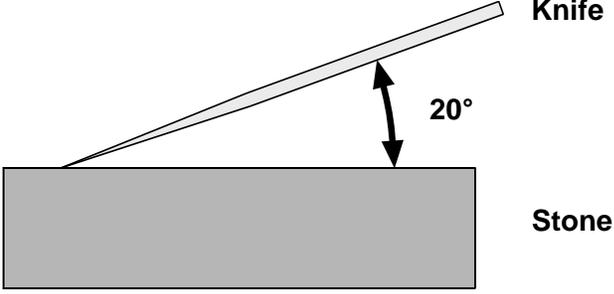
### Positioning the Blade

Before sharpening a knife using a sharpening stone, follow the procedure below. Begin with a prepared stone and a knife that needs sharpening.

| POSITIONING THE BLADE                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |       |         |                                       |                                           |                                                            |                                           |                                                            |                                         |
|------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|---------|---------------------------------------|-------------------------------------------|------------------------------------------------------------|-------------------------------------------|------------------------------------------------------------|-----------------------------------------|
| STEP                                                       | ACTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |       |         |                                       |                                           |                                                            |                                           |                                                            |                                         |
| 1.                                                         | Stand directly in front of the stone, facing it fully, about half an arm's length away.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |       |         |                                       |                                           |                                                            |                                           |                                                            |                                         |
| 2.                                                         | Expose the proper face of the stone: <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 50%;">IF...</th> <th style="width: 50%;">THEN...</th> </tr> </thead> <tbody> <tr> <td>You have not yet sharpened the knife,</td> <td>Turn the stone to expose the coarse face.</td> </tr> <tr> <td>You have last sharpened the knife against the coarse face,</td> <td>Turn the stone to expose the medium face.</td> </tr> <tr> <td>You have last sharpened the knife against the medium face,</td> <td>Turn the stone to expose the fine face.</td> </tr> </tbody> </table> | IF... | THEN... | You have not yet sharpened the knife, | Turn the stone to expose the coarse face. | You have last sharpened the knife against the coarse face, | Turn the stone to expose the medium face. | You have last sharpened the knife against the medium face, | Turn the stone to expose the fine face. |
| IF...                                                      | THEN...                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |       |         |                                       |                                           |                                                            |                                           |                                                            |                                         |
| You have not yet sharpened the knife,                      | Turn the stone to expose the coarse face.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       |         |                                       |                                           |                                                            |                                           |                                                            |                                         |
| You have last sharpened the knife against the coarse face, | Turn the stone to expose the medium face.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |       |         |                                       |                                           |                                                            |                                           |                                                            |                                         |
| You have last sharpened the knife against the medium face, | Turn the stone to expose the fine face.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |       |         |                                       |                                           |                                                            |                                           |                                                            |                                         |
| Continued next page                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |       |         |                                       |                                           |                                                            |                                           |                                                            |                                         |

## How to Sharpen a Knife, continued

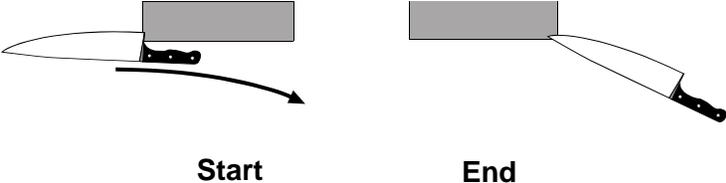
**Positioning the Blade, contd.**

| STEP                    | ACTION                                                                                                                                                                                                                                                                                                                                    |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3.                      | <p>Holding the knife firmly by the handle, touch the fingertips of your other hand (the “guiding hand”) to the back of the blade.</p> <p><b>Note:</b> Because the slicing knife is longer than most other knives, it bends more easily. When sharpening a slicing knife, position the guiding hand closer to the middle of the blade.</p> |
| 4.                      | <p>Holding the blade level with the top surface of the stone, touch the heel of the blade to a near corner of the stone.</p> <div style="text-align: center;">  <p><b>Knife and Stone Viewed from Above</b></p> </div>                                  |
| 5.                      | <p>Keeping the blade level with the top surface of the stone, raise the back of the blade, forming a 20-degree angle with the stone.</p> <div style="text-align: center;">  <p><b>Knife and Stone Viewed End-On</b></p> </div>                        |
| <p>End of procedure</p> |                                                                                                                                                                                                                                                                                                                                           |

## How to Sharpen a Knife, continued

### Sharpening the Knife

To sharpen a knife using a sharpening stone, follow the procedure below.

| <b>SHARPENING THE KNIFE</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>STEP</b>                 | <b>ACTION</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 1.                          | <p>Keep the knife at a 20-degree angle to the sharpening stone, and draw the knife over the sharpening stone in a light, even stroke, starting with the heel of the knife and continuing to the tip.</p> <div style="text-align: center;">  </div> <p>Draw the entire knife along the stone to sharpen the knife evenly and smoothly and cause the stone to wear uniformly.</p> <p><b>Note:</b> Use your guiding hand to apply light, even pressure to the back of the blade. Do not press on the side of the blade, as this causes uneven sharpening.</p> <p>Listen to the scraping sound the knife makes against the stone. If you are keeping the knife angle constant, this sound does not rise or fall.</p> |
| 2.                          | <p>Repeat the previous step 5 or 6 times.</p> <p><b>Note:</b> Sharpen in one direction only.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Continued next page         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

## How to Sharpen a Knife, continued

|                                     |                                                                                                                                                                               |                                                                                                |                                                                                                                      |
|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| <b>Sharpening the Knife, contd.</b> | <b>STEP</b>                                                                                                                                                                   | <b>ACTION</b>                                                                                  |                                                                                                                      |
|                                     | 3.                                                                                                                                                                            | Examine the edge.                                                                              |                                                                                                                      |
|                                     |                                                                                                                                                                               | <b>IF...</b>                                                                                   | <b>THEN...</b>                                                                                                       |
|                                     |                                                                                                                                                                               | Grit or scratches appear on the flat of the blade,                                             | Your angle is too shallow. Wipe the blade and sharpen again, keeping a 20-degree angle against the sharpening stone. |
|                                     |                                                                                                                                                                               | Grit appears only on the edge of the blade, and the flat of the blade is clean and smooth,     | Your angle is correct. Continue to the next step.                                                                    |
|                                     | 4.                                                                                                                                                                            | Repeat steps 1 through 3 for the other side of the knife blade for the same number of strokes. |                                                                                                                      |
| 5.                                  | Turn the medium side of the stone up, and repeat steps 1 through 4. Because the knife retains a small amount of oil, it is not necessary to oil the medium side of the stone. |                                                                                                |                                                                                                                      |
| 6.                                  | Turn the fine side of the stone up, and repeat steps 1 through 4. Because the knife retains a small amount of oil, it is not necessary to oil the fine side of the stone.     |                                                                                                |                                                                                                                      |
| End of procedure                    |                                                                                                                                                                               |                                                                                                |                                                                                                                      |

**Key points:**

- Sharpen knives often , even if they have not been used since the last sharpening.
- When a knife becomes dull, it must be reshaped back into a sharp edge. This is done by grinding the knife against a very hard stone to remove a very small amount of steel off the edge.

## How to Steel a Knife

---

### Overview

This section covers:

- What does it mean to “steel” a knife?
  - Truing a knife
  - Maintaining a knife
  - Positioning the steel
  - Steeling a knife
- 

### What Does It Mean to “Steel” a Knife?

Steeling a knife is not taking a knife that doesn’t belong to you. Nor is it a substitute for sharpening. To “steel” a knife means, essentially, to give the knife an edge or a point. Steeling a knife may be done to:

- “True” a knife blade (if done immediately after sharpening), or
  - “Maintain” a knife blade (if done between sharpenings).
- 

### Truing a Knife

When done after sharpening, steeling removes metal particles that remain on the edge. It also straightens out small bends in the edge that may remain after sharpening, making a sharper edge than can be made by sharpening alone.

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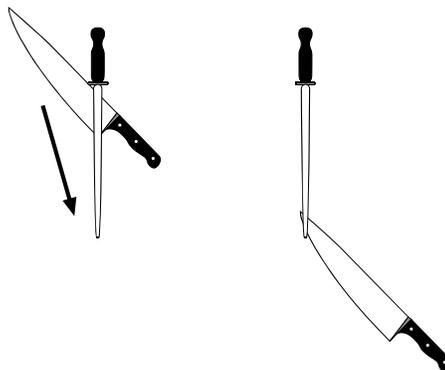
### Maintaining a Knife

When done between sharpenings, steeling straightens out small bends in the edge that develop with use, repairing them before they become serious enough to require sharpening. Because steeling does not take metal off the blade like sharpening does, this practice lengthens the life of your knives.

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### Positioning the Steel

There are several ways to position the steel. Choose a position that is comfortable for you. Each of the positions shown below is acceptable.

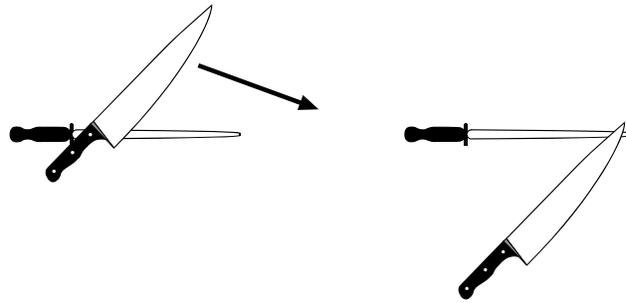


Holding the Steel Vertically

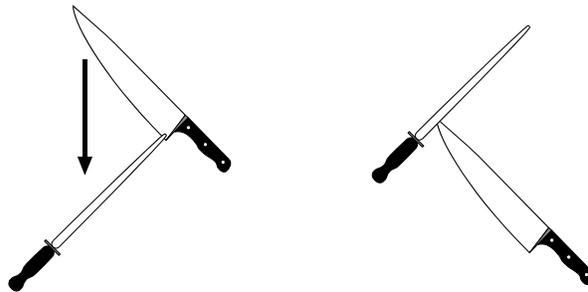
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## How to Steel a Knife, continued

### Positioning the Steel, contd.



Holding the Steel Horizontally



Holding the Steel Diagonally

### Steeling a Knife

To steel a knife, follow the procedure below.

| HOW TO STEEL A KNIFE |                                                                                                                                                                                                                                              |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| STEP                 | ACTION                                                                                                                                                                                                                                       |
| 1.                   | Hold the steel firmly, thumb on the top of the handle under the guard, with the point upward and slightly away from the body.                                                                                                                |
| 2.                   | If necessary, turn the steel so the guard protects your hand.                                                                                                                                                                                |
| 3.                   | Touch the heel of the blade to one end of the steel.                                                                                                                                                                                         |
| 4.                   | Angle the blade to meet the steel at an angle of about 20 degrees.                                                                                                                                                                           |
| 5.                   | With a quick sweeping motion, pass the knife lightly along the steel at a 20-degree angle to the steel starting with the heel of the blade and continuing to the tip.<br><br><b>Note:</b> Do not allow the blade to touch the steel's guard. |
| Continued next page  |                                                                                                                                                                                                                                              |

## How to Steel a Knife, continued

### Steeling a Knife, contd.

| STEP             | ACTION                                                     |
|------------------|------------------------------------------------------------|
| 6.               | Repeat steps 3 through 5 for the other side of the blade.  |
| 7.               | Repeat steps 3 through 6 five to six times.                |
| 8.               | Carefully wipe the blade to remove oil and metal shavings. |
| End of procedure |                                                            |

#### Key points:

- ❑ Steel knives after sharpening, and several times a day, especially when changing stations.
- ❑ Wiping a knife may be done immediately after sharpening and steeling a knife or simply as a light cleaning between tasks several times a day (to remove debris from a previous operation). Wiping a knife only removes debris from the blade; it does not sanitize the knife.

## Lesson Review

---

**Purpose** The intention of this exercise is to help you confirm what you have learned about how to sharpen and maintain knives.

---

**Directions** Test your knowledge of the concepts and principles of this lesson by choosing the best, most correct answer to each question below. Some questions require you to create an answer. Use the lesson material and references to assist you as necessary.

When you have finished answering the questions, compare your answers to the correct answers in the “Lesson Review Feedback” section at the end of this lesson. Note any differences between your answers and the correct ones so you can learn from them, and discuss them when you meet with your supervisor.

---

**Questions** 1. Explain at least two proper ways to hand a knife to someone else.

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2–6. Which of the following behaviors are safe knife practices?

| SAFE OR UNSAFE?                                                           |      |        |
|---------------------------------------------------------------------------|------|--------|
| BEHAVIOR                                                                  | SAFE | UNSAFE |
| Ex. Testing the edge of a blade for sharpness using your thumb            | X    |        |
| 2. Leaving a knife to soak in soapy water                                 |      |        |
| 3. Carrying a knife with the sharp edge of the blade facing away from you |      |        |
| 4. Pointing a knife toward another person                                 |      |        |
| 5. Holding a knife while carrying other objects                           |      |        |
| 6. Cutting in a direction away from your body                             |      |        |

Continued next page

**Lesson Review, continued**

---

**Questions,  
contd.**

7. When your finger slides easily across the edge of a knife, the knife is sharp.
    - a. True
    - b. False
  8. Which of the following is a butcher's steel used for?
    - a. Maintaining a knife edge between sharpening activities
    - b. Preparing a sharpening stone for use
    - c. Refining a knife edge after sharpening
    - d. A and C
  9. When sharpening a knife, you will use the faces of the sharpening stone in this order: \_\_\_\_\_, \_\_\_\_\_, and then \_\_\_\_\_.
    - a. coarse, fine, medium
    - b. coarse, medium, fine
    - c. fine, coarse, medium
    - a. fine, medium, coarse
-

## Practicing What You Have Learned

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### Overview

This lesson covers material associated with one EPQ, so there is one performance evaluation for you to complete. Before you attempt to pass the performance evaluation, however, we recommend that you practice the core tasks of the lesson:

- ❑ Sharpening\* and maintaining:
  - A chef's knife
  - A boning knife
  - A paring knife

\* When you have completed the practice, all three knives should be sharp enough to cut a soft fruit or vegetable to your supervisor's satisfaction. Cuts should be straight and clean, and require only light pressure.

---

### Practicing the Core Tasks

Once you have finished reading the lesson and have completed the lesson review, you should meet with your supervisor and observe a demonstration of the core tasks listed above.

After observing the demonstration, you should, under supervision, perform the tasks yourself and receive corrective feedback about your performance from your supervisor.

---

### Paying Attention

During the sharpening practice, pay careful attention to:

- ❑ Maintaining control of the blade at all times
  - ❑ Positioning of the stone and the blade
  - ❑ Positioning of the steel and the blade
  - ❑ Direction of the blade (edge away from you)
  - ❑ The angle of the blade against the stone
  - ❑ The angle of the blade against the steel
  - ❑ The direction and angle of your stroke against the stone
  - ❑ The direction and angle of your stroke against the steel
  - ❑ The amount of pressure on the blade
  - ❑ Using the same number of strokes for each side of the blade
  - ❑ Using the entire length of both the blade and the stone
  - ❑ Keeping the blade away from the steel's guard
-

## Performance Evaluation

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Once you have completed this lesson—meaning you have read the material, completed the lesson review, observed demonstrations of the core tasks, and then practiced the core tasks enough to be moderately competent in them—you are ready to demonstrate the tasks for sign-off.

Your supervisor will discuss this sign-off process with you. It will involve your demonstrating the core tasks under the supervisor’s observation, so that he or she can determine whether or not you are able to perform the tasks in a satisfactory manner. Using the Performance Evaluation sheets as a guide, he or she will mark “go” for tasks you perform well and “no go” for tasks where you need improvement. Performing the core tasks well enough to receive a “go” from your supervisor will mean that you met the Enlisted Performance Qualification (EPQ) associated with the lesson. If you receive a “no go,” you must practice the core tasks, receive feedback, and practice again until you are able to perform the tasks well enough for sign-off.

The EPQs/core tasks for this lesson are:

- 4.B.02 – Sharpen and maintain the following knives:
    - Chef’s knife
    - Boning knife
    - Paring knife
-

## Lesson Summary

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### Summary

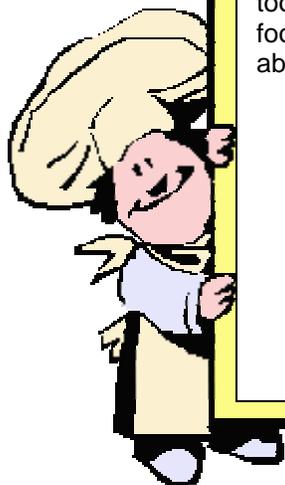
Congratulations! You have finished the last lesson of Unit 3. Having completed this lesson, you can:

- ❑ Sharpen and maintain a chef's knife.
  - ❑ Sharpen and maintain a boning knife.
  - ❑ Sharpen and maintain a paring knife.
- 

### Next in this Course

In the next unit, Unit 4, you will learn the terminology, tools, references, processes, and procedures used in food preparation. More specifically, you will learn about:

- Planning and organizing production
- The physical process of cooking
- Flavoring and seasoning
- Converting recipes
- Basic food preparation and cutting techniques



## Lesson Review Feedback

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**Directions**

Compare your answers in the “Lesson Review” to the answers below (correct answers are in **bold**). Note any differences between your answers and the text so you can learn from them and discuss them with your supervisor.

---

**Answers**

1. Explain at least two proper ways to hand a knife to someone else.

**Hand the knife to the other person with the handle towards them – or – Place the knife on a sturdy surface and allow them to pick up the knife.**

---

- 2–6. Which of the following behaviors are safe knife practices?

| SAFE OR UNSAFE?                                                           |          |          |
|---------------------------------------------------------------------------|----------|----------|
| BEHAVIOR                                                                  | SAFE     | UNSAFE   |
| Ex. Testing the edge of a blade for sharpness using your thumb            | <b>X</b> |          |
| 2. Leaving a knife to soak in soapy water                                 |          | <b>X</b> |
| 3. Carrying a knife with the sharp edge of the blade facing away from you | <b>X</b> |          |
| 4. Pointing a knife toward another person                                 |          | <b>X</b> |
| 5. Holding a knife while carrying other objects                           |          | <b>X</b> |
| 6. Cutting in a direction away from your body                             | <b>X</b> |          |

7. When your finger slides easily across the edge of a knife, the knife is sharp.
  - a. True
  - b. False**

Continued next page

## Lesson Review Feedback, continued

---

**Answers,  
contd.**

8. Which of the following is a butcher's steel used for?
    - a. Maintaining a knife edge between sharpening activities
    - b. Preparing a sharpening stone for use
    - c. Refining a knife edge after sharpening
    - d. A and C**
  
  9. When sharpening a knife, you will use the faces of the sharpening stone in this order: \_\_\_\_\_, \_\_\_\_\_, and then \_\_\_\_\_.
    - a. coarse, fine, medium
    - b. coarse, medium, fine**
    - c. fine, coarse, medium
    - d. fine, medium, coarse
-

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**PERFORMANCE EVALUATION 3.8.1****Sharpen and Maintain Knives**

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|                          |                                                                                                                                                                                                                                                                                                                               |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Goal</b>              | <p>The student will perform the following:</p> <ul style="list-style-type: none"><li>• Sharpen a chef’s knife</li><li>• Maintain (steel) a chef’s knife</li><li>• Sharpen a boning knife</li><li>• Maintain (steel) a boning knife</li><li>• Sharpen a paring knife</li><li>• Maintain (steel) a paring knife</li></ul> <hr/> |
| <b>Process</b>           | <p>Given a chef’s knife, boning knife, or paring knife needing sharpening, you will sharpen and maintain the knife.</p> <hr/>                                                                                                                                                                                                 |
| <b>Directions</b>        | <p>Using the tools and materials provided by the supervisor, you will:</p>                                                                                                                                                                                                                                                    |
| <b>Hands–On Practice</b> | <ol style="list-style-type: none"><li>1. Test the knife for sharpness.</li><li>2. Prepare the sharpening stone.</li><li>3. Sharpen the knife.</li><li>4. Steel the knife.</li><li>5. Wipe the knife.</li></ol> <hr/>                                                                                                          |
| <b>Checklist</b>         | <p>Fill in your name on the Unit 3 Performance Evaluation Checklists and hand them to your supervisor prior to completing the hands-on exercise.</p> <hr/>                                                                                                                                                                    |
| <b>Feedback</b>          | <p>Your supervisor will review your performance for accuracy and completeness and provide any comments directly to you.</p> <hr/>                                                                                                                                                                                             |

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### PERFORMANCE EVALUATION 3.8.1A

#### Sharpen and Maintain a Chef's Knife

|                                                                                                                                                              |                                                                                                           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| <b>Location</b><br><hr style="border: 0; border-top: 1px solid black; margin: 2px 0;"/> <hr style="border: 0; border-top: 1px solid black; margin: 2px 0;"/> | <b>Completed by:</b> _____ <b>Reviewed by:</b> _____<br>(Enter your name) (Obtain Supervisor's signature) |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|

**EPQ**  
**4.B.02 MAINTAIN** the following knives using a sharpening stone and steel IAW "Professional Cooking" by Wayne Gisslen:

- Chef's knife
- Boning knife
- Paring knife

- |                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Criteria</b><br><u>Accuracy:</u> <ul style="list-style-type: none"> <li>• Proper equipment selected 100% of the time.</li> <li>• Knife sharpened using a sharpening stone</li> <li>• Knife maintained using a butcher's steel</li> </ul> | <u>Safety:</u> <ul style="list-style-type: none"> <li>• Follow safety procedures correctly when handling knives.</li> <li>• Knife sharpened and maintained correctly 100% of the time.</li> <li>• Proper equipment selected 100% of the time.</li> </ul> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| <b>TASK</b>                                                                                              | <b>COMMENTS</b>               |                          |                               |                          |                               |                |                               |                          |                               |                          |                               |                |
|----------------------------------------------------------------------------------------------------------|-------------------------------|--------------------------|-------------------------------|--------------------------|-------------------------------|----------------|-------------------------------|--------------------------|-------------------------------|--------------------------|-------------------------------|----------------|
|                                                                                                          | <b>1<sup>st</sup> Attempt</b> |                          | <b>2<sup>nd</sup> Attempt</b> |                          | <b>3<sup>rd</sup> Attempt</b> |                | <b>1<sup>st</sup> Attempt</b> |                          | <b>2<sup>nd</sup> Attempt</b> |                          | <b>3<sup>rd</sup> Attempt</b> |                |
|                                                                                                          | Y                             | N                        | ____/____/____                | Y                        | N                             | ____/____/____ | Y                             | N                        | ____/____/____                | Y                        | N                             | ____/____/____ |
| 1. The performer gathered the tools and equipment to be used.                                            | <input type="checkbox"/>      | <input type="checkbox"/> |                               | <input type="checkbox"/> | <input type="checkbox"/>      |                | <input type="checkbox"/>      | <input type="checkbox"/> |                               | <input type="checkbox"/> | <input type="checkbox"/>      |                |
| 2. The performer properly prepared the sharpening stone.                                                 | <input type="checkbox"/>      | <input type="checkbox"/> |                               | <input type="checkbox"/> | <input type="checkbox"/>      |                | <input type="checkbox"/>      | <input type="checkbox"/> |                               | <input type="checkbox"/> | <input type="checkbox"/>      |                |
| 3. The performer stood directly in front of the stone, facing it fully, about half an arm's length away. | <input type="checkbox"/>      | <input type="checkbox"/> |                               | <input type="checkbox"/> | <input type="checkbox"/>      |                | <input type="checkbox"/>      | <input type="checkbox"/> |                               | <input type="checkbox"/> | <input type="checkbox"/>      |                |
| 4. The performer exposed the proper face of the stone.                                                   | <input type="checkbox"/>      | <input type="checkbox"/> |                               | <input type="checkbox"/> | <input type="checkbox"/>      |                | <input type="checkbox"/>      | <input type="checkbox"/> |                               | <input type="checkbox"/> | <input type="checkbox"/>      |                |

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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                           |                          |  |                          |                          |  |                          |                          |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------------|--|--------------------------|--------------------------|--|--------------------------|--------------------------|--|
| <b>Location</b><br>_____<br>_____                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Completed by:</b> _____ <b>Reviewed by:</b> _____<br>(Enter your name) (Obtain Supervisor's signature) |                          |  |                          |                          |  |                          |                          |  |
| 5. The performer held the knife firmly by the handle and then touched h/her fingertips of the other hand (the "guiding hand") to the back of the blade.                                                                                                                                                                                                                                                                                                                                               | <input type="checkbox"/>                                                                                  | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 6. The performer held the blade level with the top surface of the stone and then touched the heel of the blade to a near corner of the stone.                                                                                                                                                                                                                                                                                                                                                         | <input type="checkbox"/>                                                                                  | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 7. While keeping the blade level with the top surface of the stone, the performer raised the back of the blade, forming a 20-degree angle with the stone.                                                                                                                                                                                                                                                                                                                                             | <input type="checkbox"/>                                                                                  | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 8. While keeping the knife at a 20-degree angle to the sharpening stone, the performer drew the knife over the sharpening stone in a light, even stroke, starting with the heel of the knife and continuing to the tip.                                                                                                                                                                                                                                                                               | <input type="checkbox"/>                                                                                  | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 9. Sharpening in only one direction, the performer repeated step 7 five or six times.                                                                                                                                                                                                                                                                                                                                                                                                                 | <input type="checkbox"/>                                                                                  | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| 10. The performer examined the edge of the blade. <ul style="list-style-type: none"> <li>• If s/he found grit or scratches on the flat of the blade, s/he noted that the angle was too shallow, wiped the blade, and sharpened again, this time keeping a 20-degree angle against the sharpening stone.</li> <li>• If s/he found grit only on the edge of the blade, and the flat of the blade was clean and smooth, s/he noted that the angle was correct and continued to the next step.</li> </ul> | <input type="checkbox"/>                                                                                  | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |  |
| continued next page                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                           |                          |  |                          |                          |  |                          |                          |  |

|                                                                                                                                                                                                                                                                                                                          |                                                                                                           |                          |  |                                                               |                          |  |                                                               |                          |  |  |  |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------------|--|---------------------------------------------------------------|--------------------------|--|---------------------------------------------------------------|--------------------------|--|--|--|--|
| <b>Location</b><br>_____<br>_____                                                                                                                                                                                                                                                                                        | <b>Completed by:</b> _____ <b>Reviewed by:</b> _____<br>(Enter your name) (Obtain Supervisor's signature) |                          |  |                                                               |                          |  |                                                               |                          |  |  |  |  |
| 11. The performer repeated steps 7 through 9 for the other side of the knife blade for the same number of strokes.                                                                                                                                                                                                       | <input type="checkbox"/>                                                                                  | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  |  |  |  |
| 12. The performer turned the medium side of the stone up, and repeated steps 7 through 10.                                                                                                                                                                                                                               | <input type="checkbox"/>                                                                                  | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  |  |  |  |
| 13. The performer turned the fine side of the stone up, and repeated steps 7 through 10.                                                                                                                                                                                                                                 | <input type="checkbox"/>                                                                                  | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  |  |  |  |
| 14. The performer picked up a steel and held it firmly, thumb on the top of the handle under the guard, with the point upward and slightly away from the body.                                                                                                                                                           | <input type="checkbox"/>                                                                                  | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  |  |  |  |
| 15. If necessary, the performer turned the steel so the guard protected h/her hand.                                                                                                                                                                                                                                      | <input type="checkbox"/>                                                                                  | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  |  |  |  |
| 16. The performer touched the heel of the blade to one end of the steel, angled the blade to meet the steel at an angle of about 20 degrees, and with a quick sweeping motion, passed the knife lightly along the steel at a 20-degree angle to the steel starting with the heel of the blade and continuing to the tip. | <input type="checkbox"/>                                                                                  | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  |  |  |  |
| 17. The performer repeated step 16 for the other side of the blade.                                                                                                                                                                                                                                                      | <input type="checkbox"/>                                                                                  | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  |  |  |  |
| 18. The performer repeated steps 16 and 17 five to six times.                                                                                                                                                                                                                                                            | <input type="checkbox"/>                                                                                  | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                          | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go                                             |                          |  | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go |                          |  | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go |                          |  |  |  |  |

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## PERFORMANCE EVALUATION 3.8.1B

### Sharpen and Maintain a Boning Knife

|                                                                                                                                                              |                                                                                                           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| <b>Location</b><br><hr style="border: 0; border-top: 1px solid black; margin: 2px 0;"/> <hr style="border: 0; border-top: 1px solid black; margin: 2px 0;"/> | <b>Completed by:</b> _____ <b>Reviewed by:</b> _____<br>(Enter your name) (Obtain Supervisor's signature) |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|

**EPQ**  
**4.B.02 MAINTAIN** the following knives using a sharpening stone and steel IAW "Professional Cooking" by Wayne Gisslen:

- Chef's knife
- Boning knife
- Paring knife

|                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Criteria</b><br><u>Accuracy:</u> <ul style="list-style-type: none"> <li>• Proper equipment selected 100% of the time.</li> <li>• Knife sharpened using a sharpening stone</li> <li>• Knife maintained using a butcher's steel</li> </ul> | <u>Safety:</u> <ul style="list-style-type: none"> <li>• Follow safety procedures correctly when handling knives.</li> <li>• Knife sharpened and maintained correctly 100% of the time.</li> <li>• Proper equipment selected 100% of the time.</li> </ul> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| <b>TASK</b>                                                                                              | <b>COMMENTS</b>               |                          |                               |                          |                               |                        |                          |                          |                        |  |
|----------------------------------------------------------------------------------------------------------|-------------------------------|--------------------------|-------------------------------|--------------------------|-------------------------------|------------------------|--------------------------|--------------------------|------------------------|--|
|                                                                                                          | <b>1<sup>st</sup> Attempt</b> |                          | <b>2<sup>nd</sup> Attempt</b> |                          | <b>3<sup>rd</sup> Attempt</b> |                        |                          |                          |                        |  |
|                                                                                                          | Y                             | N                        | ____/____/____<br>Date        | Y                        | N                             | ____/____/____<br>Date | Y                        | N                        | ____/____/____<br>Date |  |
| 1. The performer gathered the tools and equipment to be used.                                            | <input type="checkbox"/>      | <input type="checkbox"/> |                               | <input type="checkbox"/> | <input type="checkbox"/>      |                        | <input type="checkbox"/> | <input type="checkbox"/> |                        |  |
| 2. The performer properly prepared the sharpening stone.                                                 | <input type="checkbox"/>      | <input type="checkbox"/> |                               | <input type="checkbox"/> | <input type="checkbox"/>      |                        | <input type="checkbox"/> | <input type="checkbox"/> |                        |  |
| 3. The performer stood directly in front of the stone, facing it fully, about half an arm's length away. | <input type="checkbox"/>      | <input type="checkbox"/> |                               | <input type="checkbox"/> | <input type="checkbox"/>      |                        | <input type="checkbox"/> | <input type="checkbox"/> |                        |  |
| 4. The performer exposed the proper face of the stone.                                                   | <input type="checkbox"/>      | <input type="checkbox"/> |                               | <input type="checkbox"/> | <input type="checkbox"/>      |                        | <input type="checkbox"/> | <input type="checkbox"/> |                        |  |

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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                           |                          |  |                          |                          |  |                          |                          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------------|--|--------------------------|--------------------------|--|--------------------------|--------------------------|
| <b>Location</b><br>_____<br>_____                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Completed by:</b> _____ <b>Reviewed by:</b> _____<br>(Enter your name) (Obtain Supervisor's signature) |                          |  |                          |                          |  |                          |                          |
| 5. The performer held the knife firmly by the handle and then touched h/her fingertips of the other hand (the "guiding hand") to the back of the blade.                                                                                                                                                                                                                                                                                                                                               | <input type="checkbox"/>                                                                                  | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. The performer held the blade level with the top surface of the stone and then touched the heel of the blade to a near corner of the stone.                                                                                                                                                                                                                                                                                                                                                         | <input type="checkbox"/>                                                                                  | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. While keeping the blade level with the top surface of the stone, the performer raised the back of the blade, forming a 20-degree angle with the stone.                                                                                                                                                                                                                                                                                                                                             | <input type="checkbox"/>                                                                                  | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. While keeping the knife at a 20-degree angle to the sharpening stone, the performer drew the knife over the sharpening stone in a light, even stroke, starting with the heel of the knife and continuing to the tip.                                                                                                                                                                                                                                                                               | <input type="checkbox"/>                                                                                  | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. Sharpening in only one direction, the performer repeated step 7 five or six times.                                                                                                                                                                                                                                                                                                                                                                                                                 | <input type="checkbox"/>                                                                                  | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. The performer examined the edge of the blade. <ul style="list-style-type: none"> <li>• If s/he found grit or scratches on the flat of the blade, s/he noted that the angle was too shallow, wiped the blade, and sharpened again, this time keeping a 20-degree angle against the sharpening stone.</li> <li>• If s/he found grit only on the edge of the blade, and the flat of the blade was clean and smooth, s/he noted that the angle was correct and continued to the next step.</li> </ul> | <input type="checkbox"/>                                                                                  | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |
| Continued next page                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                           |                          |  |                          |                          |  |                          |                          |

|                                                                                                                                                                                                                                                                                                                          |                                                                                                           |                          |  |                                                               |                          |  |                                                               |                          |  |  |  |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------------|--|---------------------------------------------------------------|--------------------------|--|---------------------------------------------------------------|--------------------------|--|--|--|--|
| <b>Location</b><br>_____<br>_____                                                                                                                                                                                                                                                                                        | <b>Completed by:</b> _____ <b>Reviewed by:</b> _____<br>(Enter your name) (Obtain Supervisor's signature) |                          |  |                                                               |                          |  |                                                               |                          |  |  |  |  |
| 11. The performer repeated steps 7 through 9 for the other side of the knife blade for the same number of strokes.                                                                                                                                                                                                       | <input type="checkbox"/>                                                                                  | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  |  |  |  |
| 12. The performer turned the medium side of the stone up, and repeated steps 7 through 10.                                                                                                                                                                                                                               | <input type="checkbox"/>                                                                                  | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  |  |  |  |
| 13. The performer turned the fine side of the stone up, and repeated steps 7 through 10.                                                                                                                                                                                                                                 | <input type="checkbox"/>                                                                                  | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  |  |  |  |
| 14. The performer picked up a steel and held it firmly, thumb on the top of the handle under the guard, with the point upward and slightly away from the body.                                                                                                                                                           | <input type="checkbox"/>                                                                                  | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  |  |  |  |
| 15. If necessary, the performer turned the steel so the guard protected h/her hand.                                                                                                                                                                                                                                      | <input type="checkbox"/>                                                                                  | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  |  |  |  |
| 16. The performer touched the heel of the blade to one end of the steel, angled the blade to meet the steel at an angle of about 20 degrees, and with a quick sweeping motion, passed the knife lightly along the steel at a 20-degree angle to the steel starting with the heel of the blade and continuing to the tip. | <input type="checkbox"/>                                                                                  | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  |  |  |  |
| 17. The performer repeated step 16 for the other side of the blade.                                                                                                                                                                                                                                                      | <input type="checkbox"/>                                                                                  | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  |  |  |  |
| 18. The performer repeated steps 16 and 17 five to six times.                                                                                                                                                                                                                                                            | <input type="checkbox"/>                                                                                  | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                          | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go                                             |                          |  | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go |                          |  | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go |                          |  |  |  |  |

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## PERFORMANCE EVALUATION 3.8.1C

### Sharpen and Maintain a Paring Knife

|                                                                                                                                                              |                                                                                                           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| <b>Location</b><br><hr style="border: 0; border-top: 1px solid black; margin: 2px 0;"/> <hr style="border: 0; border-top: 1px solid black; margin: 2px 0;"/> | <b>Completed by:</b> _____ <b>Reviewed by:</b> _____<br>(Enter your name) (Obtain Supervisor's signature) |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|

**EPQ**  
**4.B.02 MAINTAIN** the following knives using a sharpening stone and steel IAW "Professional Cooking" by Wayne Gisslen:

- Chef's knife
- Boning knife
- Paring knife

**Criteria**  
Accuracy:

- Proper equipment selected 100% of the time.
- Knife sharpened using a sharpening stone
- Knife maintained using a butcher's steel

Safety:

- Follow safety procedures correctly when handling knives.
- Knife sharpened and maintained correctly 100% of the time.
- Proper equipment selected 100% of the time.

| <b>TASK</b>                                                                                              | <b>COMMENTS</b>               |                          |                               |                          |                               |                        |                               |                          |                               |                          |                               |                        |
|----------------------------------------------------------------------------------------------------------|-------------------------------|--------------------------|-------------------------------|--------------------------|-------------------------------|------------------------|-------------------------------|--------------------------|-------------------------------|--------------------------|-------------------------------|------------------------|
|                                                                                                          | <b>1<sup>st</sup> Attempt</b> |                          | <b>2<sup>nd</sup> Attempt</b> |                          | <b>3<sup>rd</sup> Attempt</b> |                        | <b>1<sup>st</sup> Attempt</b> |                          | <b>2<sup>nd</sup> Attempt</b> |                          | <b>3<sup>rd</sup> Attempt</b> |                        |
|                                                                                                          | Y                             | N                        | ____/____/____<br>Date        | Y                        | N                             | ____/____/____<br>Date | Y                             | N                        | ____/____/____<br>Date        | Y                        | N                             | ____/____/____<br>Date |
| 1. The performer gathered the tools and equipment to be used.                                            | <input type="checkbox"/>      | <input type="checkbox"/> |                               | <input type="checkbox"/> | <input type="checkbox"/>      |                        | <input type="checkbox"/>      | <input type="checkbox"/> |                               | <input type="checkbox"/> | <input type="checkbox"/>      |                        |
| 2. The performer properly prepared the sharpening stone.                                                 | <input type="checkbox"/>      | <input type="checkbox"/> |                               | <input type="checkbox"/> | <input type="checkbox"/>      |                        | <input type="checkbox"/>      | <input type="checkbox"/> |                               | <input type="checkbox"/> | <input type="checkbox"/>      |                        |
| 3. The performer stood directly in front of the stone, facing it fully, about half an arm's length away. | <input type="checkbox"/>      | <input type="checkbox"/> |                               | <input type="checkbox"/> | <input type="checkbox"/>      |                        | <input type="checkbox"/>      | <input type="checkbox"/> |                               | <input type="checkbox"/> | <input type="checkbox"/>      |                        |
| 4. The performer exposed the proper face of the stone.                                                   | <input type="checkbox"/>      | <input type="checkbox"/> |                               | <input type="checkbox"/> | <input type="checkbox"/>      |                        | <input type="checkbox"/>      | <input type="checkbox"/> |                               | <input type="checkbox"/> | <input type="checkbox"/>      |                        |

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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                           |                          |  |                          |                          |  |                          |                          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------------|--|--------------------------|--------------------------|--|--------------------------|--------------------------|
| <b>Location</b><br>_____<br>_____                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Completed by:</b> _____ <b>Reviewed by:</b> _____<br>(Enter your name) (Obtain Supervisor's signature) |                          |  |                          |                          |  |                          |                          |
| 5. The performer held the knife firmly by the handle and then touched h/her fingertips of the other hand (the "guiding hand") to the back of the blade.                                                                                                                                                                                                                                                                                                                                               | <input type="checkbox"/>                                                                                  | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. The performer held the blade level with the top surface of the stone and then touched the heel of the blade to a near corner of the stone.                                                                                                                                                                                                                                                                                                                                                         | <input type="checkbox"/>                                                                                  | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. While keeping the blade level with the top surface of the stone, the performer raised the back of the blade, forming a 20-degree angle with the stone.                                                                                                                                                                                                                                                                                                                                             | <input type="checkbox"/>                                                                                  | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. While keeping the knife at a 20-degree angle to the sharpening stone, the performer drew the knife over the sharpening stone in a light, even stroke, starting with the heel of the knife and continuing to the tip.                                                                                                                                                                                                                                                                               | <input type="checkbox"/>                                                                                  | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. Sharpening in only one direction, the performer repeated step 7 five or six times.                                                                                                                                                                                                                                                                                                                                                                                                                 | <input type="checkbox"/>                                                                                  | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. The performer examined the edge of the blade. <ul style="list-style-type: none"> <li>• If s/he found grit or scratches on the flat of the blade, s/he noted that the angle was too shallow, wiped the blade, and sharpened again, this time keeping a 20-degree angle against the sharpening stone.</li> <li>• If s/he found grit only on the edge of the blade, and the flat of the blade was clean and smooth, s/he noted that the angle was correct and continued to the next step.</li> </ul> | <input type="checkbox"/>                                                                                  | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |  | <input type="checkbox"/> | <input type="checkbox"/> |
| Continued next page                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                           |                          |  |                          |                          |  |                          |                          |

|                                                                                                                                                                                                                                                                                                                          |                                                                                                           |                          |  |                                                               |                          |  |                                                               |                          |  |  |  |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------------|--|---------------------------------------------------------------|--------------------------|--|---------------------------------------------------------------|--------------------------|--|--|--|--|
| <b>Location</b><br>_____<br>_____                                                                                                                                                                                                                                                                                        | <b>Completed by:</b> _____ <b>Reviewed by:</b> _____<br>(Enter your name) (Obtain Supervisor's signature) |                          |  |                                                               |                          |  |                                                               |                          |  |  |  |  |
| 11. The performer repeated steps 7 through 9 for the other side of the knife blade for the same number of strokes.                                                                                                                                                                                                       | <input type="checkbox"/>                                                                                  | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  |  |  |  |
| 12. The performer turned the medium side of the stone up, and repeated steps 7 through 10.                                                                                                                                                                                                                               | <input type="checkbox"/>                                                                                  | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  |  |  |  |
| 13. The performer turned the fine side of the stone up, and repeated steps 7 through 10.                                                                                                                                                                                                                                 | <input type="checkbox"/>                                                                                  | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  |  |  |  |
| 14. The performer picked up a steel and held it firmly, thumb on the top of the handle under the guard, with the point upward and slightly away from the body.                                                                                                                                                           | <input type="checkbox"/>                                                                                  | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  |  |  |  |
| 15. If necessary, the performer turned the steel so the guard protected h/her hand.                                                                                                                                                                                                                                      | <input type="checkbox"/>                                                                                  | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  |  |  |  |
| 16. The performer touched the heel of the blade to one end of the steel, angled the blade to meet the steel at an angle of about 20 degrees, and with a quick sweeping motion, passed the knife lightly along the steel at a 20-degree angle to the steel starting with the heel of the blade and continuing to the tip. | <input type="checkbox"/>                                                                                  | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  |  |  |  |
| 17. The performer repeated step 16 for the other side of the blade.                                                                                                                                                                                                                                                      | <input type="checkbox"/>                                                                                  | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  |  |  |  |
| 18. The performer repeated steps 16 and 17 five to six times.                                                                                                                                                                                                                                                            | <input type="checkbox"/>                                                                                  | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  | <input type="checkbox"/>                                      | <input type="checkbox"/> |  |  |  |  |
|                                                                                                                                                                                                                                                                                                                          | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go                                             |                          |  | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go |                          |  | <input type="checkbox"/> Go<br><input type="checkbox"/> No Go |                          |  |  |  |  |

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