

Department of
Homeland Security

United States
Coast Guard

Food Service Specialist, Third Class Performance Qualification Guide



Baked Goods Student Pamphlet

U.S. Coast Guard
Pamphlet No. P35108
(05/05)



Baked Goods

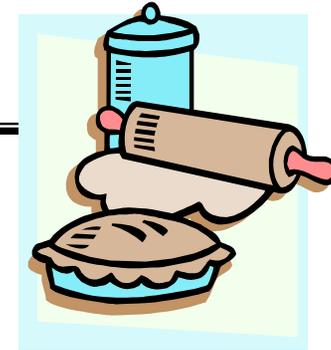
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**QUESTIONS ABOUT THIS TEXT SHOULD BE
ADDRESSED TO THE SUBJECT MATTER SPECIALIST
FOR THE FOOD SERVICE RATING.**

Unit 8: Baked Goods



Lesson 1: Overview of Unit 8—Baked Goods



Lesson 2: Baking Principles



Lesson 3: How to Prepare Cookies



Lesson 4: How to Prepare Cakes and Frostings



Lesson 5: How to Prepare Pies



Lesson 6: How to Prepare Soft Rolls and Sweet Rolls

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LESSON 1

Overview of Unit 8—Baked Goods

Introduction

Overview

Lesson 1 of Unit 8 “sets the stage” for the remaining lessons of Unit 8. It introduces the tools and references used for the preparation of baked goods as well as the EPQs addressed in the unit.

This section of the lesson covers:

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

Performance Qualifications

There are no Enlisted Performance Qualifications (EPQs) for this lesson. For the EPQs covered by the unit, refer to the “Unit Preview” section.

Objectives

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

- Unit structure
 - Lesson contents
 - EPQs covered in the unit
-

Performance Evaluations

This lesson does not require a performance evaluation. However, a Performance Evaluation is required for Lessons 3, 4, 5, and 6. Refer to the Unit Preview section for the performance evaluations for this unit.

Introduction, continued

Tools and References

There are no additional tools or references required for this lesson. The following tools and references, however, are required to successfully complete this unit:

- ❑ *Professional Cooking*, by Wayne Gisslen.
 - ❑ 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
 - ❑ Unit 1, Appendix C, Glossary of Key Terms
 - ❑ Handouts
 - ❑ Index cards
-

Topics Covered by This Lesson

This lesson covers the following topics:

- ❑ Recipe for learning
 - ❑ Unit preview
 - Unit overview
 - Unit objectives
 - Unit map
 - Enlisted performance qualifications
 - Unit matrix
-

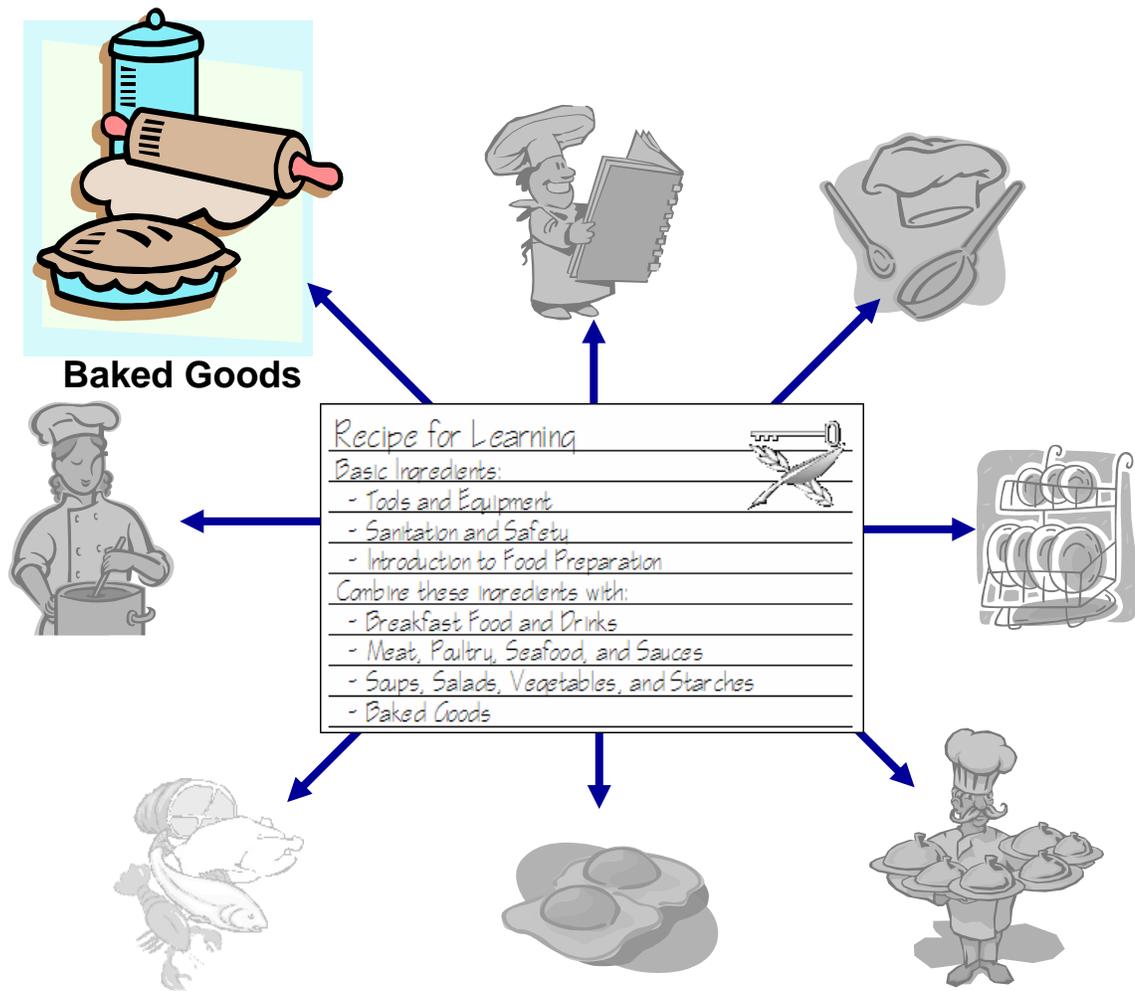
Recipe for Learning

Recipe for Learning

This unit is the last of the four “how to” units, which focus on the practical application of techniques you have learned and the preparation of food items. In this unit, you will learn about baked goods.

The other “how to” units are:

- ❑ Unit 5—Breakfast Food and Drinks
- ❑ Unit 6—Meat, Poultry, Seafood, and Sauces
- ❑ Unit 7—Soups, Salads, Vegetables, and Starches



Unit Preview

Unit Overview

In this unit you will learn:

- Baking principles
 - How to prepare cookies
 - How to prepare cakes and frostings
 - How to prepare pies
 - How to prepare sweet rolls and soft rolls
-

Unit Map

This unit contains six lessons.

THE LESSONS OF THIS UNIT		
NO.	TITLE	DESCRIPTION
1.	Overview of Unit 8	This is an overview of the entire unit and provides the “big picture” of baked goods.
2.	Baking Principles	You will be introduced to the baking principles: measurements and recipes, introduction to the baking process, and ingredients.
3.	How to Prepare Cookies	You will learn the different types of cookies, and how to prepare them. The topics discussed in this lesson are: mixing methods, the baking process, types of cookies and makeup methods, and some cookie recipe examples.
4.	How to Prepare Cakes and Frostings	You will learn how to prepare cakes and frostings. The topics discussed in this lesson are: Cakes - mixing methods, types of recipes, baking and cooling, and how to prepare a sheet cake. Frostings - functions and types of frostings, choosing a frosting, how to prepare a frosting, and how to frost a cake.
5.	How to Prepare Pies	In this lesson you will learn how to prepare one- and two-crust pies.
6.	How to Prepare Soft Rolls and Sweet Rolls	You will learn how to prepare yeast-raised bread products. The topics discussed in this lesson include the basics of working with yeast dough products and techniques for preparing them.

Unit Preview, continued

Enlisted Performance Qualifications

Enlisted performance qualifications for this unit are listed below. Following this section is a Unit Matrix, which shows the EPQs associated with the lessons in which they are addressed.

4.A.22 Prepare the following from raw ingredients IAW “Professional Cooking” by Wayne Gisslen and Armed Forces Recipe Service (AFRS), NAVSUP Publication 7:

- One-crust pie
- Two-crust pie

4.A.23 Prepare a frosted sheet cake IAW “Professional Cooking” by Wayne Gisslen, Armed Forces Recipe Service (AFRS), NAVSUP Publication 7 and product instructions.

4.A.24 Prepare at least three of the following types of cookies from raw ingredients IAW “Professional Cooking” by Wayne Gisslen and Armed Forces Recipe Service (AFRS), NAVSUP Publication 7:

- Bars
- Ice Box/Refrigerated
- Rolled
- Dropped
- Sheet

4.A.25 Prepare the following yeast-raised products from raw ingredients IAW “Professional Cooking” by Wayne Gisslen:

- Soft Rolls
 - Sweet Roll Dough
-

Unit Preview, continued

Unit Matrix

This unit covers four EPQs. For your convenience, the matrix below will help you to identify the lessons where the EPQs are addressed. Every lesson that introduces an EPQ also contains a Performance Evaluation for that EPQ. Those lessons that are not marked introduce information that you should know prior to starting EPQ-related tasks.

EPQS	LESSON 1	LESSON 2	LESSON 3	LESSON 4	LESSON 5	LESSON 6
4.A.22 (PREPARING PIES)					X	
4.A.23 (PREPARING A FROSTED SHEET CAKE)				X		
4.A.24 (PREPARING COOKIES)			X			
4.A.25 (PREPARING SOFT AND SWEET ROLLS)						X

LESSON 2

Baking Principles

Introduction

Overview

When learning to bake, you will find that more often than not only a few ingredients are used—flour, shortening, sugar, eggs, water or milk, and leavening. That's it. Salt and a few spices may be added, but the list of ingredients for most bakery products is short. Also, and in part because of this small list of ingredients, accuracy of measurement in the bakery is critical. You will learn about ingredients and measurement in this lesson.

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:

- Explain why it is important to weigh baking ingredients
 - Use a baker's scale to measure ingredients
 - Prevent or retard the staling of baked items
 - Describe the major ingredients used in baking and their functions and characteristics
-

Tools and References

The tools and references for this lesson include:

- Professional Cooking*, by Wayne Gisslen
 - Armed Forces Recipe Service (AFRS), NAVSUP Publication 7
 - Unit 1, Appendix C, Glossary of Key Terms
 - Cookware/cooking equipment (including a baker's scale)
-

Introduction, continued

Recommended Reading

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

- ❑ *Professional Cooking*, “Bakeshop Production: Basic Principles and Ingredients” (Chapter 26).
-

Topics Covered by This Lesson

This lesson covers the following topics:

- ❑ Measurements and the baker’s scale
 - ❑ Gluten development
 - ❑ The baking process
 - ❑ Common ingredients
-

Measurements and the Baker's Scale

Overview

This section covers:

- Measurement
 - Baker's Scale
-

Measurement

Small differences in proportions or procedures can mean great differences in the final product. In the bakeshop, accurate measurement is absolutely essential.

In the bakeshop:

- All ingredients must be weighed.
- Measurement is done by weight rather than by volume, because weight is much more accurate.

The following ingredients may be measured by volume because they weigh 1 pound per pint or 1 kilogram per liter:

- Water
- Milk
- Eggs

Note: Sometimes in baking you will hear recipes referred to as *formulas*. This is because baking is often like chemistry both in the scientific accuracy of all the procedures and in the complex reactions that take place during mixing and baking.

Using a Baker's Scale, Revisited

To use a baker's scale, you must balance the scale before setting the weights, and it must balance again after scaling. You learned about this procedure in Unit 2, but because that was six units back, you will find it shown again on the next page.

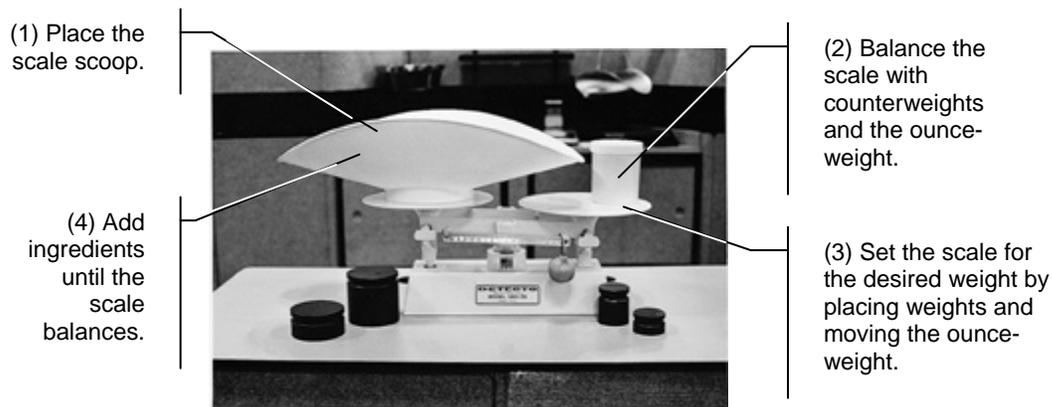
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Measurements and the Baker's Scale, continued

Using a Baker's Scale, Revisited, contd.

Use the table below to refresh your memory.

HOW TO BALANCE A BAKER'S SCALE	
STEP	ACTION
1.	Set the scale scoop or other container on the left side of the scale.
2.	Balance the scale by placing counterweights on the right side and/or adjusting the ounce weight on the horizontal bar.
3.	Set the scale for the desired weight by placing a weight(s) on the right side, and moving the ounce-weight.
4.	Add the ingredient being scaled to the left side until the scale balances.
End of procedure	



For more on measurement in baking, see *Professional Cooking*, Chapter 26.

Gluten Development

Overview

In this section you will learn:

- What is gluten?
 - How to control gluten
-

What is Gluten?

Gluten is a substance made up of proteins present in wheat flour; it gives structure and strength to baked goods.

- In order for gluten to be developed, the proteins must first absorb water.
 - When the product is baked, the gluten coagulates or solidifies and gives structure to the product.
-

How to Control Gluten

The baker has several methods for adjusting gluten development:

- Selection of flours
- Shortening
- Liquid
- Mixing methods

See the table below for an explanation of these.

CONTROLLING GLUTEN	
FACTOR	DESCRIPTION
Selection of flours	<p>Strong flours come from hard wheat and have high protein content.</p> <p>Weak flours come from soft wheat and have low protein content.</p> <p>Strong flours are used for breads; weak flours are used for cakes.</p>
Shortening	<p>Any fat used in baking is called shortening because it shortens gluten strands.</p> <p>Fats are tenderizers—they help retain moisture and increase keeping qualities (reduce staling).</p>
Continued next page	

Gluten Development, continued

How to Control Gluten, contd.

FACTOR	DESCRIPTION
Liquid	Because gluten proteins must absorb water before they can develop, the amount of water in a formula can affect toughness or tenderness. Pie crusts and crisp cookies are made with very little liquid to keep them tender.
Mixing methods	In general, the more a dough or batter is mixed, the more the gluten develops. Thus, bread doughs are mixed or kneaded for a long time to develop the gluten. Cakes, pie crusts, muffins and other products that must be tender are mixed for a short time.

For more on gluten and how to control it, see *Professional Cooking*, Chapter 26.

The Baking Process

Overview

This section covers:

- Stages of the baking process
 - Staling and how to retard it
-

Stages of the Baking Process

Whether you are baking breads, cookies, or cakes, the process the foods go through is essentially the same. It follows these stages:

STAGES IN THE BAKING PROCESS		
NO.	STAGE	BRIEF DESCRIPTION
1.	Formation and expansion of gases	Gases, whether present in the dough already or formed when heat is applied, expand and leaven the product.
2.	Trapping of gases in air cells	As gases form and expand, they are trapped in a network formed by the proteins in the dough.
3.	Coagulation of proteins	Gluten and egg proteins coagulate when they reach high enough temperatures. This gives structure to baked goods.
4.	Gelatinization of starches	The starches absorb moisture, expand, and become firmer.
5.	Evaporation of water	Evaporation of some of the water takes place throughout the baking process.
6.	Melting of shortenings	Different shortenings melt—and release trapped gases—at different temperatures. Select the proper shortening for each product.
7.	Browning of the surface and crust formation	Browning occurs when sugars caramelize and starches and proteins undergo certain changes. This contributes to flavor.

Key points:

- Breads without enough gluten are heavy.
 - As the fats melt, they surround the air cells and make the product more tender.
 - Milk, sugar, and egg increase browning.
 - For more on the baking process, see *Professional Cooking*, Chapter 26.
-

The Baking Process, continued

Staling and How to Retard It

Staling is the change in texture and aroma of baked goods due to the change in structure and the loss of moisture by the starch granules. Stale baked goods have lost their fresh-baked aroma and are firmer, drier, and more crumbly than fresh products.

Staling – As in “stale” bread, is the change in texture and aroma of baked goods due to the change in structure and the loss of moisture by the starch granules.

The slowing, or retardation, of staling is a major concern of bakers. Staling can be slowed by the following techniques:

HOW TO RETARD STALING	
METHOD	EXPLANATION
Protecting the product from air:	Wrapping bread in plastic and covering cakes with icing are two examples. Hard-crust breads, which stale rapidly, should not be wrapped, or the crusts will become soft.
Adding moisture retainers to the recipe:	Fats and sugars are good moisture retainers.
Freezing:	<p>Baked goods frozen before becoming stale maintain quality for longer periods.</p> <p>Refrigerating actually speeds staling rather than slowing it.</p> <p>Only baked goods that could develop health hazards, such as those with cream fillings, are refrigerated.</p>

For more on the baking process and staling, see *Professional Cooking*, Chapter 26.

Common Ingredients

Overview

This section covers common ingredients used in baking:

- ❑ Flours, meals, and starches
 - White wheat flour
 - General-purpose flour
 - Whole wheat flour
 - Rye flour
 - Other flours
 - Starches
 - ❑ Fats
 - Shortening
 - Butter and margarine
 - Oils
 - ❑ Sugars
 - Refined
 - Molasses and brown sugar
 - Corn syrup
 - Honey
 - ❑ Liquids
 - Water
 - Milk and cream
 - ❑ Eggs
 - ❑ Leavening agents
 - Yeast
 - Air
 - Steam
 - Chemical leaveners
 - ❑ Salt, flavorings, and spices
-

Common Ingredients, continued

Flours, Meals, and Starches

White wheat flour is milled from wheat kernels after the outer covering (called bran) and the germ are removed. Wheat flour contains about 63 to 73 percent starch and 7 to 15 percent protein. The rest is moisture, fat, sugar, and minerals. Wheat flour is the source of the protein called gluten.

Use the table below to help you understand the three kinds of white wheat flour:

- Bread flour
- Cake flour
- Pastry flour

WHITE WHEAT FLOUR			
TYPE	CHARACTERISTICS		
	GENERAL	TEXTURE ()	COLOR ()
Bread	<ul style="list-style-type: none"> ■ Strong flour. ■ High in protein. ■ Best bread flours are called patents. ■ Used to make breads, hard rolls, and other products that require high gluten. 	<ul style="list-style-type: none"> ■ Feels slightly coarse when rubbed between the fingers. ■ If squeezed into a lump, it falls apart as soon as the hand is opened. 	<ul style="list-style-type: none"> ■ Its color is creamy.
Cake	<ul style="list-style-type: none"> ■ Weak flour. ■ Low in protein. ■ Made from soft wheat. 	<ul style="list-style-type: none"> ■ Feels smooth and fine. ■ Stays in a lump when squeezed in the palm of the hand. 	<ul style="list-style-type: none"> ■ Its color is pure white.
Pastry	<ul style="list-style-type: none"> ■ Lower in gluten than bread flour. ■ Higher in gluten than cake flour. 	<ul style="list-style-type: none"> ■ Feels smooth and fine. ■ Stays in a lump when squeezed in the palm of the hand. 	<ul style="list-style-type: none"> ■ Its color is creamy.

Continued next page

Common Ingredients, continued

Flours, Meals, and Starches, contd.

This table covers other flours, such as general purpose and whole wheat.

OTHER FLOURS, MEALS AND STARCHES	
TYPE	CHARACTERISTICS
General Purpose	<ul style="list-style-type: none"> ■ Combination of cake and bread flour (normally a 50/50 ratio, but some are 30/70 either way). ■ Slightly weaker than bread flour. Can be used as substitute for other flours, but some quality may be lost. ■ Generally the flour used in the Coast Guard. ■ Cream colored; will form a loose ball when squeezed together.
Whole Wheat	<ul style="list-style-type: none"> ■ Whole-wheat flour is made by grinding the entire wheat kernel, including the bran and germ. ■ When bread is made with 100 percent whole wheat, will be heavy because the gluten strands are cut by the sharp edges of the bran flakes, and rising will be limited.
Rye	<ul style="list-style-type: none"> ■ Popular flour used in bread making ■ Comes in three forms: light, medium and dark
Other flours	<ul style="list-style-type: none"> ■ Potato flour ■ Cornmeal ■ Buckwheat flour ■ Soy flour ■ Oat flour ■ Barley flour <p>These are used to add variety to baked goods, in combination with wheat flours, because they do not contain protein to form gluten.</p>
Continued next page	

Common Ingredients, continued

Flours, Meals, and Starches, contd.

TYPE	CHARACTERISTICS
Cornstarch	<ul style="list-style-type: none"> ■ Products thicken when cooled, like gelatin. ■ Very inexpensive. ■ Most commonly used thickener in the Coast Guard.
Other Starches	<p>Waxy maize and other modified starches also have valuable properties:</p> <ul style="list-style-type: none"> ■ They are more expensive. ■ They do not break down when frozen. ■ They are clear when cooked (give a brilliant appearance to fruit pie fillings). ■ They do not set up firm like cornstarch, but make a soft paste that has the same consistency when hot or cold.

Common Ingredients, continued

Fats

Fats are used in baking to:

- Tenderize the product and soften the texture
- Add moistness and richness
- Increase keeping quality

Use this table to learn more about fats used in baking.

FATS					
TYPE	CHARACTERISTICS				
Shortenings	<p>A shortening is any fat used in baking, because it shortens gluten strands and tenderizes the product.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%; vertical-align: top;">Regular Shortenings</td> <td> <ul style="list-style-type: none"> ■ Have tough, waxy texture ■ Small particles of fat tend to hold their shape in dough or batter ■ Melts at high temperature ■ Has good creaming ability ■ Used in some cookies, pie crusts and biscuits </td> </tr> <tr> <td style="vertical-align: top;">Emulsified Shortenings</td> <td> <ul style="list-style-type: none"> ■ Soft shortenings that spread easily ■ Incorporate into a product more quickly ■ Used in certain icings because it can hold more sugar and liquid without curdling ■ Not used for making pie dough </td> </tr> </table>	Regular Shortenings	<ul style="list-style-type: none"> ■ Have tough, waxy texture ■ Small particles of fat tend to hold their shape in dough or batter ■ Melts at high temperature ■ Has good creaming ability ■ Used in some cookies, pie crusts and biscuits 	Emulsified Shortenings	<ul style="list-style-type: none"> ■ Soft shortenings that spread easily ■ Incorporate into a product more quickly ■ Used in certain icings because it can hold more sugar and liquid without curdling ■ Not used for making pie dough
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Continued next page					

Common Ingredients, continued

Fats, contd.

TYPE	CHARACTERISTICS									
Butter and Margarine	Butter is a natural product that is hard and brittle when cold and soft at room temperature, and melts easily. Margarine is easier to handle but has disadvantages.									
		<table border="1"> <thead> <tr> <th data-bbox="865 443 1154 499">ADVANTAGES</th> <th data-bbox="1154 443 1463 499">DISADVANTAGES</th> </tr> </thead> <tbody> <tr> <td data-bbox="865 499 1154 709"> <table border="1"> <tr> <td data-bbox="865 510 857 709">Butter</td> <td data-bbox="857 510 1154 709"> <ul style="list-style-type: none"> ■ Desirable flavor ■ Melting ■ Browning </td> </tr> <tr> <td data-bbox="865 709 857 919">Margarine</td> <td data-bbox="857 709 1154 919"> <ul style="list-style-type: none"> ■ Melting </td> </tr> </table></td></tr></tbody> </table>	ADVANTAGES	DISADVANTAGES	<table border="1"> <tr> <td data-bbox="865 510 857 709">Butter</td> <td data-bbox="857 510 1154 709"> <ul style="list-style-type: none"> ■ Desirable flavor ■ Melting ■ Browning </td> </tr> <tr> <td data-bbox="865 709 857 919">Margarine</td> <td data-bbox="857 709 1154 919"> <ul style="list-style-type: none"> ■ Melting </td> </tr> </table>	Butter	<ul style="list-style-type: none"> ■ Desirable flavor ■ Melting ■ Browning 	Margarine	<ul style="list-style-type: none"> ■ Melting 	<ul style="list-style-type: none"> ■ Products may need intermittent refrigeration. ■ Most do not brown. ■ Poorer flavor than butter.
	ADVANTAGES	DISADVANTAGES								
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| Oils Liquid fat. Not often used in baking because they spread through a batter or dough too thoroughly and shorten too much. |

Sugars

Sugars or sweetening agents are used in baking to:

- Add sweetness and flavor
- Create tenderness and fineness of texture by weakening the gluten structure
- Give crust color
- Increase keeping qualities by retaining moisture
- Act as creaming agents with fats
- Use the table on the following page to help you learn more about the sugars used in baking

Continued next page

Common Ingredients, continued

Sugars, contd.

		SUGARS
TYPE		CHARACTERISTICS
Regular Refined Sugars, or Sucrose	Granulated sugar	<ul style="list-style-type: none"> ■ Classified by the size of the grains: <ul style="list-style-type: none"> ■ Coarse ■ Regular (fine or table) ■ Very fine, superfine, and ultra fine ■ Finer grain sizes make more uniform batter, and support higher quantities of fat.
	Confectioners' or powdered sugar	<ul style="list-style-type: none"> ■ 10X is the finest sugar. ■ 6X is the standard confectioners' sugar.
Molasses and Brown Sugar	Molasses	<ul style="list-style-type: none"> ■ Is a concentrated sugar cane juice. ■ Contains large amounts of sucrose, plus other sugars, acids, and impurities. ■ Can be used with baking soda to provide leavening. ■ Retains moisture.
	Brown sugar	<ul style="list-style-type: none"> ■ Is mostly sucrose. ■ Contains varying amounts of molasses and other impurities. ■ Can be used with baking soda to provide leavening. ■ Retains moisture.
Corn Syrup		<ul style="list-style-type: none"> ■ Is a liquid sweetener consisting mainly of a sugar called glucose. ■ Retains moisture.
Continued next page		

Common Ingredients, continued

Sugars, contd.

TYPE	CHARACTERISTICS
Honey	<ul style="list-style-type: none"> ■ Is a natural sugar syrup consisting largely of glucose and fructose. ■ Is an invert sugar and does not naturally crystallize. ■ Retains moisture. ■ Is expensive. ■ Is flavorful.

Liquids

Gluten needs moisture in order to develop, so liquids are essential to the baking process. The table below shows common liquids used in baking.

LIQUID	
TYPE	CHARACTERISTICS
Water	<ul style="list-style-type: none"> ■ Is the basic liquid in baking, especially in breads. ■ Tap water is normally suitable for most baking purposes. ■ In localities where the water contains many dissolved minerals, water may be hard. These minerals interfere with proper gluten development.
Milk and Cream	<ul style="list-style-type: none"> ■ Milk contributes to the texture, flavor, nutritional value, keeping quality, and crust color of baked goods. ■ Dry milk is often used because of its convenience and low cost.
Other	<ul style="list-style-type: none"> ■ Other sources of liquid used in baking include: eggs, honey, molasses, and butter.

Common Ingredients, continued

Eggs

Eggs are used in baking to serve many different functions. The table below shows some of the most common.

THE FUNCTIONS OF EGGS IN BAKING	
FUNCTION	DESCRIPTION
Structure	<ul style="list-style-type: none"> ■ Like gluten protein, egg protein coagulates to give structure to baked products. ■ If used in large quantities, eggs make baked products tough or chewy unless balanced by high fat and sugar, which are tenderizers.
Leavening	<ul style="list-style-type: none"> ■ Beaten eggs incorporate air in tiny cells or bubbles. Whites incorporate even more air. ■ In a batter, this trapped air expands when heated and aids in leavening.
Shortening action	<ul style="list-style-type: none"> ■ The fat in egg yolks acts as a shortening.
Moisture	<ul style="list-style-type: none"> ■ Whole eggs are about 70 percent water, and egg whites are about 86 percent water.

Leavening Agents

Leavening is the production or incorporation of gases in a baked product.

AGENT	CHARACTERISTICS
Yeast	<ul style="list-style-type: none"> ■ Fermentation is the process by which yeast acts on carbohydrates and changes them into carbon dioxide gas and alcohol. ■ Yeast is a microscopic plant. ■ As a living organism, it is sensitive to temperatures. ■ To convert to active dry yeast, use only 40 percent of the weight of compressed yeast specified.
Continued next page	

Common Ingredients, continued

Leavening Agents, contd.

AGENT		CHARACTERISTICS
Yeast, contd.		<ul style="list-style-type: none"> ■ Dry yeast must be dissolved in 4 times its weight of warm water (90–105 °F). Note: One yeast package contains $\frac{1}{4}$ oz, which equals 1 $\frac{1}{4}$ tsp.
Air	Creaming	<ul style="list-style-type: none"> ■ Creaming is the process of beating fat and sugar together to incorporate air.
	Foaming	<ul style="list-style-type: none"> ■ Foaming is the process of beating eggs, with or without sugar, to incorporate air. Whites incorporate even more air.
Steam		<ul style="list-style-type: none"> ■ When water turns to steam, it expands to 1,600 times its original volume.
Chemical Leaveners	Baking Soda (Sodium Bicarbonate, NAHCO_3)	<ul style="list-style-type: none"> ■ If moisture and an acid are present, soda releases carbon dioxide gas, which leavens the product. ■ The amount of soda used in a recipe is generally the amount needed to balance the acid. ■ If more leavening power is needed, baking powder, not more soda, is used. ■ Heat is not needed to release gas; speed is essential. ■ Too much adds a salty, bitter, soapy flavor.
Continued next page		

Common Ingredients, continued

Leavening Agents, contd.

AGENT		CHARACTERISTICS
Chemical Leaveners	Baking Powder	<ul style="list-style-type: none"> ■ Baking powders are mixtures of baking soda plus an acid to react with it. ■ Single-acting baking powders require only moisture to be able to release gas. They can be used only if the product is to be baked immediately. ■ Double-acting baking powders release some gas when cold, but they require heat for complete reaction.
	Baking Ammonia (NH ₄ HCO ₃)	<ul style="list-style-type: none"> ■ Ammonium carbonate. ■ Heat and moisture are necessary for it to work. ■ No acids are needed. ■ It can be used only in small products, like cookies. ■ Use in products like cream puffs.

Salt, Flavorings, and Spices

TYPE	CHARACTERISTICS
Salt	<ul style="list-style-type: none"> ■ Salt strengthens gluten structure and makes it more stretchable.
Chocolate and Cocoa	<ul style="list-style-type: none"> ■ If the percentage of sugar is low, it is sometime called semisweet or bittersweet. ■ Milk chocolate is sweet chocolate with the addition of milk solids. ■ Cocoa and chocolate are high in starch. ■ Cocoa powder is considered part of the flour proportion.
Spices	<ul style="list-style-type: none"> ■ Spices should be measured by weight unless the quantity is so small that measuring spoons are necessary. ■ Ground spices may change the color of your product. For example, ground basil may turn dinner rolls green.

For more on baking ingredients, see *Professional Cooking*, Chapter 26.

Lesson Review

Purpose The intention of this exercise is to help you to clarify and/or confirm your understanding of baking principles.

Directions Test your knowledge of the 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 “Lesson Review Feedback” section at the end of this lesson.

- Questions**
1. Which of the following is not a function of sugar in baked goods?
 - a. To give sweetness and flavor
 - b. To give crust color
 - c. To increase keeping qualities
 - d. To give firmness to the structure
 2. Baking soda can be used as a leavening agent only if the recipe also contains _____.
 - a. baking powder
 - b. acid
 - c. sugar
 - d. none of the above
 3. Salt is used in bread-making because it _____.
 - a. improves flavor
 - b. conditions gluten
 - c. slows yeast action
 - d. all of the above
 4. The majority of ingredients in the bakeshop are measured by weight, rather than by volume, because measuring by weight is _____.
 - a. faster
 - b. more sanitary
 - c. more accurate
 - d. more convenient

Continued next page

Lesson Review, continued

Questions, contd.

5. Gluten _____.
 - a. produces gas in a product as it is baked
 - b. gives structure and strength to baked goods
 - c. is a substance made up of the carbohydrates in wheat flour
 - d. forms small, ball-like structures in dough as it is mixed or kneaded
 6. A firm and chewy baked product contains _____ gluten.
 - a. no
 - b. a small amount of
 - c. a medium amount of
 - d. a large amount of
 7. Which one of these statements is NOT true?
 - a. Cosmo: “Butter has a highly desirable flavor that is missing from shortenings.”
 - b. Jerry: “One of the major advantages of butter is that it is easy to work with at any temperature.”
 - c. Elaine: “Butter doesn't leave an unpleasant coating in the mouth like shortenings because it melts in the mouth.”
 - d. George: “A dough made with butter is much more difficult to work with than a dough made with shortening.”
 8. If you have run out of brown sugar, then you can mix a little _____ with granulated sugar to produce approximately the same taste in your famous Bayou Brownies.
 - a. honey
 - b. molasses
 - c. malt syrup
 - d. corn syrup
 9. If you find the word “creaming” in the procedure section of a recipe, then you will definitely find _____ in the ingredients section.
 - a. fat
 - b. eggs
 - c. sugar
 - d. both a and c
-

Practicing What You Have Learned

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. Discuss what you have learned, including describing the use of measurement and recipes/formulas when baking.
 2. Discuss the importance of gluten development in the baking process.
 3. Identify what measuring devices are available (a baker's scale) for you to examine and use.
 4. If a baker's scale is available, ask your supervisor to discuss safety precautions with you, if any, and demonstrate the use of the baker's scale.
 5. After observing a demonstration of how to use a baker's scale, practice using the scale under supervision.
-

Performance Evaluation



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

Lesson Summary

Lesson Objectives

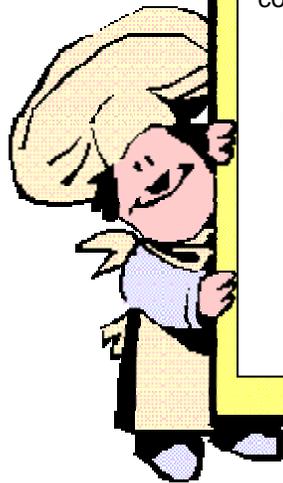
Having completed this lesson, you can:

- Explain why it is important to weigh baking ingredients
 - Use a baker's scale to measure ingredients
 - Prevent or retard the staling of baked items
 - Describe the major ingredients used in baking and their functions and characteristics.
-

Next in this Unit

In the next lesson you will learn how to prepare cookies. More specifically, you will learn:

- The factors responsible for crispness, softness, chewiness, and spread in cookies
- The three basic cookie-mixing methods
- How to prepare three different types of cookies



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 is not a function of sugar in baked goods?
 - a. To give sweetness and flavor
 - b. To give crust color
 - c. To increase keeping qualities
 - d. To give firmness to the structure**
2. Baking soda can be used as a leavening agent only if the recipe also contains _____.
 - a. baking powder
 - b. acid**
 - c. sugar
 - d. none of the above
3. Salt is used in bread-making because it _____.
 - a. improves flavor
 - b. conditions gluten
 - c. slows yeast action
 - d. all of the above**
4. The majority of ingredients in the bakeshop are measured by weight, rather than by volume, because measuring by weight is _____.
 - a. faster
 - b. more sanitary
 - c. more accurate**
 - d. more convenient
5. Gluten _____.
 - a. produces gas in a product as it is baked
 - b. gives structure and strength to baked goods**
 - c. is a substance made up of the carbohydrates in wheat flour
 - d. forms small, ball-like structures in dough as it is mixed or kneaded
6. A firm and chewy baked product contains _____ gluten.
 - a. no
 - b. a small amount of
 - c. a medium amount of
 - d. a large amount of**

Continued next page

Lesson Review Feedback, continued

Answers, contd.

7. Which one of these statements is NOT true?
 - a. Cosmo: “Butter has a highly desirable flavor that is missing from shortenings.”
 - b. Jerry: “One of the major advantages of butter is that it is easy to work with at any temperature.”**
 - c. Elaine: “Butter doesn't leave an unpleasant coating in the mouth like shortenings because it melts in the mouth.”
 - d. George: “A dough made with butter is much more difficult to work with than a dough made with shortening.”

 8. If you have run out of brown sugar, then you can mix a little _____ with granulated sugar to produce approximately the same taste in your famous Bayou Brownies.
 - a. honey
 - b. molasses**
 - c. malt syrup
 - d. corn syrup

 9. If you find the word “creaming” in the procedure section of a recipe, then you will definitely find _____ in the ingredients section.
 - a. fat
 - b. eggs
 - c. sugar
 - d. both a and c**
-

LESSON 3

How to Prepare Cookies

Introduction

Overview

In this lesson, you will learn to prepare cookies.

This section of the lesson includes the following components:

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

Performance Qualifications

This lesson consists of one Enlisted Performance Qualification (EPQ):

4.A.24 Prepare at least three of the following types of cookies from raw ingredients IAW “Professional Cooking” by Wayne Gisslen and Armed Forces Recipe Service (AFRS), NAVSUP Publication 7:

- Bars
 - Ice Box/Refrigerated
 - Rolled
 - Dropped
 - Sheet
-

Objectives

Upon completion of this lesson, you will:

- Identify factors responsible for crispness, softness, chewiness, and spread in cookies.
 - Describe the different types of cookies.
 - Demonstrate the three basic cookie-mixing methods.
 - Prepare three different types of cookies.
-

Performance Evaluation

There will be a performance evaluation in this lesson. This evaluation will cover EPQ 4.A.24 as listed above.

Introduction, continued

Tools and References

The tools and references for this lesson include:

- ❑ *Professional Cooking*, by Wayne Gisslen
 - ❑ Armed Forces Recipe Service (AFRS), NAVSUP Publication 7
 - ❑ Unit 1, Appendix C, Glossary of Key Terms
 - ❑ Cookware/cooking equipment
 - ❑ Food products for all activities
-

Recommended Reading

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

- ❑ *Professional Cooking* “Cookies” (Chapter 30).

...and review some of the cookie recipes from:

- ❑ AFRS, Section H. “Desserts (Cookies)” (No. 0 (1) – 025 00).
-

Topics Covered by This Lesson

This lesson covers the following topics:

- ❑ Introduction to cookie preparation
 - ❑ Mixing methods
 - ❑ Baking process
 - ❑ Types and makeup methods
 - ❑ Cookie recipe examples
-

Introduction to Cookie Preparation

Overview

In this section you will learn about:

- ❑ Cookie characteristics
- ❑ Factors that affect the characteristics

Cookie Characteristics

In order to prepare cookies, it is useful to know their characteristics and the factors that affect these characteristics. The characteristics are crispness, softness, chewiness, and spread.

FACTORS THAT AFFECT COOKIE CHARACTERISTICS	
CHARACTERISTIC	CAUSATIVE FACTORS
Crispness	<ul style="list-style-type: none"> ■ Very low moisture ■ Low proportion of liquid in the mix ■ High sugar and fat content ■ Evaporation of moisture during baking due to high temperatures and/or long baking ■ Small size or thin shape ■ Proper storage; crisp cookies can become soft if they absorb moisture
Softness	<ul style="list-style-type: none"> ■ High proportion of liquid in mix ■ Low sugar and fat ■ Honey, molasses, or corn syrup included in recipes ■ Underbaking ■ Large size or thick shape ■ Proper storage; soft cookies can become stale and dry if not tightly covered or wrapped
Continued next page	

Introduction to Cookie Preparation, continued

Cookie Characteristics, contd.	CHARACTERISTIC	CAUSE												
	Chewiness	<ul style="list-style-type: none"> ■ High moisture content ■ Softness, though not all soft cookies are chewy ■ High sugar and liquid content, but low fat content ■ High proportion of eggs ■ Strong flour, or gluten development during mixing 												
	Spread	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td data-bbox="763 730 966 1018">Sugar</td> <td data-bbox="966 730 1421 1018"> <ul style="list-style-type: none"> ■ High sugar content increases spread. ■ Coarse granulated sugar increases spread, whereas fine sugar or confectioners' sugar reduces spread. </td> </tr> <tr> <td data-bbox="763 1018 966 1270">Leavening</td> <td data-bbox="966 1018 1421 1270"> <ul style="list-style-type: none"> ■ High baking soda or baking ammonia content encourages spread. ■ Creaming encourages spread, because it incorporates air. </td> </tr> <tr> <td data-bbox="763 1270 966 1543">Temperature</td> <td data-bbox="966 1270 1421 1543"> <ul style="list-style-type: none"> ■ Low oven temperature increases spread. ■ High temperature decreases spread, because the cookie sets up before it has a chance to spread too much. </td> </tr> <tr> <td data-bbox="763 1543 966 1648">Liquid</td> <td data-bbox="966 1543 1421 1648"> <ul style="list-style-type: none"> ■ A slack batter spreads more than a stiff dough. </td> </tr> <tr> <td data-bbox="763 1648 966 1753">Flour</td> <td data-bbox="966 1648 1421 1753"> <ul style="list-style-type: none"> ■ Strong flour or activation of gluten decreases spread. </td> </tr> <tr> <td data-bbox="763 1753 966 1900">Pan grease</td> <td data-bbox="966 1753 1421 1900"> <ul style="list-style-type: none"> ■ Cookies spread more if baked on a heavily greased pan. </td> </tr> </table>	Sugar	<ul style="list-style-type: none"> ■ High sugar content increases spread. ■ Coarse granulated sugar increases spread, whereas fine sugar or confectioners' sugar reduces spread. 	Leavening	<ul style="list-style-type: none"> ■ High baking soda or baking ammonia content encourages spread. ■ Creaming encourages spread, because it incorporates air. 	Temperature	<ul style="list-style-type: none"> ■ Low oven temperature increases spread. ■ High temperature decreases spread, because the cookie sets up before it has a chance to spread too much. 	Liquid	<ul style="list-style-type: none"> ■ A slack batter spreads more than a stiff dough. 	Flour	<ul style="list-style-type: none"> ■ Strong flour or activation of gluten decreases spread. 	Pan grease	<ul style="list-style-type: none"> ■ Cookies spread more if baked on a heavily greased pan.
Sugar	<ul style="list-style-type: none"> ■ High sugar content increases spread. ■ Coarse granulated sugar increases spread, whereas fine sugar or confectioners' sugar reduces spread. 													
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Temperature	<ul style="list-style-type: none"> ■ Low oven temperature increases spread. ■ High temperature decreases spread, because the cookie sets up before it has a chance to spread too much. 													
Liquid	<ul style="list-style-type: none"> ■ A slack batter spreads more than a stiff dough. 													
Flour	<ul style="list-style-type: none"> ■ Strong flour or activation of gluten decreases spread. 													
Pan grease	<ul style="list-style-type: none"> ■ Cookies spread more if baked on a heavily greased pan. 													

Topic Review (1 of 2)

Factors that Affect Cookie Characteristics

Use this lesson and *Professional Cooking* to help you complete the table below. Match each factor that affects cookie characteristics with the characteristic(s) it affects by placing an 'X' in the appropriate column(s). Some factors may affect more than one cookie characteristic. The first one has been completed for you.

Factors		Cookie Characteristics			
		Crispness	Softness	Chewiness	Spread
Ex.	Heavily greased pan				X
1	High moisture				
2	Large size, thick shape				
3	High proportion of eggs				
4	High sugar and fat content				
5	High sugar, low fat				
6	Low moisture				
7	Low oven temperature				
8	Low sugar and fat				
9	Slack batter				
10	Small size and/or thin shape				
11	Strong gluten development during mixing				
12	Under baking				

Answers are available at the end of the lesson.

Mixing Methods

Overview

Cookie-mixing methods are much like cake-mixing methods. The major difference is that in cookie-mixing less liquid is usually incorporated. Less liquid means that mixing is a little easier and gluten is less developed.

There are three basic cookie-mixing methods:

- ❑ One-stage
- ❑ Creaming
- ❑ Sponge

You will see these methods again in the next lesson as you learn about cake-mixing.

The One-Stage Method

The one-stage method is the “cookie counterpart” to the two-stage cake-mixing method you will learn about in the next lesson. It produces a smooth batter that bakes up into fine-grained, moist cookies.

HOW TO MIX USING THE ONE-STAGE METHOD	
STEP	ACTION
1.	Scale the ingredients accurately.
2.	Place all ingredients in the mixer.
3.	With the paddle attachment, mix at low speed until the ingredients are uniformly blended.
4.	Scrape down the sides of the bowl as necessary.
End of procedure	

The Creaming Method

This creaming method for cookies, also known as the *conventional method*, is similar to the creaming method for cakes that you will learn in the next lesson. (Note that in this method for cookies you will add liquid and flour at the same time. When using this method for cakes, you will need to alternate liquid with the flour.)

Continued next page

Mixing Methods, continued

The Creaming Method, contd.

HOW TO MIX USING THE CREAMING METHOD	
STEP	ACTION
1.	Scale the ingredients accurately.
2.	Place the fat, sugar, salt, and spices in the mixing bowl.
3.	With the paddle attachment, cream these ingredients at low speed.
4.	Add the eggs and liquid, if any, and blend in at low speed.
5.	Sift in the flour and leaveners.
6.	Mix until just combined.
End of procedure	

The Sponge Method

Cookies made using the egg-foam, or *sponge*, method contain little or no shortening and depend for most or all of their leavening on the air trapped in beaten eggs. The procedure varies considerably depending on the ingredients. Batches should be kept small because the batter is delicate. This method is similar to the egg-foam/sponge method for cakes.

HOW TO MIX USING THE SPONGE METHOD	
STEP	ACTION
1.	Scale the ingredients accurately.
2.	Following the procedure given in the recipe, whip the eggs (whole, yolks, or whites) and the sugar to the proper stage: soft peaks for whites, thick and light for whole eggs or yolks.
3.	Fold in the remaining ingredients as specified in the recipe. Be careful not to overmix or to deflate the eggs.
End of procedure	

For more on mixing methods, see *Professional Cooking*, Chapter 30.

Baking Process

Overview

This section covers tips on the baking process—the beginning, the middle, and the end. It covers:

- Preparing the pans
 - Baking
 - Cooling
-

Preparing the Pans

When preparing the pans you will use for making cookies:

- Use clean, un-warped pans.
 - Line the sheets with parchment or silicone paper to speed up the baking process and eliminate the necessity of greasing the pans.
-

Baking

When baking, follow these guidelines:

- Most cookies are baked at a relatively high temperature for a short time.
 - Too low a temperature increases spreading and may produce hard, dry, pale cookies.
 - Too high a temperature decreases spreading and may burn the edges or bottom.
 - Even one minute of over-baking can burn cookies, so watch them closely.
 - Doneness is indicated by color.
-

Cooling

When cooling cookies, follow these guidelines:

- Leave cookies on parchment-lined sheet pans until cool.
- If the cookies are very soft, do not remove them from the pans until they are cool enough and firm enough to handle.
- Do not cool cookies too rapidly or in cold drafts, or they may crack.
- Cool cookies completely before storing.

For more on the baking process, see *Professional Cooking*, Chapter 30.

Types and Makeup Methods

Overview

In this section you will learn the basic make-up methods for the following types of cookies:

- Dropped
- Bagged
- Rolled
- Molded
- Icebox
- Bar
- Sheet

Dropped Cookies

Dropped cookies are made from a soft dough or batter. They are fast and easy to make up. Many sponge or foam-type batters are made up as dropped cookies.

Follow these steps to prepare dropped cookies.

HOW TO PREPARE DROPPED COOKIES		
STEP	ACTION	
1.	Read the recipe details.	
2.	Preheat a convection oven to the temperature indicated or desired in the recipe.	
3.	Gather equipment and ingredients required.	
4.	Follow the recipe directions to create a soft dough or batter.	
5.	Determine the size of the scoop to be used by the size of the dropped cookie to be made:	
	IF THE COOKIE WILL BE...	THEN SELECT A...
	Large (about 1 ounce),	No. 30 scoop.
Small,	No. 40 scoop.	
Continued next page		

Types and Makeup Methods, continued

Dropped Cookies, contd.

STEP	ACTION	
6.	Place the cookies on a prepared sheet pan using the proper scoop. Note: Allow enough space between cookies for spreading (four rows of six cookies in each row).	
7.	Determine if the cookies must be flattened:	
	IF THE RECIPE REQUIRES...	THEN...
	That the cookies be flattened,	Continue to step 8.
That the cookies not be flattened,	Skip to step 10.	
8.	Dip a weight (glass, mallet, or fork) in sugar.	
9.	Flatten the cookies using the sugared weight.	
10.	Bake the cookies as directed in the recipe.	
11.	Remove the cookies from the oven after the time required in the recipe has elapsed, or after the cookie edges turn a light brown.	
12.	Place the sheet pan on a cooling rack, allowing the cookies to continue cooking on the sheet pan while cooling.	
13.	Follow proper storage procedures.	
End of procedure		

Types and Makeup Methods, continued

Bagged Cookies

Bagged or press cookies are also made from soft doughs. The dough must be soft enough to be forced through a pastry bag, but stiff enough to hold its shape.

Follow these steps to prepare bagged cookies:

HOW TO PREPARE BAGGED COOKIES	
STEP	ACTION
1.	Fit a pastry bag with a tip of the desired size and shape.
2.	Fill the bag with the cookie dough.
3.	Press out cookies of the desired shape and size directly onto prepared cookie sheets.
End of procedure	

Rolled Cookies

Rolled cookies are rolled and cut from a stiff dough. They require a lot of labor and are not often made because of that. Also, scraps are always left over after cutting. When re-rolled, these scraps make inferior, tough cookies.

To prepare rolled cookies, follow these steps:

HOW TO PREPARE ROLLED COOKIES	
STEP	ACTION
1.	Read the recipe details.
2.	Preheat a convection oven to the temperature indicated or desired in the recipe.
3.	Gather equipment and ingredients required.
4.	Follow the recipe directions to create the dough.
5.	Shape the dough, and chill it thoroughly.
Continued next page	

Types and Makeup Methods, continued

Rolled Cookies, contd.	STEP	ACTION
	6.	Flour a workbench or canvas. (Powdered sugar may also be used if moisture/humidity is low.) Note: Use as little flour as possible for dusting, because excess flour can toughen the cookies.
	7.	Roll the dough to $\frac{1}{4}$ -inch thickness on the floured canvas or workbench.
	8.	Cut out the cookies evenly using a cookie cutter. Note: Cut the cookies as close together as possible to reduce the quantity of scraps.
	9.	Place and space the cut out cookies on a prepared sheet pan.
	10.	Bake as directed in the recipe.
	11.	Remove the cookies from the oven after the time required by the recipe has elapsed, or after the cookie edges become a light brown.
	12.	Place the sheet pan on a cooling rack, allowing the cookies to continue cooking on the sheet pan while cooling.
	13.	Follow proper storage procedures.
	End of procedure	

Types and Makeup Methods, continued

Molded Cookies

Molded cookies are created using a mold. For some traditional cookies, special molds are used to flatten the dough, and, at the same time, stamp it with a design.

Follow these steps for prepare molded cookies:

HOW TO PREPARE MOLDED COOKIES	
STEP	ACTION
1.	Divide the dough into equal portions.
2.	Place the pieces on prepared baking sheets, leaving 2 inches of space between each.
3.	Flatten the cookies with a weight (such as a can) dipped in granulated sugar after pressing each cookie.
End of procedure	

Icebox Cookies

Icebox cookies (also known as refrigerator cookies) are prepared from rolls of dough which were made up in advance and stored. This is ideal for operations that wish to have freshly baked cookies on hand at all times. Cookies can be easily cut and baked as needed.

Follow these steps to prepare icebox cookies:

HOW TO PREPARE ICEBOX COOKIES	
STEP	ACTION
1.	Read the recipe details.
2.	Preheat a convection oven to the temperature indicated or desired in the recipe.
3.	Gather equipment and ingredients required.
4.	Follow the recipe directions to create dough for the icebox/refrigerated cookies.
5.	Divide the icebox/refrigerated cookie dough into four portions of uniform size.
Continued next page	

Types and Makeup Methods, continued

Icebox Cookies, contd.

STEP	ACTION
6.	Form the dough into cylinders from 1 to 2 inches in diameter (depending upon the cookie size desired). Note: To create accurate, same-sized portions, it is important to make all cylinders of dough the same thickness.
7.	Wrap the cylinders in parchment or waxed paper.
8.	Place the wrapped cylinders on sheet pans.
9.	Refrigerate the wrapped cylinders at least one hour or overnight.
10.	Unwrap the dough cylinders.
11.	Cut the dough cylinders into slices of uniform thickness ($\frac{1}{4}$ to $\frac{1}{2}$ inch). Slice the dough by hand with a knife.
12.	Place the slices on a prepared baking sheet, allowing for 2 inches between slices (usually in four rows with six cookies in each row).
13.	Bake as directed in the recipe.
14.	Remove the cookies from the oven after the time required by the recipe has elapsed, or after the cookie edges become a light brown.
15.	Place the sheet pan on a cooling rack, allowing the cookies to continue cooking on the sheet pan while cooling.
16.	Follow proper storage procedures.
End of procedure	

Types and Makeup Methods, continued

Bar Cookies

Bar cookies are so called because the dough is shaped into long bars, which are baked and then cut. Do not confuse bar cookies with sheet cookies, which are often called “bars” by consumers.

Follow these steps to prepare bar cookies:

HOW TO PREPARE BAR COOKIES	
STEP	ACTION
1.	Read the recipe details.
2.	Preheat an oven to the temperature indicated or desired in the recipe.
3.	Gather equipment and ingredients required.
4.	Follow the recipe directions to create the dough.
5.	Measure the bar cookie dough into three equal portions (or four equal portions for smaller cookies).
6.	Shape the portions of dough into cylinders the length of the sheet pan.
7.	Place and space apart three cylinders lengthwise on each sheet pan.
8.	Flatten the dough with your fingers or a rolling pin into strips approximately 3 to 4 inches wide and $\frac{1}{4}$ to $\frac{1}{2}$ inch thick.
9.	Brush the strips with egg wash if required.
10.	Bake the dough strips as directed in the recipe.
11.	Remove the cookies from the oven after the time required by the recipe has elapsed.
12.	Cut each flattened strip into bars approximately $1\frac{3}{4}$ inches wide while the flattened bars are still warm.
13.	Allow the bars to cool on a cooling rack.
14.	Follow proper storage procedures.
End of procedure	

Types and Makeup Methods, continued

Sheet Cookies

Many sheet cookie variations are possible; the following procedure is a guideline only.

HOW TO PREPARE SHEET COOKIES (GUIDELINES)									
STEP	ACTION								
1.	Read the recipe details.								
2.	Preheat a convection oven to the temperature indicated or desired in the recipe.								
3.	Gather equipment and ingredients required.								
4.	Follow the recipe directions to create the soft dough or batter.								
5.	Prepare a sheet pan with parchment paper or non-stick oil spray.								
6.	Spread the cookie mixture into the prepared sheet pan.								
7.	Level or even the cookie mixture within the sheet pan.								
8.	Determine if topping or egg wash is required: <table border="1" data-bbox="597 1045 1416 1392"> <thead> <tr> <th>IF THE SHEET COOKIES REQUIRE...</th> <th>THEN...</th> </tr> </thead> <tbody> <tr> <td>An egg wash,</td> <td>Brush the cookie mixture with an egg wash.</td> </tr> <tr> <td>A topping,</td> <td>Add the topping to the mixture.</td> </tr> <tr> <td>No egg wash or topping,</td> <td>Continue to step 9.</td> </tr> </tbody> </table>	IF THE SHEET COOKIES REQUIRE...	THEN...	An egg wash,	Brush the cookie mixture with an egg wash.	A topping,	Add the topping to the mixture.	No egg wash or topping,	Continue to step 9.
IF THE SHEET COOKIES REQUIRE...	THEN...								
An egg wash,	Brush the cookie mixture with an egg wash.								
A topping,	Add the topping to the mixture.								
No egg wash or topping,	Continue to step 9.								
9.	Bake as directed in the recipe.								
10.	Remove the sheet cookies from the oven after the time required by the recipe has elapsed, or after the edge of the cookie mixture turns a light brown.								
11.	Place the sheet pan on a cooling rack, allowing the cookies to continue cooking on the sheet pan while cooling.								
12.	Follow proper storage procedures.								
End of procedure									

Topic Review (2 of 2)

The Types of Cookies

Use the blank table on this page to help you learn the different types of cookies. Complete the table by writing at least two characteristics for each cookie type.

TYPES OF COOKIES	
TYPE	CHARACTERISTICS
Dropped	
Bagged	
Rolled	
Molded	
Icebox	
Bar	
Sheet	

Cookie Recipe Examples

Overview

At this point you know enough to get started reviewing cookie recipes and getting ready to prepare them. In this section you will find recipes for:

- Dropped cookies
- Rolled cookies
- Sheet cookies
- Bar cookies
- Icebox cookies

Dropped Cookies – Recipe Example

This is an example of a dropped cookie recipe.

CHOCOLATE CHIP COOKIES		
100 PORTIONS		PORTION SIZE: 2 COOKIES
TEMPERATURE: 325 CONVECTION OVEN		PANS: 6 SHEET
INGREDIENTS	WEIGHTS	MEASURES
FLOUR, WHEAT G.P., SIFTED	3 LB. 4 OZ.	
BAKING SODA	3/4 OZ.	
SALT	1 OZ.	
BUTTER	4 OZ.	
SHORTENING	1 LB. 12 OZ.	
SUGAR, BROWN	1 LB. 10 OZ.	
SUGAR, GRANULATED	1 LB. 9 OZ.	
EGGS, WHOLE		2 CUPS (10 EGGS)
WATER, WARM		2 TBSP.
VANILLA EXTRACT		1 TBSP.
CHOCOLATE CHIPS	2 LB. 8 OZ.	
1. Sift together flour, baking soda, and salt. Set aside for use in step 5.		
2. Cream butter and shortening together in a 20 quart mixing bowl, on medium speed, using a paddle. Mixture should be free of lumps.		
3. Add sugar, mix at medium speed 3 minutes or until light and fluffy. Scrape down bowl.		
4. Combine eggs, vanilla, and water. Add gradually to creamed mixture while mixing on low speed.		
5. Add dry ingredients, mix 1 minute or until ingredients are combined.		
6. Add chocolate chips, mix only until chips are evenly distributed.		
7. Using #30 scoop, place cookies 4 X 6 on parchment paper lined sheet pans.		
8. Bake 8 minutes or until base of cookies start to turn brown.		

Cookie Recipe Examples, continued

**Rolled
Cookies --
Recipe
Example**

This is an example of a rolled cookie recipe.

PEANUT BUTTER COOKIES		
100 PORTIONS		PORTION SIZE: 2 COOKIES
TEMPERATURE: 325 CONVECTION OVEN		PANS: 9 SHEET
INGREDIENTS	WEIGHTS	MEASURES
SHORTENING	1 LB. 12 OZ.	
SUGAR, GRANULATED	2 LB.	
SUGAR, BROWN	1 LB. 8 OZ.	
EGGS, WHOLE		1 1/2 CUPS (8 EGGS)
VANILLA EXTRACT		1 TBSP. 1 TSP.
PEANUT BUTTER	2 LB. 8 OZ.	
FLOUR, WHEAT, G.P., SIFTED	3 LB.	
BAKING SODA	1 1/4 OZ.	
SALT		2 TSP.
SUGAR, GRANULATED	ENOUGH TO SPRINKLE ON EACH COOKIE	
<ol style="list-style-type: none"> 1. Place ingredients in a 20 quart mixing bowl in order listed. 2. Using a paddle, mix on low speed 1 minute. 3. Scrape down bowl. Mix on low speed 1 to 2 minutes or until smooth. 4. Using #30 scoop, place cookies 4 X 6 on parchment paper lined sheet pans. 5. Using a meat tenderizing mallet, bottom of a glass, or a fork dipped in granulated sugar, flatten cookies to 1/4" thick. 6. Sprinkle with granulated sugar. 7. Bake 8 minutes or until base of cookies start to turn brown. 		

Cookie Recipe Examples, continued

Sheet Cookies – Recipe Example

This is an example of a sheet cookie recipe.

DREAM BARS		
100 PORTIONS	PORTION SIZE: 1 COOKIES	
TEMPERATURE: 300 CONVECTION OVEN	PANS: 1 SHEET	
INGREDIENTS	WEIGHTS	MEASURES
BUTTER, MELTED	1 LB. 8 OZ.	
GRAHAM CRACKER CRUMBS	2 LB. 4 OZ.	
COCONUT, SHREDDED	1 LB.	
CHOCOLATE CHIPS	2 LB. 12 OZ.	
WALNUTS, CHOPPED	1 LB. 8 OZ.	
MILK, SWEETENED, CONDENSED		(4) 14 OZ. CANS
<ol style="list-style-type: none"> 1. Scale ingredients. 2. Combine melted butter and the graham cracker crumbs. 3. Line the bottom of an ungreased sheet pan with the crumb mixture. Press it down with a rolling pin to form the crust. 4. Sprinkle the walnuts, chocolate chips and the coconut over the crust in the order listed (One on top of the other, in layers). 5. Pour the sweetened condensed milk over the top making sure not to pool in one area. 6. Bake for 20 minutes or until the milk starts to brown. 		

Cookie Recipe Examples, continued

Bar Cookies – Recipe Example

This is an example of a bar cookie recipe.

ALMOND BISCOTTI		
100 PORTIONS	PORTION SIZE: 1 COOKIES	
TEMPERATURE: 325 CONVECTION OVEN	PANS: 1 SHEET	
INGREDIENTS	WEIGHTS	MEASURES
EGGS, WHOLE		11 EGGS
SUGAR, GRANULATED	2 LB. 4 OZ.	
SALT	1 OZ.	
VANILLA EXTRACT		1 TBSP. 1 TSP.
GRATED ORANGE ZEST		1 TBSP. 1 TSP.
CHINESE 5 SPICE		2 TBSP.
FLOUR, PASTRY	3 LB. 8 OZ.	
BAKING POWDER	1 1/2 OZ.	
ALMONDS, SLIVERED	1 LB. 4 OZ.	
<ol style="list-style-type: none"> 1. In a double boiler, heat the eggs, sugar, and salt until warm. 2. Whip heated egg mixture until light and thick. 3. Fold in the vanilla and orange zest. 4. Sift the flour, chinese 5 spice, and baking powder together and fold into egg mixture. 5. Fold in the almonds. 6. On a parchment-lined sheet pan, with dusted hands, shape into logs 2 1/2" thick. 7. Egg-wash the entire top and sides of the dough log. 8. Bake at 325° until golden brown, about 20 minutes. 9. Remove from oven and let cool slightly. 10. Slice logs diagonally in 1/2" wedges. 11. Place sliced-side down on parchment lined sheet-pans and bake until the center is dry. 		

Cookie Recipe Examples, continued

Icebox Cookies – Recipe Example

This is an example of an icebox cookie recipe.

ICEBOX COOKIES (BUTTERSCOTCH, CHOCOLATE, NUT)		
100 PORTIONS	PORTION SIZE: 2 COOKIES	
TEMPERATURE: 325 CONVECTION OVEN	PANS: 8 SHEET	
INGREDIENTS	WEIGHTS	MEASURES
BUTTER/SHORTENING	2 LB.	
SUGAR, GRANULATED	1 LB.	
SUGAR, 10X	1 LB.	
SALT		2 1/2 TSP.
EGGS, WHOLE		4 EGGS
VANILLA EXTRACT		1 TBSP.
FLOUR, G. P.	3 LB.	
<ol style="list-style-type: none"> 1. In a 20 quart mixing bowl cream together sugars, salt, and butter until light and fluffy. 2. Scrape down bowl. On low speed add eggs and vanilla, mix until incorporated. 3. Scrape down bowl. Add flour, mix on low speed just until incorporated. 4. Scale dough in 1 1/2 pound logs. Slice cookies 1/4" thick. Place on parchment lined sheet pans and bake 6 - 8 minutes or until done. 		
VARIATIONS		
<p><i>Butterscotch</i> - Use 2 pounds brown sugar in place of granulated sugar and powdered sugar. Use only butter. Increase eggs to 5. Add 1 teaspoon baking soda to flour.</p> <p><i>Chocolate</i> - Add 1/2 pound melted unsweetened chocolate to creamed butter/sugar mix.</p> <p><i>Nut</i> - Add 12 ounces finely chopped nuts to the sifted flour for either recipe.</p> <p><i>Bull's Eye</i> - Roll out a cylinder of dough 1/2" thick. Roll out a sheet of contrasting colored dough 1/4" thick. Wrap the cylinder in the sheet of dough. Slice.</p>		

Lesson Review

Purpose The intention of this exercise is to help you to clarify and/or confirm your understanding of cookies and how to bake them.

Directions Test your knowledge of the 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 “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 conditions do not produce crispness in cookies?
 - a. Small size or thin shape
 - b. Low sugar and fat content
 - c. High temperature and/or long baking
 - d. Low proportion of liquid in the recipe
 2. If you want to have freshly baked cookies on hand at all times, you most likely produce cookies with the _____ method.
 - a. Bar
 - b. Drop
 - c. Sheet
 - d. Icebox
 3. The way that you prepare pans for making cookies is:
 - a. Flouring a greased pan will increase the spread of cookies baked upon it.
 - b. Lining cookie sheets with parchment or silicone paper is fast, and it eliminates the need to grease the sheets.
 - c. All cookie pans must be greased, no matter how high the fat content of the cookies that will be baked upon them.
 - d. All of the above.

Continued next page

Lesson Review, continued

**Questions,
contd.**

4. If you want to make _____ cookies, it helps to make them small and thin.
 - a. Crisp
 - b. Soft
 - c. Chocolate chip
 - d. Spread
 5. _____ and _____ content help make cookies crisp.
 - a. Low fat, low sugar
 - b. High fat, sugar
 - c. Eggs, sugar
 - d. High fat, low sugar
 6. Cookies can be made chewier by decreasing their egg content.
 - a. True
 - b. False
 7. In the one-stage mixing method, all ingredients are placed in the mixing bowl and mixed together.
 - a. True
 - b. False
 8. In the creaming method, the fat, sugar, and flour are creamed together; then the eggs and liquid are added and blended in.
 - a. True
 - b. False
-

Practicing What You Have Learned

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 task of the lesson:

- ❑ Prepare at least three of the following types of cookies from raw ingredients:
 - Bar
 - Ice box/refrigerated
 - Rolled
 - Dropped
 - Sheet
-

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 task listed above.

Observe a demonstration of how to prepare cookies. Then, under supervision, perform the task 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 EPQ/core task for this lesson is:

- 4.A.24—Prepare at least three of the following types of cookies from raw ingredients:
 - Bars
 - Ice box/refrigerated
 - Rolled
 - Dropped
 - Sheet
-

Lesson Summary

Summary

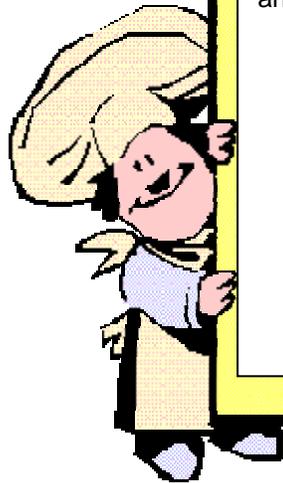
In this lesson, you learned about preparing cookies. Having completed this lesson, you can:

- Identify factors responsible for crispness, softness, chewiness, and spread in cookies.
 - Describe the different types of cookies.
 - Demonstrate the three basic cookie-mixing methods.
 - Prepare three different types of cookies.
-

Next in this Unit

In the next lesson you will learn how to prepare cakes and frostings. More specifically, you will learn:

- How to use the mixing methods to prepare cakes
- Guidelines for baking cakes
- The functions and types of frostings
- Guidelines for choosing a frosting
- How to frost a cake



Topic Review Feedback (1 of 2)

Factors that Affect Cookie Characteristics, Answers

Factors		Cookie Characteristics			
		Crispness	Softness	Chewiness	Spread
Ex.	Heavily greased pan				X
1	High moisture		X	X	
2	Large size, thick shape		X		
3	High proportion of eggs			X	
4	High sugar and fat content	X			
5	High sugar, low fat			X	
6	Low moisture	X			
7	Low oven temperature				X
8	Low sugar and fat		X		
9	Slack batter				X
10	Small size and/or thin shape	X			
11	Strong gluten development during mixing			X	
12	Under baking		X		

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

- Which of the following conditions do not produce crispness in cookies?
 - Small size or thin shape
 - Low sugar and fat content**
 - High temperature and/or long baking
 - Low proportion of liquid in the recipe
- If you want to have freshly baked cookies on hand at all times, you most likely produce cookies with the _____ method.
 - Bar
 - Drop
 - Sheet
 - Icebox**
- The way that you prepare pans for making cookies is:
 - Flouring a greased pan will increase the spread of cookies baked upon it.
 - Lining cookie sheets with parchment or silicone paper is fast, and it eliminates the need to grease the sheets.**
 - All cookie pans must be greased, no matter how high the fat content of the cookies that will be baked upon them.
 - All of the above.
- If you want to make _____ cookies, it helps to make them small and thin.
 - Crisp**
 - Soft
 - Chocolate chip
 - Spread
- _____ and _____ content help make cookies crisp.
 - Low fat, low sugar
 - High fat, sugar**
 - Eggs, sugar
 - High fat, low sugar

Continued next page

Lesson Review Feedback, continued

**Answers,
contd.**

6. Cookies can be made chewier by decreasing their egg content.
 - a. True
 - b. False**
 7. In the one-stage mixing method, all ingredients are placed in the mixing bowl and mixed together.
 - a. True**
 - b. False
 8. In the creaming method, the fat, sugar, and flour are creamed together; then the eggs and liquid are added and blended in.
 - a. True
 - b. False**
-

PERFORMANCE EVALUATION 8.3.1

Preparing Cookies

Goal The student will perform the following:

- Prepare cookies
-

Process Given a recipe you will prepare at least three of the following types of cookies:

- Bar cookies
 - Icebox cookies
 - Rolled cookies
 - Dropped cookies
 - Sheet cookies
-

**Directions
Hands – On
Practice** Using the recipes as guidelines, and reference material and job aids provided by the supervisor, you will:

1. Interpret the recipes.
2. Prepare the equipment and food items.
3. Prepare the products according to the recipe.

When you have completed the practice, see your supervisor for further instructions.

Checklist Fill in your name on the Unit 8 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 8.3.1A

Prepare Bar Cookies

Location <hr/> <hr/>	Completed by: _____ Reviewed by: _____ <div style="display: flex; justify-content: space-around; font-size: small;"> (Enter your name) (Obtain Supervisor's signature) </div>
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EPQ
4.A.24 Prepare at least three of the following types of cookies from raw ingredients IAW "Professional Cooking" by Wayne Gisslen and Armed Forces Recipe Service (AFRS), NAVSUP Publication 7:

- Bars
- Ice Box/Refrigerated
- Rolled
- Dropped
- Sheet

Criteria <u>Accuracy:</u> <ul style="list-style-type: none"> Select proper equipment 100% of the time. Follow recipes guidelines Use the proper temperature 	<u>Safety:</u> <ul style="list-style-type: none"> Proper equipment selected 100% of the time Remove loose clothing when working around mixers Exercise caution when working with hot pans
---	---

TASK	COMMENTS									
	1st Attempt		2nd Attempt		3rd Attempt					
	Y	N	____/____/____ Date	Y	N	____/____/____ Date	Y	N	____/____/____ Date	
1. The performer has preheated the oven to the temperature indicated in the recipe.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		
2. The performer measured the bar cookie dough into three equal portions (or four equal portions for smaller cookies).	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		
3. The performer shaped the portions of dough into cylinders the length of the sheet pan.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		

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Location <hr/> <hr/>	Completed by: _____ Reviewed by: _____ (Enter your name) (Obtain Supervisor's signature)								
TASK	COMMENTS								
	Y	N	1st Attempt _____/_____/_____ Date	Y	N	2nd Attempt _____/_____/_____ Date	Y	N	3rd Attempt _____/_____/_____ Date
4. The performer placed and spaced apart three cylinders length-wise on each sheet pan.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
5. The performer flattened the dough into strips approximately 3 to 4 inches wide and 1/4 to 1/2 inch thick.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
6. The performer brushed the strips with egg wash. (This step is performed if required.)	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
7. The performer baked the dough strips as directed in the recipe.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
8. The performer removed the cookies from the oven after the time required by the recipe.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
9. The performer cut each flattened strip into bars approximately 1 3/4 inches wide while the flattened bars were still warm.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
10. The performer allowed the bars to cool on a cooling rack.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/> Go <input type="checkbox"/> No Go			<input type="checkbox"/> Go <input type="checkbox"/> No Go			<input type="checkbox"/> Go <input type="checkbox"/> No Go

PERFORMANCE EVALUATION 8.3.1B

Prepare Ice Box/Refrigerated Cookies

Location <hr style="border: 0; border-top: 1px solid black; margin: 2px 0;"/> <hr style="border: 0; border-top: 1px solid black; margin: 2px 0;"/>	Completed by: _____ Reviewed by: _____ <div style="display: flex; justify-content: space-around; font-size: small;"> (Enter your name) (Obtain Supervisor's signature) </div>
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EPQ
4.A.24 Prepare at least three of the following types of cookies from raw ingredients IAW "Professional Cooking" by Wayne Gisslen and Armed Forces Recipe Service (AFRS), NAVSUP Publication 7:

- Bars
- Ice Box/Refrigerated
- Rolled
- Dropped
- Sheet

Criteria <u>Accuracy:</u> <ul style="list-style-type: none"> Select proper equipment 100% of the time Follow recipes guidelines Use the proper temperature 	<u>Safety:</u> <ul style="list-style-type: none"> Proper equipment selected 100% of the time Remove loose clothing when working around mixers Exercise caution when working with hot pans
--	---

TASK	COMMENTS											
	1st Attempt		2nd Attempt		3rd Attempt		1st Attempt		2nd Attempt		3rd Attempt	
	Y	N	/	/	/	/	/	/	/	/	/	/
		Date				Date				Date		
1. The performer divided the icebox/refrigerated cookie dough into 4 portions of uniform size.	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>		
2. The performer formed the dough into cylinders from 1 to 2 inches in diameter (depending upon the cookie size desired).	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>		
3. The performer wrapped the cylinders in parchment or waxed paper and placed them on sheet pans.	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>		

continued next page

Location <hr/> <hr/>	Completed by: _____ Reviewed by: _____ (Enter your name) (Obtain Supervisor's signature)								
TASK	COMMENTS								
	Y	N	1st Attempt _____/_____/_____ Date	Y	N	2nd Attempt _____/_____/_____ Date	Y	N	3rd Attempt _____/_____/_____ Date
4. The performer refrigerated the wrapped cylinders at least one hour or overnight.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
5. The performer unwrapped the dough cylinders.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
6. The performer cut the dough cylinders into slices of uniform thickness ($\frac{1}{4}$ to $\frac{1}{2}$ inch). Sliced the dough by hand with a knife.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
7. The performer placed the slices on a prepared baking sheet, allowing for 2 inches between slices (usually in 4 rows with six cookies in each row).	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
8. The performer baked as directed in the recipe.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
9. The performer removed the cookies from the oven after the time required by the recipe, or after the cookie edges became a light brown.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
10. The performer placed the sheet pan on a cooling rack.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/> Go <input type="checkbox"/> No Go			<input type="checkbox"/> Go <input type="checkbox"/> No Go			<input type="checkbox"/> Go <input type="checkbox"/> No Go

PERFORMANCE EVALUATION 8.3.1C

Prepare Rolled Cookies

Location <hr/> <hr/>	Completed by: _____ Reviewed by: _____ (Enter your name) (Obtain Supervisor's signature)								
EPQ 4.A.24 Prepare at least three of the following types of cookies from raw ingredients IAW "Professional Cooking" by Wayne Gisslen and Armed Forces Recipe Service (AFRS), NAVSUP Publication 7: <input type="checkbox"/> Bars <input type="checkbox"/> Ice Box/Refrigerated <input type="checkbox"/> Rolled <input type="checkbox"/> Dropped <input type="checkbox"/> Sheet									
Criteria Accuracy: <ul style="list-style-type: none"> Select proper equipment 100% of the time Follow recipes guidelines Use the proper temperature 	Safety: <ul style="list-style-type: none"> Proper equipment selected 100% of the time Remove loose clothing when working around mixers Exercise caution when working with hot pans 								
TASK	COMMENTS								
	Y	N	1 st Attempt ____/____/____ Date	Y	N	2 nd Attempt ____/____/____ Date	Y	N	3 rd Attempt ____/____/____ Date
1. The performer shaped the dough, and chilled it thoroughly.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
2. The performer floured a workbench or canvas.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
3. The performer rolled the dough to 1/4-inch thickness on the floured canvas or workbench.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
continued next page									

Location <hr/> <hr/>	Completed by: _____ Reviewed by: _____ (Enter your name) (Obtain Supervisor's signature)									
TASK	COMMENTS									
	Y	N	1st Attempt _____/_____/_____ Date	Y	N	2nd Attempt _____/_____/_____ Date	Y	N	3rd Attempt _____/_____/_____ Date	
4. The performer cut out the cookies evenly using a cookie cutter.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		
5. The performer placed and spaced the cut out cookies on a prepared sheet pan.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		
6. The performer baked as directed in the recipe.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		
7. The performer removed the cookies from the oven after the time required by the recipe has elapsed, or after the cookie edges become a light brown.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		
8. The performer placed the sheet pan on a cooling rack, allowing the cookies to continue cooking on the sheet pan while cooling.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		
	<input type="checkbox"/> Go <input type="checkbox"/> No Go			<input type="checkbox"/> Go <input type="checkbox"/> No Go			<input type="checkbox"/> Go <input type="checkbox"/> No Go			

PERFORMANCE EVALUATION 8.3.1D

Prepare Dropped Cookies

Location <hr style="border: 0; border-top: 1px solid black; margin: 2px 0;"/> <hr style="border: 0; border-top: 1px solid black; margin: 2px 0;"/>	Completed by: _____ Reviewed by: _____ <div style="display: flex; justify-content: space-between; font-size: small;"> (Enter your name) (Obtain Supervisor's signature) </div>
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EPQ
4.A.24 Prepare at least three of the following types of cookies from raw ingredients IAW "Professional Cooking" by Wayne Gisslen and Armed Forces Recipe Service (AFRS), NAVSUP Publication 7:

- Bars
- Ice Box/Refrigerated
- Rolled
- Dropped
- Sheet

Criteria <u>Accuracy:</u> <ul style="list-style-type: none"> Select proper equipment 100% of the time. Follow recipes guidelines Use the proper temperature 	<u>Safety:</u> <ul style="list-style-type: none"> Proper equipment selected 100% of the time. Remove loose clothing when working around mixers Exercise caution when working with hot pans
---	--

TASK	COMMENTS									
	1st Attempt		2nd Attempt		3rd Attempt					
	Y	N	____/____/____ Date	Y	N	____/____/____ Date	Y	N	____/____/____ Date	
1. The performer determined the size of the scoop he used by the size of the dropped cookie to be made.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		
2. The performer placed the cookies on a prepared sheet pan using the proper scoop.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		

continued next page

Location <hr/> <hr/>	Completed by: _____ Reviewed by: _____ (Enter your name) (Obtain Supervisor's signature)									
TASK	COMMENTS									
	Y	N	1st Attempt ____/____/____ Date	Y	N	2nd Attempt ____/____/____ Date	Y	N	3rd Attempt ____/____/____ Date	
3. The performer dipped a weight (glass, mallet, or fork) in sugar and flattened the cookies. (This step is required if the cookies need to be flattened.)	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		
4. The performer baked the cookies as directed in the recipe.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		
5. The performer removed the cookies from the oven after the time required in the recipe, or after the cookie edges turned a darker brown.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		
6. The performer placed the sheet pan on a cooling rack, allowing the cookies to continue cooking on the sheet pan while cooling.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		
			<input type="checkbox"/> Go <input type="checkbox"/> No Go			<input type="checkbox"/> Go <input type="checkbox"/> No Go			<input type="checkbox"/> Go <input type="checkbox"/> No Go	

PERFORMANCE EVALUATION 8.3.1E

Prepare Sheet Cookies

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

EPQ
4.A.24 Prepare at least three of the following types of cookies from raw ingredients IAW "Professional Cooking" by Wayne Gisslen and Armed Forces Recipe Service (AFRS), NAVSUP Publication 7:

- Bars
- Ice Box/Refrigerated
- Rolled
- Dropped
- Sheet

Criteria <u>Accuracy:</u> <ul style="list-style-type: none"> • Select proper equipment 100% of the time. • Follow recipes guidelines • Use the proper temperature 	<u>Safety:</u> <ul style="list-style-type: none"> • Proper equipment selected 100% of the time. • Remove loose clothing when working around mixers • Exercise caution when working with hot pans
---	--

TASK	COMMENTS									
	1st Attempt		2nd Attempt		3rd Attempt					
	Y	N	____/____/____ Date	Y	N	____/____/____ Date	Y	N	____/____/____ Date	
1. The performer prepared a sheet pan with parchment paper or non-stick oil spray.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		
2. The performer spread the cookie mixture into the prepared sheet pan.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		
3. The performer leveled or even the cookie mixture within the sheet pan.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		

continued next page

Location <hr/> <hr/>	Completed by: _____ Reviewed by: _____ (Enter your name) (Obtain Supervisor's signature)										
TASK	COMMENTS										
	Y	N	1st Attempt _____/_____/_____ Date	Y	N	2nd Attempt _____/_____/_____ Date	Y	N	3rd Attempt _____/_____/_____ Date		
4. The performer brushed the cookie mixture with an egg wash. (This step is performed if required.)	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>			
5. The performer added the topping to the mixture. (This step is performed if required.)	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>			
6. The performer baked as directed in the recipe.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>			
7. The performer removed the cookies from the oven after the time required by the recipe has elapsed, or after the cookie edges become a darker brown.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>			
8. The performer placed the sheet pan on a cooling rack, allowing the cookies to continue cooking on the sheet pan while cooling.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>			
			<input type="checkbox"/> Go <input type="checkbox"/> No Go				<input type="checkbox"/> Go <input type="checkbox"/> No Go				<input type="checkbox"/> Go <input type="checkbox"/> No Go

LESSON 4

How to Prepare Cakes and Frostings

Introduction

Overview

In this lesson, you will learn to prepare cakes and frostings.

This section covers:

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

Performance Qualifications

This lesson covers one Enlisted Performance Qualification (EPQ):

4.A.23 Prepare a frosted sheet cake IAW “Professional Cooking” by Wayne Gisslen, Armed Forces Recipe Service (AFRS), NAVSUP Publication 7 and product instructions.

SupGuide: Member will be required to bake a sheet cake, prepare from raw ingredients a buttercream frosting/icing, and frost the cake.

Objectives

Upon completion of this lesson, given recipes, raw ingredients, and access to required equipment, you will:

- Prepare a cake
 - Prepare a frosting
 - Frost a cake
-

Performance Evaluation

There will be a performance evaluation in this lesson. This evaluation will cover EPQ 4.A.23 as listed above.

Introduction, continued

Tools and References

The tools and references for this lesson include:

- Professional Cooking*, by Wayne Gisslen
 - Armed Forces Recipe Service (AFRS), NAVSUP Publication 7
 - Unit 1, Appendix C, Glossary of Key Terms
 - Cookware/cooking equipment
 - Food products for all activities
-

Recommended Reading

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

- Professional Cooking*, “Cakes and Icings” (Chapter 29).

...and review some of the cookies recipes from:

- AFRS, Section G, “Desserts (Cake and Frostings)” (No. 036 00).
-

Topics Covered by This Lesson

This lesson covers the following topics:

- Cakes
 - Mixing methods
 - Types of cake recipes
 - Baking and cooling
 - How to prepare a frosted sheet cake
 - Frostings
 - Functions and types of frostings
 - Choosing a frosting
 - How to prepare a frosting
 - How to frost a cake
-

Cakes

Overview

Of all the baked products you have studied so far, cakes are the richest and sweetest of all.

From the baker's point of view, producing cakes requires as much precision as producing breads, but for completely different and opposite reasons. While breads are lean products that require strong gluten development and careful control of yeast action during the long fermentation and proofing periods, cakes, on the other hand, are high in both fat and sugar. Your job when baking a cake is to create a structure that will support these ingredients and yet keep it as light and delicate as possible.

Fortunately, producing cakes in quantity is relatively easy if you:

- Scale ingredients accurately,
- Understand the basic mixing methods well, and
- Have good, well-balanced recipes.

In this component of the lesson, you will learn about how to prepare cakes. More specifically, this covers:

- Mixing methods
 - Types of cake recipes
 - Baking and cooling
 - How to prepare a frosted sheet cake
 - Baking the cake
-

Mixing Methods

There are three mixing methods you need to know:

- Creaming method
- Two-stage method
- Egg foam method

We address these in the next few sections.

Cakes, continued

Creaming Method

The *creaming* method, also known as the conventional method, was for a long time the standard method for mixing butter cakes. When emulsified or high-ratio shortenings came along they led to the development of simpler mixing methods for shortened cakes. The creaming method, however, is still used for many types of butter cakes.

In the creaming method, air is the leavening agent—fat and sugar are beaten together to incorporate air.

Follow the steps in the table below to use the creaming method.

HOW TO USE THE CREAMING METHOD	
STEP	ACTION
1.	Scale the ingredients accurately. Have all ingredients at room temperature.
2.	Place the butter or shortening in the mixing bowl, and beat the mixture slowly until the fat is smooth and creamy.
3.	Add the sugar. Cream the mixture at moderate speed until it is light and fluffy.
4.	Add the eggs a little at a time.
5.	Scrape down the side of the bowl to ensure even mixing.
6.	Add the sifted dry ingredients, alternating with the liquids.
End of procedure	

Cakes, continued

Two-Stage Method

The two-stage method, also called the *blending method*, was developed for use with modern high-ratio shortenings (*Professional Cooking*, Chapter 26). It is called “two-stage” because the liquids are added in two stages.

See the table below for the two-stage method.

HOW TO USE THE TWO-STAGE METHOD	
STEP	ACTION
1.	Scale the ingredients accurately. Have all ingredients at room temperature.
2.	Sift the flour, baking powder, soda, and salt into the mixing bowl, and add the shortening.
3.	Mix at low speed for 2 minutes. Stop the machine, scrape down the bowl and beater, and mix again for 2 minutes.
4.	Sift the remaining dry ingredients into the bowl, and add part of the water or milk. Blend at low speed for 3 to 5 minutes.
5.	Combine the remaining liquids and lightly beaten eggs in thirds.
6.	Mix for five minutes.
End of procedure	

Egg-Foam Method

Cakes made by the egg-foam method, also known as the foaming or sponge method, contain little or no shortening and depend for most or all of their leavening on the air trapped in the beaten eggs.

See the table below for the basic procedure for the foaming or sponge method.

HOW TO USE THE FOAMING OR SPONGE METHOD	
STEP	ACTION
1.	Scale the ingredients accurately. Have all ingredients at room temperature.
2.	Combine the eggs and sugar.
Continued next page	

Cakes, continued

Egg-Foam Method, contd.

STEP	ACTION
3.	With the whip attachment, beat the egg and sugar mixture at high speed until light and thick. Remove the mixture from the machine.
4.	Using a rubber spatula, fold in the sifted flour, being careful not to deflate the foam.
5.	If melted butter or a butter-liquid mixture is being used, fold it in at this point.
6.	Immediately pan and bake the batter. Delays cause loss of volume.
End of procedure	

Key points:

- ❑ One of the most important causes of failure in this method is not whipping the eggs and sugar enough.
- ❑ When folding in the melted butter, be careful not to overmix, or the cake will be tough.

For more details on these mixing methods, see *Professional Cooking*, Chapter 29.

Types of Cake Recipes

There are two main types of cake recipes, those for *high-fat cakes* and *low-fat cakes*. The proper mixing method for a particular recipe depends on the balance of ingredients. Use the flowchart on the following page and *Professional Cooking*, Chapter 29 to help you know which method to use.

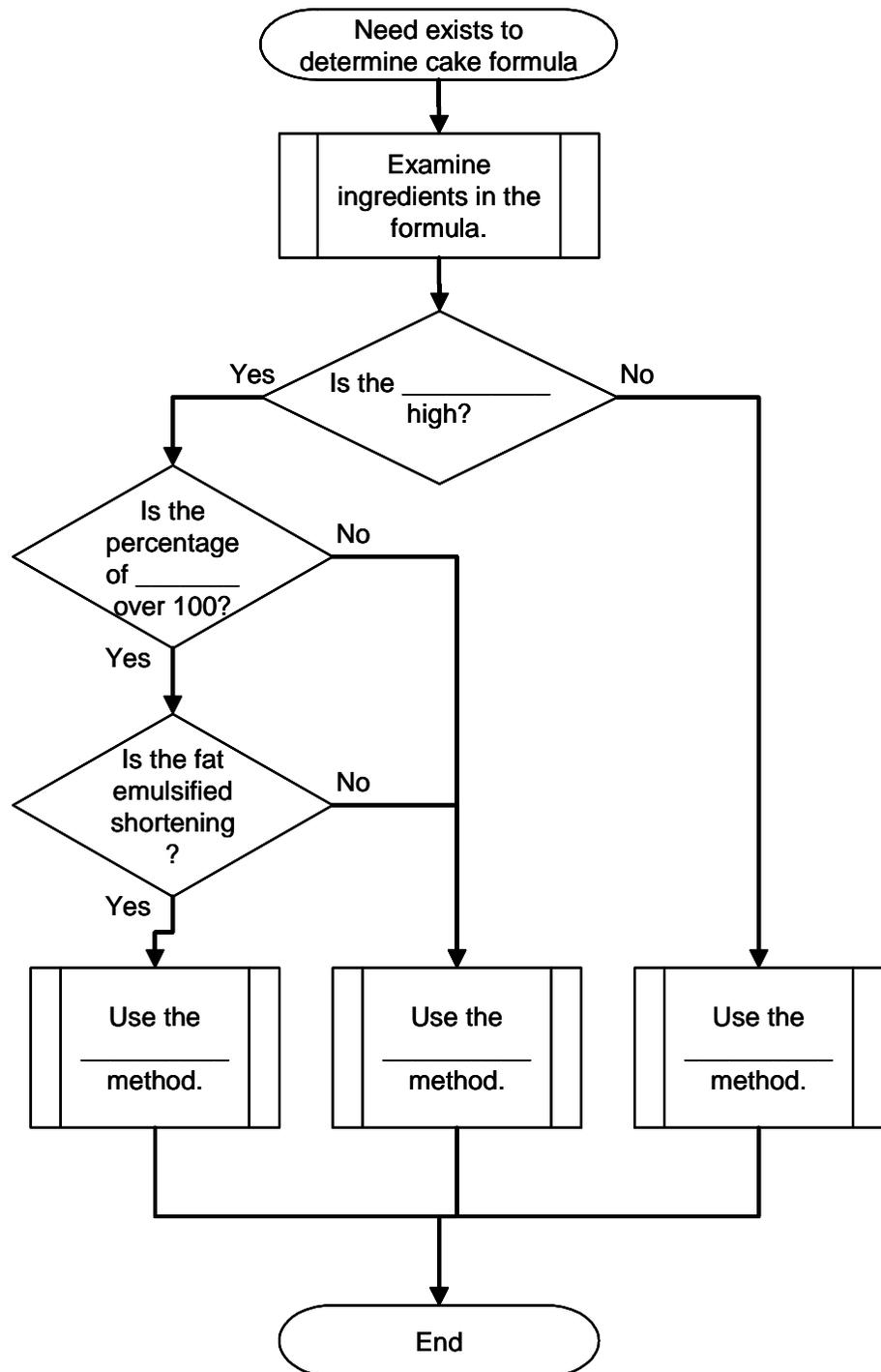
Continued next page

Cakes, continued

Types of Cake Recipes, contd.

To make this flowchart useful, fill in the blanks. Use *Professional Cooking*, Chapter 29 to help you do this.

Determining the Mixing Method



Cakes, continued

Baking and Cooling

Cake structure is fragile, so proper baking conditions are essential for high-quality products. In this section you will look at the guidelines for baking cakes, discuss how to cool layer and sheet cakes, and consider how altitude impacts the baking of cakes.

Complete the table below to help you learn the guidelines for baking cakes and avoiding cake failures. Use *Professional Cooking*, Chapter 29 to help you with this.

GUIDELINES FOR BAKING CAKES	
NO.	GUIDELINE
1.	
2.	
3.	
4.	
5.	
6.	
7.	

Continued next page

Cakes, continued

Baking and Cooling, contd.

Key points:

- ❑ For Cutters: In the event your ship is listing to port or starboard or pitching fore or aft, it may be necessary to turn the sheet cake one-half turn halfway through the baking process to prevent spillage and aid in even baking.
 - ❑ When cooling cakes, cool layer cakes and sheet cakes for 15 minutes in pans and then turn them out while slightly warm. They are too fragile to turn out when hot, and they may break. If cakes are too cool they may stick to the pan.
 - ❑ Errors in mixing, scaling, baking, and cooling cakes cause many kinds of defects and failures. Use the table on Common Cake Faults and Their Causes in *Professional Cooking*, Chapter 29 to help you understand common cake faults and their causes.
 - ❑ At high altitudes, atmospheric pressure is much lower than at sea level. This factor must be taken into account when baking cakes. Recipes must be adjusted to suit different baking conditions over 2,000 or 3,000 feet above sea level. See *Professional Cooking*, Chapter 29 for more details. (Currently, the U.S. Coast Guard has no units at this altitude.)
-

How to Prepare a Frosted Sheet Cake

There are three activities you must perform in order to prepare a frosted sheet cake. You must:

- ❑ Bake the cake (part 1)
- ❑ Prepare the frosting (part 2)
- ❑ Frost the cake (part 3)

At the end of this lesson, you will watch a demonstration of how to perform each of these and then perform them yourself.

Cakes, continued

Baking the Cake

To prepare a frosted sheet cake, follow these steps.

HOW TO PREPARE A FROSTED SHEET CAKE – PART 1 (BAKING AND COOLING THE CAKE)	
STEP	ACTION
1.	Read the recipe details.
2.	Gather equipment and ingredients required.
3.	Check to make sure oven racks are level and in proper position for baking.
4.	Preheat the oven to the temperature specified in the recipe.
5.	Grease and line the baking pan with paper to ensure easy removal.
6.	Weigh or measure all ingredients according to the values specified in the recipe.
7.	Combine the ingredients according to the method.
8.	Mix the ingredients to make the batter according to the recipe.
9.	Pour the batter into the prepared sheet pan.
10.	Spread the batter evenly in the sheet pan using a spatula.
11.	Immediately place the baking pan into the preheated oven.
12.	Space sheet pans evenly in the oven to allow heat to circulate around each pan.
Continued next page	

Cakes, continued

Baking the Cake, contd.

STEP	ACTION		
13.	Determine the doneness of the cake.		
	IF THE SHORTENED CAKE...	AND...	THEN...
	Has not begun pull away from the sides of the sheet pan,	A toothpick inserted at the center of the cake does not come out clean,	The cake is not done. Bake it for another 3 to 5 minutes, and test again using a toothpick near the center of the cake.
	Is lightly brown and pulls away from the sides of the sheet pan,	A toothpick inserted at the center of the cake comes out clean,	The cake is done. Go to step 14.
14.	Remove the sheet pan from the oven.		
15.	Place the sheet pan on a rack away from drafts to cool.		
16.	Allow the cake to cool to room temperature before removing it from the sheet pan.		
17.	Remove any paper liners immediately.		
18.	Turn the cake right side up to cool.		
End of procedure			

Key points:

- Be sure that the sheet pan you use for the sheet cake is not warped or bent. Use only lightweight (shiny metal) sheet pans designed for baking.
- During mixing, do not overbeat or underbeat the ingredients.
- When you place sheet pans in an oven, the sheet pans should not touch each other or the sides of the oven.
- Sheet cakes may be cooled in pans and frosted or turned out onto inverted sheet pans to cool before frosting.

Frostings

Overview

In this component of the lesson you will look more closely at frostings. This section covers:

- Functions and types of frostings
 - Choosing a frosting
 - How to prepare a frosting
 - How to frost a cake
-

Functions and Types of Frostings

Frostings, also referred to as icings, have three main functions. Complete the table below, using *Professional Cooking*, Chapter 29 to show these three functions.

FUNCTIONS OF FROSTINGS	
NO.	FUNCTION
1.	
2.	
3.	

There are six basic types of frostings:

- Fondant
- Buttercream
- Foam-type
- Fudge-type
- Flat-type
- Royal or decorator's

In this lesson you will focus on buttercream frosting. Buttercream frostings are light, smooth mixtures of fat and confectioners' sugar.

Continued next page

Frostings, continued

Functions and Types of Frostings, contd.

Simple buttercreams are made by creaming together fat and sugar to the desired consistency and lightness. A small quantity of egg whites may be whipped in.

Decorator's buttercream is a simple buttercream used for making flowers and other cake decorations. It is creamed only a little because if too much air is beaten in, it would not be able to hold the delicate shapes.

Butter, especially sweet, unsalted butter, is the preferred fat for buttercream because of its flavor and melt-in-the-mouth quality.

Choosing a Frosting

Before frosting a cake, you must choose a frosting, and when choosing a frosting you should consider that the flavor, texture, and color of the frosting must be compatible with the cake.

In the example you are preparing in class, the frosting has already been chosen for you. For future cakes, however, use the following guidelines to help you select frostings.

GUIDELINES FOR CHOOSING FROSTINGS
<ul style="list-style-type: none"> ■ In general, use heavy frostings with heavy cakes and light frostings with light cakes. ■ Use the best-quality flavorings, and use them sparingly. The flavor of the frosting should not be stronger than the cake. ■ Use coloring sparingly. Light, pastel shades are more appetizing than loud colors.

Frostings, continued

How to Prepare a Frosting

To prepare the frosting for the sheet cake follow the steps in this table.

HOW TO PREPARE A FROSTED SHEET CAKE – PART 2 (PREPARING BUTTERCREAM FROSTING)	
STEP	ACTION
1.	Read the recipe details.
2.	Gather equipment and ingredients required.
3.	Cream together the butter, shortening, and sugar until well blended, using the paddle attachment.
4.	Add powdered sugar about 4 cups at a time while mixing on low speed. Sugar must be incorporated after each addition.
5.	Add milk and vanilla
6.	Mix on low speed for 3 minutes.
7.	Scrape down the bowl.
8.	Mix for 1 minute on medium speed. Adjust consistency with the remaining lemon juice.
9.	Mix on medium for 2 minutes.
10.	If food coloring is required in the frosting, mix the food coloring with a small amount of the frosting, and then add the colored small amount to the larger amount until the desired color is obtained.
End of procedure	

Continued next page

Frostings, continued

How to Prepare a Frosting, continued

Key points:

- ❑ Frostings should not be so strongly flavored that they detract from the flavor of the cake. Rather, frosting should complement the flavor of the cake.
 - ❑ When adding liquids, add them in very small amounts.
 - ❑ When adding colors, harsh, strong colors should not be used except in small amounts for some specific decorations.
-

How to Frost a Cake

To apply the frosting to the sheet cake, follow the steps below.

HOW TO PREPARE A FROSTED SHEET CAKE – PART 3 (FROSTING THE CAKE)	
STEP	ACTION
1.	Remove any loose crumbs from the cake before frosting the cake.
2.	Trim the cake with a sharp knife, if necessary.
3.	Put frosting on the top of the cake. Starting at the center of the cake, work outward.
End of procedure	

Key points:

- ❑ Freezing cakes beforehand makes frosting easier.
 - ❑ Use the amount of frosting needed for the entire cake all at once. (It is easier to take off extra frosting than to add frosting.)
 - ❑ When frosting, keep the spatula moving, and when finishing a stroke, lift the spatula while moving it.
-

Topic Review

Purpose The intention of this exercise is to give you the opportunity to clarify and/or confirm your understanding of cakes and frostings.

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 “Topic 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 reasons, in the creaming method, for creaming the butter and sugar until the mixture is light and fluffy?

2. List the following ingredients, in the order in which they are added to the mixing bowl when mixed by the *creaming method*: flour, sugar, shortening, eggs, milk.

CREAMING METHOD	
ORDER	INGREDIENT
First	
Second	
Third	
Fourth	
Fifth	

Continued next page

Topic Review, continued

**Questions,
contd.**

Review each question/statement below, and circle the best, most correct, answer/response from among the answer items.

3. Although cake production requires as much precision as bread production, producing cakes in quantity is relatively easy if the baker _____.
 - a. Scales ingredients accurately
 - b. Has good, well-balanced recipes
 - c. Understands basic mixing methods well
 - d. All of the above
4. Two-stage batters are easier to scale than creaming method batters because they _____.
 - a. Are thicker and easier to handle
 - b. Are more liquid and pour more easily
 - c. Contain more fat and therefore require no scraping
 - d. Require a less complicated percentage recipe to scale accurately
5. Jean's cake burst open on top. A possible reason for this failure was _____.
 - a. An oven that was too hot
 - b. Improper mixing
 - c. Too much liquid in the batter
 - d. Too little flour or a flour that was too weak
6. Charlotte's cake was too dense and heavy. A possible reason for this failure was too little _____.
 - a. Sugar
 - b. Liquid
 - c. Leavening
 - d. Shortening

Continued next page

Topic Review, continued

**Questions,
contd.**

7. One problem with buttercream frostings made from butter is that they melt so easily. One way to solve this problem is to _____.
 - a. Use this type of frosting only in cool weather
 - b. Blend a small quantity of shortening with the butter to help stabilize it
 - c. Either a or b
 - d. Neither a nor b
 8. When eggs are added to a cake batter in the creaming method, they should be added all at once.
 - a. True
 - b. False
-

Lesson Review

Purpose The intention of this exercise is to give you the opportunity to practice preparing cakes and frostings.

Directions Given recipes for the cake and the frosting, prepare:

- Yellow Sheet Cake with Buttercream Frosting

This activity will take a few hours. You will need to meet with your supervisor to discuss and plan for:

- Quantities to prepare
- Mise en place
- Equipment to use
- Timelines within which to work
- Teamwork—where and with whom you will be working
- Recipe conversions to use
- Preparations to make ahead of time (the day/night before)

You will have time to ask questions of your supervisor before starting, but after that time you will be on your own to plan and act on your plans to produce the cake and frosting listed above.

Before practicing, be sure to observe a demonstration of the following tasks by your supervisor:

- How to prepare a cake
- How to prepare a frosting
- How to frost a cake

Recipes On the next two pages, you will find the two recipes necessary for this activity:

- Yellow Sheet Cake
- Buttercream Frosting

Continued next page

Lesson Review, continued

Recipes,
contd.

Yellow Sheet Cake Recipe

76		
YELLOW CAKE		
100 PORTIONS		PORTION SIZE: 1 PIECE
TEMPERATURE: 325 CONVECTION OVEN		PANS: 2 SHEET
INGREDIENTS	WEIGHTS	MEASURES
FLOUR, G. P.	4 LB.	
SUGAR, GRANULATED	4 LB.	
SALT		2 1/3 TBSP.
BAKING POWDER		6 2/3 TBSP.
MILK, NONFAT, DRY	6 OZ.	
SHORTENING	1 LB. 8 OZ.	
WATER		4 1/2 CUPS
EGGS, WHOLE		4 1/4 CUPS (22 EGGS)
WATER		1 1/2 CUPS
VANILLA EXTRACT		1/4 CUP
<ol style="list-style-type: none"> 1. Sift together flour, sugar, salt, baking powder, and dry milk in to mixing bowl. 2. Add shortening and first measure of water to dry ingredients. Beat at low speed 1 minute until blended. Scrape down bowl. Beat on medium speed 2 minutes. 3. Combine eggs, water, and vanilla. Add slowly to mixture while beating at low speed, about 2 minutes. Scrape down bowl. Beat at medium speed 3 minutes. 4. Pour 3 1/2 quarts batter in to greased and floured sheet pan. Bake 25 to 30 minutes. 		
VARIATION		
WHITE CAKE - Use egg whites instead of whole eggs.		
BOSTON CREAM PIE - Make cakes using 10" rounds. Cut cooled cakes in half. Add 1 cup vanilla pudding and top with top of cake. Frost with chocolate frosting and dust with powdered sugar.		
MARBLE CAKE - Make half recipe yellow cake and half recipe devils food cake. Pan batters alternating light and dark. Using a butter knife, cut carefully through batter zig zagging to give a marble effect.		

Continued next page

Lesson Review, continued

**Recipes,
contd.**

Buttercream Frosting Recipe

		55
BUTTERCREAM FROSTING		
100 PORTIONS		
INGREDIENTS	WEIGHTS	MEASURES
10X SUGAR SIFTED	25 LB.	
BUTTER SOFTENED	6 LB. 4 OZ.	
SHORTENING	6 LB. 4 OZ.	
VANILLA CLEAR		9 TBSP.
LEMON JUICE		3/4 CUP
MILK, 2%		2 1/2 CUPS
<ol style="list-style-type: none"> 1. In a 60 quart mixing bowl, using a paddle, on medium speed, cream together butter and shortening. Mixture should be free of lumps. 2. Scrape down bowl and paddle. 3. Add powdered sugar about 4 cups at a time while mixing on low speed. Sugar must be incorporated after each addition. 4. Add milk and vanilla. 5. Mix on low speed 3 minutes. 6. Scrape down bowl. 7. Mix on medium speed 3 minutes. 8. Pan frosting into medium rectangular plastic bin. DO NOT REFRIGERATE! 		

Lesson Review, continued

On Gathering Feedback

When you are finished preparing your frosted cake, gather feedback from your supervisor regarding what he or she thinks of:

- What you prepared (how it looks, how it tastes), and
- How you prepared it (the methods you used)

Specific areas of feedback your supervisor will be paying attention to include the following:

FEEDBACK DIMENSIONS	
DIMENSION	DESCRIPTION
Product Appearance and Presentation	Do the products produced meet the standards discussed in class?
Recipe Conversions	How free from errors were your conversions, including lack of temps, pans, mise en place, method, and working factors?
Safety and Sanitation	To what degree did you operate within safety and sanitation guidelines, including washing your hands, proper use of the two-pan method, cuts, burns, knives, equipment, etc.?
Taste	How do the products taste?
Time Management	How did you manage your time? Was/were the product(s) completed on time?
Uniform	Did your uniform, as it was presented on the day of testing, meet the standard?

Use the space provided on the next few pages to help document your thoughts and ideas on what you did well and what you can improve.

Lesson Review, continued

Feedback on Your Preparation of a Frosting

Use this section to summarize the feedback you received from your supervisor on your preparation of a frosting.

The frosting I prepared was: _____

THE FOOD I PREPARED	THE FEEDBACK I RECEIVED
Frosting	<p>What were the desired behaviors I performed that met or exceeded standards?</p> <p>_____</p> <p>What advice for improvement did I receive?</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>

Before leaving this exercise, be sure your notes on your feedback are complete and accurate. This will help you remember to keep doing what you are doing well and change those things you need to change in order to improve your preparation of a frosted sheet cake.

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 EPQ/core task for this lesson is:

- 4.A.23—Prepare a frosted sheet cake
-

Lesson Summary

Summary

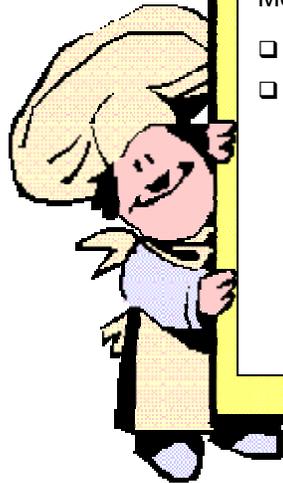
In this lesson, you learned about cakes and frostings. Having completed this lesson, you can:

- Prepare a cake
 - Prepare a frosting
 - Frost a cake
-

Next in this Unit

In the next lesson you will learn how to prepare pies. More specifically, you will learn:

- How to prepare one-crust pies
- How to prepare two-crust pies



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. What are the reasons, in the creaming method, for creaming the butter and sugar until the mixture is light and fluffy?

Creaming incorporates air, which helps leaven the cake.

2. List the following ingredients in the order in which they are added to the mixing bowl when mixed by the *creaming method*: flour, sugar, shortening, eggs, milk.

CREAMING METHOD	
ORDER	INGREDIENT
First	Shortening
Second	Sugar
Third	Eggs
Fourth	Flour
Fifth	Milk

Review each question/statement below and circle the best, most correct answer/response from among the answer items.

3. Although cake production requires as much precision as bread production, producing cakes in quantity is relatively easy if the baker _____.
 - a. Scales ingredients accurately
 - b. Has good, well-balanced recipes
 - c. Understands basic mixing methods well
 - d. All of the above**

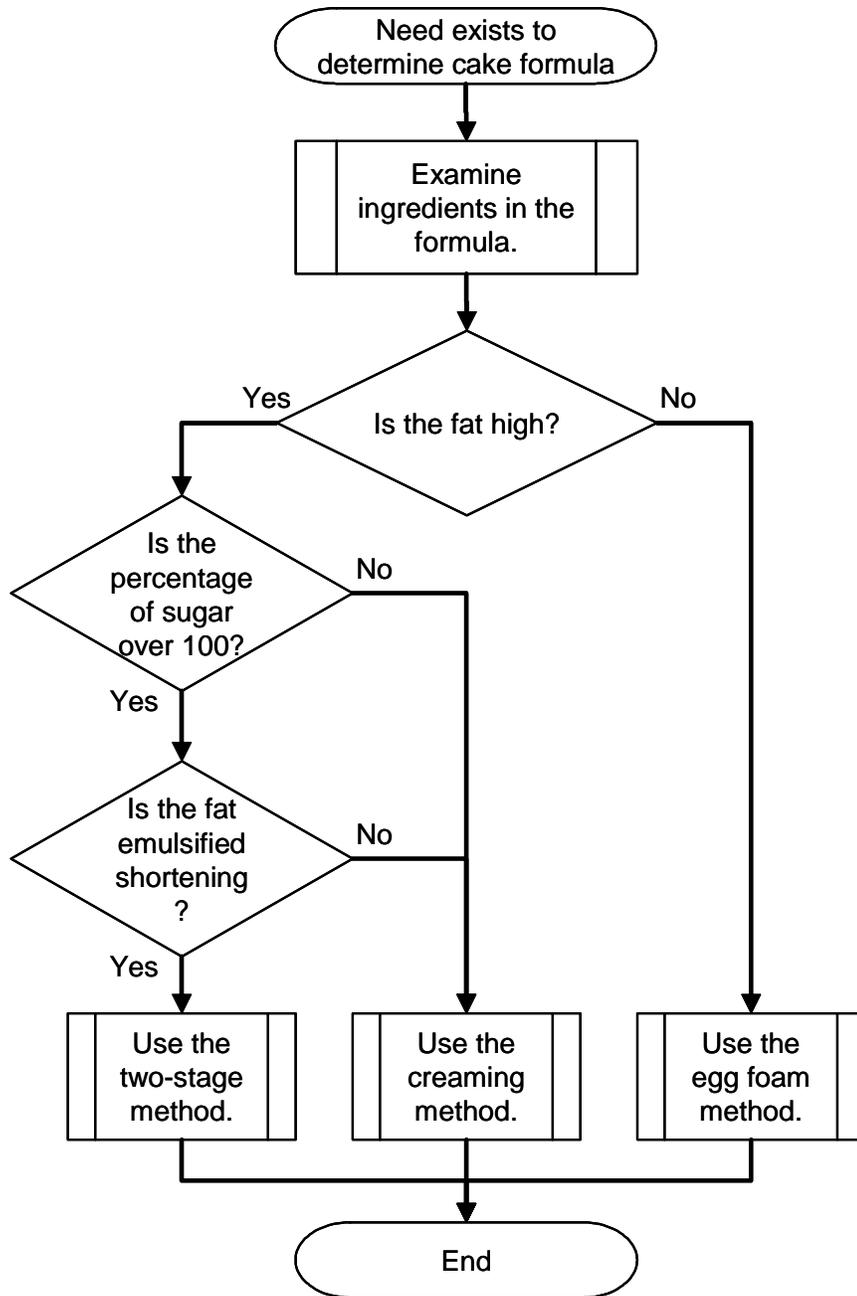
Topic Review Feedback, continued

**Answers,
contd.**

4. Two-stage batters are easier to scale than creaming method batters because they _____.
 - a. Are thicker and easier to handle
 - b. Are more liquid and pour more easily**
 - c. Contain more fat and therefore require no scraping
 - d. Require a less complicated percentage recipe to scale accurately
 5. Jean's cake burst open on top. A possible reason for this failure was _____.
 - a. An oven that was too hot**
 - b. Improper mixing
 - c. Too much liquid in the batter
 - d. Too little flour or a flour that was too weak
 6. Charlotte's cake was too dense and heavy. A possible reason for this failure was too little _____.
 - a. Sugar
 - b. Liquid
 - c. Leavening**
 - d. Shortening
 7. One problem with buttercream frostings made from butter is that they melt so easily. One way to solve this problem is to _____.
 - a. Use this type of frosting only in cool weather
 - b. Blend a small quantity of shortening with the butter to help stabilize it
 - c. Either a or b**
 - d. Neither a nor b
 8. When eggs are added to a cake batter in the creaming method, they should be added all at once.
 - a. True
 - b. False**
-

Complete Determining the Mixing Method Flowchart

Determining the Mixing Method



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PERFORMANCE EVALUATION 8.4.1

Preparing Cakes and Frostings

Goal The student will perform the following:

- Prepare a frosted sheet cake

Process Given a recipe, you will:

- Bake the cake
- Prepare the frosting
- Frost the cake

Directions Using the recipes as a guideline, as well as reference material and job aids, you will:

Hands-On Practice

1. Interpret the recipe.
2. Collect all the equipment and food items.
3. Prepare the equipment and food items.
4. Prepare the product according to the recipe.

When you have completed the practice, see your supervisor for further instructions.

Checklist Fill in your name on the Unit 8 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 8.4.1A

Prepare a Frosted Sheet Cake (Baking the Cake)

Location _____ _____	Completed by: _____ (Enter your name)	Reviewed by: _____ (Obtain Supervisor's signature)
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EPQ
4.A.23 Prepare a frosted sheet cake IAW "Professional Cooking" by Wayne Gisslen, Armed Forces Recipe Service (AFRS), NAVSUP Publication 7 and product instructions.
 SupGuide: Member will be required to bake a sheet cake, prepare from raw ingredients a buttercream frosting/icing, and frost the cake.

Criteria <u>Accuracy:</u> <ul style="list-style-type: none"> Product prepared properly 100% of the time, following the recipe guideline. 	<u>Safety:</u> <ul style="list-style-type: none"> Proper equipment selected 100% of the time.
--	---

TASK	COMMENTS									
	1st Attempt		2nd Attempt		3rd Attempt					
	Y	N	____/____/____ Date	Y	N	____/____/____ Date	Y	N	____/____/____ Date	
1. The performer checked to make sure the oven racks were level and in the proper position for baking.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		
2. The performer preheated the oven to the temperature specified in the recipe.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		
3. The performer greased and lined the baking pan with paper to ensure easy removal.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		

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Location _____ _____	Completed by: _____ Reviewed by: _____ (Enter your name) (Obtain Supervisor's signature)									
TASK	Y	N	1 st Attempt		2 nd Attempt		3 rd Attempt			
			____/____/____ Date	Y	N	____/____/____ Date	Y	N	____/____/____ Date	
4. The performer weighed or measured all ingredients according to the values specified in the recipe.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		
5. The performer combined the ingredients according to the recipe.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		
6. The performer mixed the ingredients to make the batter according to the recipe.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		
7. The performer poured the batter into the prepared sheet pan.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		
8. The performer spread the batter evenly in the sheet pan using a spatula.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		
9. The performer immediately placed the baking pan into the preheated oven.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		
10. The performer spaced the sheet pans evenly in the oven to allow heat to circulate around each pan.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		
11. The performer determined the doneness of the cake. <ul style="list-style-type: none"> When the cake was lightly brown and pulled away from the sides of the sheet pan, and a toothpick inserted at the center of the cake came out clean, the performer considered the cake done and moved on to step 12. 	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		
continued next page										

Location _____ _____	Completed by: _____ Reviewed by: _____ (Enter your name) (Obtain Supervisor's signature)											
TASK	Y	N	1 st Attempt		Y	N	2 nd Attempt		Y	N	3 rd Attempt	
			____/____/____ Date				____/____/____ Date				____/____/____ Date	
12. The performer removed the sheet pan from the oven.	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>		
13. The performer placed the sheet pan on a rack away from drafts to cool.	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>		
14. The performer allowed the cake to cool for 15 minutes (the cake should still be slightly warm) before removing it from the sheet pan.	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>		
15. The performer immediately removed any paper liners.	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>		
16. The performer turned the cake right side up to cool.	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>		
			<input type="checkbox"/> Go <input type="checkbox"/> No Go					<input type="checkbox"/> Go <input type="checkbox"/> No Go		<input type="checkbox"/> Go <input type="checkbox"/> No Go		

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PERFORMANCE EVALUATION 8.4.1B

Prepare a Frosted Sheet Cake (Preparing the Frosting)

Location _____ _____	Completed by: _____ Reviewed by: _____ (Enter your name) (Obtain Supervisor's signature)
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EPQ
4.A.23 Prepare a frosted sheet cake IAW "Professional Cooking" by Wayne Gisslen, Armed Forces Recipe Service (AFRS), NAVSUP Publication 7 and product instructions.
 SupGuide: Member will be required to bake a sheet cake, prepare from raw ingredients a buttercream frosting/icing, and frost the cake.

Criteria Accuracy: <ul style="list-style-type: none"> Product prepared properly 100% of the time, following the recipe guideline. 	Safety: <ul style="list-style-type: none"> Proper equipment selected 100% of the time.
---	--

TASK	COMMENTS									
	1st Attempt		2nd Attempt		3rd Attempt					
	Y	N	____/____/____ Date	Y	N	____/____/____ Date	Y	N	____/____/____ Date	
1. The performer creamed together the butter, shortening, and sugar until well blended, using the paddle attachment.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		
2. The performer added powdered sugar about 4 cups at time while mixing on low speed. The sugar was incorporated after each addition.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		
3. The performer added milk and vanilla	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		
4. The performer mixed on low speed for 3 minutes.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		

continued next page

Location _____ _____	Completed by: _____ Reviewed by: _____ (Enter your name) (Obtain Supervisor's signature)																
TASK	Y	N	1 st Attempt			2 nd Attempt			3 rd Attempt								
			_____/_____/_____ Date			_____/_____/_____ Date			_____/_____/_____ Date								
5. The performer scraped down the bowl.	<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>					
6. The performer mixed for 1 minute on medium speed and adjusted the consistency with the remaining lemon juice.	<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>					
7. The performer mixed on medium for 2 minutes.	<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>					
8. If food coloring was required in the frosting, the performer mixed the food coloring with a small amount of the frosting, and then added the colored small amount to the larger amount until the desired color was obtained.	<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>				<input type="checkbox"/>	<input type="checkbox"/>					
			<input type="checkbox"/> Go <input type="checkbox"/> No Go						<input type="checkbox"/> Go <input type="checkbox"/> No Go						<input type="checkbox"/> Go <input type="checkbox"/> No Go		

PERFORMANCE EVALUATION 8.4.1C

Prepare a Frosted Sheet Cake (Frosting the Cake)

Location _____ _____	Completed by: _____ (Enter your name)	Reviewed by: _____ (Obtain Supervisor's signature)
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EPQ
4.A.23 Prepare a frosted sheet cake IAW "Professional Cooking" by Wayne Gisslen, Armed Forces Recipe Service (AFRS), NAVSUP Publication 7 and product instructions.
 SupGuide: Member will be required to bake a sheet cake, prepare from raw ingredients a buttercream frosting/icing, and frost the cake.

Criteria <u>Accuracy:</u> <ul style="list-style-type: none"> • Product prepared properly 100% of the time, following the recipe guideline. 	Safety: <ul style="list-style-type: none"> • Proper equipment selected 100% of the time.
--	--

TASK	COMMENTS									
	1st Attempt		2nd Attempt		3rd Attempt					
	Y	N	____/____/____ Date	Y	N	____/____/____ Date	Y	N	____/____/____ Date	
1. The performer removed any loose crumbs from the cake before frosting the cake.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		
2. The performer trimmed the cake with a sharp knife, if necessary.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		
3. The performer frosted the cake by putting frosting on the top of the sheet cake, starting at the center of the sheet cake, and working outward.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		
	<input type="checkbox"/> Go <input type="checkbox"/> No Go		<input type="checkbox"/> Go <input type="checkbox"/> No Go		<input type="checkbox"/> Go <input type="checkbox"/> No Go					

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LESSON 5

How to Prepare Pies

Introduction

Overview

In this lesson, you will learn to prepare pies.

This section of the lesson covers:

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

Performance Qualifications

This lesson consists of one Enlisted Performance Qualification (EPQ):

4.A.22 Prepare the following from raw ingredients IAW “Professional Cooking” by Wayne Gisslen and Armed Forces Recipe Service (AFRS), NAVSUP Publication 7:

- One-crust pie
 - Two-crust pie
-

Objectives

Upon completion of this lesson, you will:

- Prepare pie crust
 - Prepare a one-crust pie
 - Prepare a two-crust pie
-

Performance Evaluation

There will be a performance evaluation in this lesson. This evaluation will cover EPQ 4.A.22 as listed above.

Introduction, continued

Tools and References

The tools and references for this lesson include:

- ❑ *Professional Cooking*, by Wayne Gisslen.
 - ❑ Armed Forces Recipe Service (AFRS), NAVSUP Publication 7
 - ❑ Unit 1, Appendix C, Glossary of Key Terms
 - ❑ Cookware/cooking equipment
 - ❑ Food products for all activities
-

Recommended Reading

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

- ❑ *Professional Cooking*, “Pies and Pastries” (Chapter 31).

...and review some of the pie recipes from:

- ❑ AFRS, “Desserts (Pastry and Pies),” Section G (No. 0 (1) – 500)
-

Topics Covered by This Lesson

This lesson covers the following topics:

- ❑ Introduction to Pies
 - ❑ Assembly and baking
 - ❑ Pie fillings
 - ❑ Pie recipes
-

Introduction to Pies

Overview

This section covers:

- ❑ Types of pies
- ❑ Pie doughs
- ❑ Mise en place for pies
- ❑ How to prepare pie dough
- ❑ How to roll pie dough

Types of Pies

Pies can be categorized in several ways. The two main ways you will find pies categorized are by cooking method and by type of crust.

See the table below for descriptions and examples of each of these.

PIES CATEGORIES AND TYPES		
CATEGORY	TYPE	DESCRIPTION
Cooking Method	Baked	<p>In this type of pie, raw pie shells are filled and then baked.</p> <p><i>Fruit pies</i> contain fruit fillings and usually have a top crust.</p> <p><i>Soft pies</i> have custard-type fillings or liquid fillings that become firm when their egg content coagulates. These are usually baked as one-crust pies.</p>
	Unbaked	<p>In this type of pie, a pie shell is baked and then filled with a prepared filling. This is then chilled and served when the filling is firm enough to slice.</p> <p><i>Cream pies</i> are made with pudding or boiled custard-type fillings.</p> <p><i>Chiffon pies</i> are made with fillings that are lightened by the addition of beaten egg whites and, sometimes, whipped cream. Gelatin or starch gives them a firm consistency.</p>
Continued next page		

Introduction to Pies, continued

Types of Pies, contd.

CATEGORY	TYPE	DESCRIPTION
Crust	One-crust	<p>A one-crust pie has a crust or shell on the bottom of the pie. The pie crust is usually baked and then filled.</p> <p>One-crust pies are common in both baked and unbaked pie recipes. For example, <i>Pumpkin Pie</i> is an example of a baked, one-crust pie. <i>Banana Cream Pie</i> is an example of an unbaked, one-crust pie.</p>
	Two-crust	<p>A two-crust pie is simply a pie with a crust on the top. Most fruit pies have two crusts. <i>Apple Pie</i> is a good example of a baked, two-crust pie. Unbaked pies do not have two crusts.</p>

Pie Doughs

When preparing to make pie dough, there are three things to consider: the ingredients, the temperature, and the type of dough.

Pie dough is a relatively simple product in terms of its ingredients:

- Flour
- Shortening
- Liquid
- Salt

In order to be successful at making pie dough, it is important to understand these ingredients and why they work the way they do. See the table on the next page for descriptions of these ingredients and how they function in pies.

Continued next page

Introduction to Pies, continued

Pie Doughs, contd.

PIE DOUGH INGREDIENTS	
INGREDIENT	DESCRIPTION
Flour	<ul style="list-style-type: none"> ■ Pastry flour is the best choice for pie dough. It has enough gluten to produce the desired structure and flakiness.
Fat	<ul style="list-style-type: none"> ■ Regular hydrogenated shortening is the most popular fat for pie crusts because it has the right plastic consistency to produce a flaky crust. Also, it has no flavor, and is easier to work at cold temperatures. ■ Emulsified shortening should not be used because it blends too quickly with the flour, making a flaky pastry difficult to achieve. ■ The quantity of pie crust that is dumped in the garbage after customers have eaten out the filling is evidence that many people are not satisfied with the taste of pie crusts made with shortening.
Butter	<ul style="list-style-type: none"> ■ Butter is harder to work when it is right out of the reefer than shortening, but has a better taste.
Liquid	<ul style="list-style-type: none"> ■ Whether water or milk is used, it must be added cold (40 °F or colder) to maintain the proper dough temperature.

Pie dough should be kept cool, about 60 °F, during mixing and makeup for two reasons:

- ❑ Shortening has the best consistency when cool. If it is warm, it blends too quickly with the flour. If it is very cold, it is too firm to be easily workable.
- ❑ Gluten develops more slowly at cool temperatures than at warm temperatures.

Continued next page

Introduction to Pies, continued

Pie Doughs, contd.

There are two basic types of pie dough:

- Flaky pie dough
- Mealy pie dough

PIE DOUGH TYPES	
TYPE	DESCRIPTION
Flaky Pie Dough	The fat is cut or rubbed into the flour until the particles of shortening are about the size of cashews or large peanuts.
Mealy Pie Dough	Mealy dough is used for bottom crusts in baked fruit pies and soft or custard-type pies because it resists sogginess.

Note: Reworked scraps or trimmings will be tougher than freshly made dough. They may be combined with mealy dough and used for bottom crusts only.

Mise En Place for Pies

When preparing to prepare pies, mise en place is as important as ever. Even on the simplest level, pre-preparation is necessary. Recall that when you are preparing a recipe, you must first:

- Assemble your tools
- Assemble your ingredients
- Wash, trim, cut, prepare, and measure your raw materials
- Prepare your equipment (preheat oven, line baking sheets, etc.)

When preparing pies, you will need to gather the following tools and ingredients:

- Rolling rack
- Sheet pans (1 sheet pan holds 2 pies)
- Knife edge pie pans
- 2 small pastry brushes
- 2 cups of general purpose flour
- 1 egg wash consisting of 3 eggs and $\frac{1}{4}$ cup of water
- 1 black-handled dough cutter

Continued next page

Introduction to Pies, continued

Mise En Place for Pies, contd.

- 1 wooden rolling pin with handles
- 1 paring knife
- 1 box of cornstarch
- 1 cup of cold water

How to Prepare Pie Dough

Though details may vary from recipe to recipe, the general procedure is roughly the same. Here is the general procedure for preparing pie dough:

HOW TO PREPARE PIE DOUGH (GENERAL PROCEDURE)	
STEP	ACTION
1.	Sift together flour and salt into a mixer bowl.
2.	Add shortening to the dry ingredients, and mix until the shortening is evenly distributed and mixture is granular in appearance.
3.	Add water and mix until the dough is just formed (only until the water is absorbed).
4.	Cover and chill the dough for at least an hour.
End of procedure	

See the recipe below, from the AFRS, for a more specific example of a pie dough recipe.

PIE CRUST

YIELD: 100 Portions (13-2 Crust Pies)				
PAN SIZE: 9-inch Pie				
INGREDIENTS	WEIGHTS	MEASURES		METHOD
Flour, wheat, general purpose, sifted	6 lb 6 oz	6 ¹ / ₄ qt.		1. Sift together flour and salt into mixer bowl.
Salt.	2 oz.	3 tbsp.		
Shortening.	3 lb 10 oz	2 qt.		2. Add shortening to dry ingredients. Using pastry knife attachment, mix at low speed 30 seconds or until shortening is evenly distributed and mixture is granular in appearance.
Water, cold (40°F. to 50°F.)	. . . . .	1 qt.		3. Add water; mix at low speed 1 minute until dough is just formed. 4. Chill dough at least 1 hour for ease in handling. 5. Follow directions on Recipe Nos. I-G-1 or I-G-2.

NOTE: Pie crust mix may be used. Omit Steps 1 through 3. Follow manufacturer's directions for preparation. Follow Steps 4 and 5. Quantity of pie crust mix required: 5 lb pie crust mix yields 13-one crust pies; 10 lb pie crust mix yields 13-two crust pies.

Introduction to Pies, continued

How to Roll Pie Dough

This section shows a general procedure for rolling dough.

HOW TO ROLL PIE DOUGH (GENERAL PROCEDURE)							
STEP	ACTION						
1.	Scale the dough. For example, use 8 ounces for 9-inch bottom crusts, and 6 ounces for 8-inch bottom crusts.						
2.	Dust the bench and rolling pin lightly with flour.						
3.	Roll out the dough.						
4.	Place the dough in the pan.						
5.	Determine whether or not to add top crust and/or flute the edges. <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>IF...</th> <th>THEN...</th> </tr> </thead> <tbody> <tr> <td>The dough is to be used in a one-crust pie,</td> <td>Flute the edges, and trim off the excess dough.</td> </tr> <tr> <td>The dough is to be used in a two-crust pie,</td> <td>Fill with cold filling, place the second crust on top, and seal the top and bottom crust together at the edges. Flute and apply wash/glaze if desired.</td> </tr> </tbody> </table>	IF...	THEN...	The dough is to be used in a one-crust pie,	Flute the edges, and trim off the excess dough.	The dough is to be used in a two-crust pie,	Fill with cold filling, place the second crust on top, and seal the top and bottom crust together at the edges. Flute and apply wash/glaze if desired.
IF...	THEN...						
The dough is to be used in a one-crust pie,	Flute the edges, and trim off the excess dough.						
The dough is to be used in a two-crust pie,	Fill with cold filling, place the second crust on top, and seal the top and bottom crust together at the edges. Flute and apply wash/glaze if desired.						
6.	Bake as directed in the recipe.						
End of procedure							

Assembly and Baking

Overview

This section covers:

- How to prepare a two-crust pie (baked)
- How to prepare a one-crust pie (unbaked)
- A word about soggy bottoms

How to Prepare a Two-Crust Pie (Baked)

When you prepare a baked, two-crust pie, you will prepare the dough and create raw pie shells. You will then fill those shells, cover them, and bake them.

This is a long procedure so, in order to simplify it, it is broken down into seven major steps:

- Pre-preparation
- Preparing the dough
- Rolling the dough
- Lining the pans
- Filling the pie and sealing the top
- Baking the pie
- Cooling and cutting the pie

HOW TO PREPARE A BAKED, TWO-CRUST PIE	
STEP	ACTION
PRE-PREPARATION	
1.	Adjust the recipe for the number of two-crust pies to make.
2.	Preheat a convection oven according to the temperature listed in the two-crust pie recipe.
3.	Gather equipment and ingredients required (mise en place).
PREPARING THE DOUGH	
4.	Sift the flour in a mixing bowl.
5.	Cut or rub the shortening/butter into the flour until it has incorporated into walnut-sized pieces.
Continued next page	

Assembly and Baking, continued

**How to
Prepare a
Two-Crust Pie
(Baked),
contd.**

STEP	ACTION
6.	Dissolve the salt in 32 °F water.
7.	Add 75% of the water and salt mixture to the flour and shortening mixture. Combine the flour and shortening mixture with the water until dough is just formed. If needed, add all or part of the remaining water.
8.	Scale the dough according to the recipe equaling the number of pie crusts to be made.
9.	Flatten the dough portions into small patties (about $\frac{1}{2}$ inch to $\frac{3}{4}$ inch thick) and wrap each patty with plastic wrap.
10.	Place the flattened and wrapped dough patties in a refrigerator to chill for at least one hour.
ROLLING THE DOUGH	
11.	Remove one pie dough patty at a time from the refrigerator once the pie dough has been chilled.
12.	Unwrap the dough patty and place it on a lightly floured board (use pastry flour).
13.	Roll the pie dough patty lightly using a floured rolling pin. Use quick strokes from the center out to the edge in all directions.
14.	Shift or turn the dough frequently to prevent sticking.
15.	If the edges split while rolling out the dough, pinch the cracks together.
16.	Form a circular pie crust $\frac{1}{8}$ inch thick and one inch larger than the outer edge of the pie pan.
17.	Fold the rolled dough into quarters, making a triangular shape.
18.	Repeat steps 11 through 17 to create second pie crust.
Continued next page	

Assembly and Baking, continued

How to Prepare a Two-Crust Pie (Baked), contd.

STEP	ACTION								
LINING THE PANS									
19.	Place the first folded pie crust dough in an un-greased pie pan with the point of the triangle at the center.								
20.	Carefully unfold the dough, and fit it into the pie pan, being careful not to leave any air spaces between pie pan and dough.								
21.	Trim the ragged edge of the dough about $\frac{1}{2}$ inch beyond the edge of the pie pan using a knife or dough cutter.								
FILLING THE PIE AND SEALING THE TOP									
22.	Add the pie filling to the pie crust.								
23.	Place the second folded pie crust dough on top of the first pie crust and pie filling.								
24.	Roll the first and second crusts together, and fold them under.								
25.	Crimp the edge of dough with your thumb and forefinger to make a high, fluted edge.								
BAKING THE PIE									
26.	Bake the pie for 20 minutes.								
27.	<p>Make an egg wash and sugar for the top of the pie (if needed) and apply.</p> <table border="1" style="margin-left: 20px;"> <thead> <tr> <th style="width: 50%;">INGREDIENT</th> <th style="width: 50%;">MEASURE</th> </tr> </thead> <tbody> <tr> <td>Eggs, Whole</td> <td>2 each</td> </tr> <tr> <td>Water</td> <td>$\frac{1}{4}$ cup</td> </tr> <tr> <td>Milk</td> <td>$\frac{1}{4}$ cup</td> </tr> </tbody> </table> <ol style="list-style-type: none"> Beat the eggs together to break them up into a smooth mixture. Add the water and milk at the same time, and mix them well. Allow the egg wash to dry. 	INGREDIENT	MEASURE	Eggs, Whole	2 each	Water	$\frac{1}{4}$ cup	Milk	$\frac{1}{4}$ cup
INGREDIENT	MEASURE								
Eggs, Whole	2 each								
Water	$\frac{1}{4}$ cup								
Milk	$\frac{1}{4}$ cup								
28.	Bake the pie until it is the desired color.								
Continued next page									

Assembly and Baking, continued

How to Prepare a Two-Crust Pie (Baked), contd.

STEP	ACTION
COOLING AND CUTTING THE PIE	
29.	Allow the pie with filling to cool until it is room temperature on the bottom.
30.	Hold and store the pie for serving.
31.	Cut into eight servings, or as advised.
End of procedure	

How to Prepare a One-Crust Pie (Unbaked)

When you prepare an unbaked, one-crust pie, you will prepare the dough, create raw pie shells, and then bake the shells. You will then let those shells cool. Then you will fill them, and chill them.

This is another long procedure so, in order to simplify it, it is broken down into seven major steps:

- Pre-preparation
- Preparing the dough
- Rolling the dough
- Lining the pans
- Baking the crust
- Filling the pie
- Cooling, topping, and cutting the pie

HOW TO PREPARE AN UNBAKED, ONE-CRUST PIE	
STEP	ACTION
PRE-PREPARATION	
1.	Adjust the recipe for the number of one-crust pies to make.
2.	Gather equipment and ingredients required (mise en place).
Continued next page	

Assembly and Baking, continued

How to Prepare a One-Crust Pie (Unbaked), contd.

STEP	ACTION
PREPARING THE DOUGH	
3.	Sift the flour in a mixing bowl.
4.	Cut or rub shortening/butter into the flour until it has incorporated in walnut-sized pieces.
5.	Dissolve the salt in 32 °F water.
6.	Add 75% of the water and salt mixture to the flour and shortening mixture. Combine the flour and shortening mixture with the water until dough is just formed. If needed add all or part of the remaining liquid.
7.	Scale dough according to the recipe equaling the number of pie crusts to be made.
8.	Flatten dough portions into small patties (about $\frac{1}{2}$ inch to $\frac{3}{4}$ inch thick) and wrap each patty with plastic wrap.
9.	Place the flattened and wrapped dough patties in refrigerator to chill for at least one hour.
ROLLING THE DOUGH	
10.	Remove one pie dough patty at a time from the refrigerator once the pie dough has been chilled.
11.	Unwrap the dough patty, and place it on a lightly floured board (use pastry flour).
12.	Roll the pie dough patty lightly using a floured rolling pin. Use quick strokes from the center out to the edge in all directions.
13.	Shift or turn dough frequently to prevent sticking.
14.	If the edges split while rolling out the dough, pinch the cracks together.
15.	Form a circular pie crust $\frac{1}{8}$ inch thick and one inch larger than the outer edge of an upside down pie pan.
Continued next page	

Assembly and Baking, continued

How to Prepare a One-Crust Pie (Unbaked), contd.

STEP	ACTION
16.	Fold the rolled dough into quarters, making a triangular shape.
17.	Place the first folded pie crust dough in an un-greased pie pan with the point of the triangle at the center.
LINING THE PANS	
18.	Carefully unfold the dough, and fit it into the pie pan, being careful not to leave any air spaces between pie pan and dough.
19.	Trim the ragged edge of the dough about $\frac{1}{2}$ inch beyond the edge of the pie pan using a knife or dough cutter.
20.	Flute the edge of the dough with a fork.
21.	Dock the dough on the bottom and sides to prevent puffing during baking.
BAKING THE CRUST	
22.	Preheat a conventional oven to 400 °F (or a convection oven to 350 °F).
23.	Heavily spray the outside of an empty pie tin with pan spray.
24.	Place the empty pie tin on top of the pie crust.
25.	Place pie crust in the oven upside-down.
26.	Remove single pie crust after 8–10 minutes or when the crust is golden brown.
27.	Allow the pie crust to cool.
FILLING THE PIE	
28.	Make the pie filling according to the recipe.
29.	Add the pie filling to the cooled pie crust.
Continued next page	

Assembly and Baking, continued

How to Prepare a One-Crust Pie (Unbaked), contd.

STEP	ACTION
COOLING, TOPPING AND CUTTING THE PIE	
30.	Place the pie in a cooler to aid in the adding of toppings (meringue, whipped cream, etc.) later.
31.	Add the pie topping to the pie once the pie has cooled.
32.	Hold and store the single-crust pie for later serving.
33.	Cut into eight pieces or advised serving sizes.
End of procedure	

A Word About Soggy Bottoms

A common fault in the baking of pies is an under-baked bottom crust that soaks up moisture from the filling. Soggy bottoms can be avoided in several ways:

- ❑ Use mealy dough for bottom crusts. Mealy dough absorbs less liquid than flaky dough.
- ❑ Use high bottom heat, at least at the beginning of baking, to set the crust quickly. Bake the pies at the bottom of the oven.
- ❑ Do not add hot fillings to unbaked crusts.
- ❑ Use dark metal pie tins, which absorb heat. (If you use disposable aluminum pans, choose pans with the bottoms colored black.)

Pie Fillings

Overview

There are several things you should know about pie fillings. In this section you will learn about:

- ❑ Use of starches in pies
- ❑ Fruit fillings
- ❑ Two methods for preparing fruit fillings
 - Cooked juice method
 - Cooked fruit method

Use of Starches in Pies

Many kinds of pie filling, especially fruit fillings and cream fillings, depend on starch for their texture.

See the table below to help you learn about two common types of starches and how they are used.

STARCHES IN PIES	
TYPE	DESCRIPTION
Cornstarch	Used for cream pies because it sets up into a firm gel that holds its shape when sliced. Cornstarch may also be used for fruit pies.
Waxy maize (modified starches)	Best for fruit pies because they are clear when set and make a soft paste rather than a firm gel.
Flour, tapioca, and other starches	Used less frequently. Flour has less thickening power than other starches and makes the product cloudy.

Starches differ in thickening power, so follow the recipes/formulas exactly.

To avoid lumping, starches must be mixed with a cold liquid or sugar before being added to a hot liquid.

Sugar and strong acids reduce the thickening power of starch. When possible, all or part of the sugar and strong acids, like lemon juice, should be added after the starch has thickened.

Pie Fillings, continued

Fruit Fillings

Fruit filling consists of fruit juices, sugar, spices, and a starch thickener.

Fresh fruits make excellent pies if they are at their seasonal peak. Fresh apples, for example, are used extensively for high-quality pies. But the quality of fresh fruits can vary considerably, and they require a lot of labor.

Frozen fruits are widely used for pies because they are consistent in quality and are readily available.

Canned fruits can also be of high quality. Solid pack (with little juice) gives a higher yield of fruit per can than syrup or water pack.

Fruits must have sufficient acid (tartness) to make flavorful fillings. If they lack natural acid, you may need to add lemon or some other juice to supply the acid.

Pie Fillings, continued

How to Use the Cooked Juice Method

This section covers two techniques for preparing fruit fillings.

In the cooked juice method, note that only the juice is cooked. The fruit, in this method retains its shape and flavor better because it is subjected to less heat and handling.

Examples of fruit fillings best prepared using the cooked juice method include:

- Cherry
- Peach
- Fresh berries
- Most frozen or canned fruits

See the table below for the procedure.

THE COOKED JUICE METHOD	
STEP	ACTION
1.	Drain the juice from the fruit.
2.	Measure the juice and, if necessary, add water or other fruit juice to bring it to the desired volume.
3.	Bring the juice to a boil.
4.	Dissolve the starch in cold water and stir it into the boiling juice. Return the juice to the boil and cook until it is clear and thickened.
5.	Add sugar, salt, and flavorings, and stir until dissolved.
6.	Pour the thickened juice over the drained fruit, and mix gently. Be careful not to break or mash the fruit.
7.	Cool the fruit and juice mixture.
End of procedure	

Pie Fillings, continued

How to Use the Cooked Fruit Method

The cooked fruit method is used when the fruit requires cooking or there is not enough liquid for the cooked juice method.

Examples of fruit filling best prepared using the cooked fruit method include:

- Fresh apple
- Raisin
- Rhubarb

See the table below for the procedure.

THE COOKED FRUIT METHOD	
STEP	ACTION
1.	Bring the fruit and its juice or water to a boil. Some sugar may be added to the fruit to draw out juices.
2.	Dissolve the starch in cold water and stir it into the fruit. Return the fruit mixture to a boil and cook until it is clear and thickened. Stir while cooking.
3.	Add sugar, salt, flavorings, and other ingredients, and stir until dissolved.
4.	Cook the fruit and juice as quickly as possible.
Variations: Some fruits, such as fresh apples, may be cooked in butter rather than boiled in water for better flavor.	
End of procedure	

Pie Recipes

Overview

In order to help you think about what it will take for you to bake pies on your own, you should examine some recipes. In this section you will find recipes for the following items:

- Pie dough
 - One-crust, baked pies
 - One-crust, unbaked pies
 - Two-crust, baked pies
-

Pie Dough Recipe

Here is a simple recipe for pie dough from one of the U.S. Coast Guard bakeshops.

3-2-1 PIE DOUGH		
100 PORTIONS		
INGREDIENTS	WEIGHTS	MEASURES
PASTRY FLOUR	3 LB.	
BUTTER	2 LB.	
WATER, 40°		1 PT.
SALT	1 OZ.	
<ol style="list-style-type: none"> 1. Place pastry flour and butter in bowl. 2. With hands cut flour and butter together. 3. Dissolve the salt in the water. Then add to flour mixture. 4. Lightly knead the mixture just until the water is absorbed. 5. Scale in to 10, 9 ounce pieces. Shape in to patties, wrap, and refrigerate 1 hour. 		

Pie Recipes, continued

One-Crust, Baked Pie Recipes

Here are two recipes for one-crust baked pies:

- Pecan pie
- Lemon meringue pie

PECAN		
100 PORTIONS	PORTION SIZE: 1 SLICE	
TEMPERATURE: 300 CONVECTION OVEN	PANS: PIE PAN	
INGREDIENTS	WEIGHTS	MEASURES
EGGS, WHOLE		11 1/4 CUPS(60 EGGS)
SUGAR, GRANULATED	4 LB. 14 OZ.	
BUTTER, MELTED	12 OZ.	
CORN SYRUP		1 GAL.
VANILLA/RUM EXTRACT		4 TBSP.
SALT		2 1/3 TBSP.
PECANS, WHOLE		2 1/2 QTS.
<ol style="list-style-type: none"> 1. Prepare pie shells. 2. Place eggs in a 20 quart mixing bowl, add sugar gradually while beating with a paddle at low speed. 3. Add melted butter, mix thoroughly. 4. Add syrup, extract, and salt, beat at low speed until smooth. 5. Place 3/4 cup of pecans in to each pie shell. 6. Pour about 2 3/4 cups filling over pecans in each pie shell. 7. Bake 25 to 30 minutes or until filling is set. 		
VARIATION		
<i>CHOCOLATE PECAN PIE</i> - Add 12 ounces cocoa powder, 10 eggs, and 4 ounces melted butter to egg mixture.		

Continued next page

Pie Recipes, continued

**One-Crust,
Baked Pie
Recipes,
contd.**

LEMON MERINGUE PIE		
100 PORTIONS	PORTION SIZE: ONE SLICE	
TEMPERATURE: N/A	PANS: PIE PANS	
INGREDIENTS	WEIGHTS	MEASURES
SUGAR, GRANULATED	7 LB. 5 OZ.	
CORNSTARCH	1 LB. 6 OZ.	
SALT		2 1/4 TBSP.
WATER, COLD		1 GAL. 6 1/2 CUPS
EGGS, WHOLE		18 EGGS
BUTTER, MELTED		1 1/2 CUPS
LEMON PEEL, GRATED		3/4 CUP
KNOX GELATIN		1 CUP
LEMON JUICE		5 CUPS
<ol style="list-style-type: none"> 1. Prepare and bake pie shells. 2. In a small SJK, combine sugar, cornstarch, and salt, mix well. Gradually stir in cold water and eggs until smooth. 3. Cook on medium heat, stirring constantly, until mixture boils, boil 1 minute stirring constantly. 4. Turn off heat, stir in butter, lemon peel, lemon juice, and knox gelatin. Stir until dissolved. 5. Cool to room temperature, about 60 minutes. Pour in to cooled baked pie shells. Refrigerate. 6. Prepare meringue. 7. Spoon meringue on to pie filling, spread to edge of crust to seal well and prevent shrinkage. 8. Bake at 425° convection oven until desired color. 		

Pie Recipes, continued

One-Crust, Unbaked Pie Recipes

Here are two recipes for one-crust, unbaked pies:

- Butterscotch cream pie
- Key lime pie

BUTTERSCOTCH CREAM PIE (Dessert Powder, Instant)

YIELD: 100 Portions (13 Pies)			EACH PORTION: 1/8 Pie
PAN SIZE: 9-inch Pie Pan			
INGREDIENTS	WEIGHTS	MEASURES	METHOD
Pie Shells, baked. . . . .	. . . . .	13-1 crust	1. See Recipe Nos. I-G-1 and I-1.
Milk, nonfat, dry.	1 lb 9 oz	5 ³ / ₄ cups	2. Reconstitute milk.
Water, cold. . . . .	. . . . .	7 ¹ / ₄ qt.	
Dessert Powder, instant, butterscotch	5 lb 8 oz	1-No. 10 cn	3. Add dessert powder. Using whip blend at low speed 15 seconds or until well blended. Scrape down sides of bowl; whip at medium speed 2 minutes. 4. Pour about 3 cups filling into each baked pie shell. 5. Refrigerate until ready to serve. 6. Cut 8 wedges per pie.

NOTE: In Step 6, chilled pies may be topped with 1 recipe Whipped Cream (Recipe No. K-1) or 1 recipe Whipped Topping (Recipe No. K-2).

Continued next page

Pie Recipes, continued

One-Crust, Unbaked Pie Recipes, contd.

KEY LIME PIE									
Yield	100 Portions			Pan Size	Sheet Pan		(2) Pans ° F.		
Each Portion	1 Piece								
Calories	Carb.	Protein	Fat	% Cal / Fat	Cholesterol	Sodium	Fiber	Calcium	
317 cal	54 g	4 g	10 g	29 %	77 mg	110 mg	0 g	31 mg	
Ingredients					Weight	Measure		Issue	
COOKIES, CHOCOLATE CRUSHED					5 lb	5 qt			
SHORTENING					2/3 lb	1 1/2 cup			
EGGS					3 1/4 lb			34 ea	
JUICE, LIME, FROZEN, UNSWEETENED					1 lb	2 cup			
LIMES, FRESH ZEST						2 tbsp		6 ea	
FLOUR, WHEAT, GENERAL PURPOSE					1 1/4 lb	2 1/2 pt			
SUGAR, GRANULATED					6 7/8 lb	1 gal			
MARGARINE					1/2 lb	1 cup			
WATER, HOT					10 lb	1 1/4 gal			
SUGAR, GRANULATED					1 3/4 lb	1 1/2 pt			
Methods									
1	Crush chocolate wafer cookies to equal 5 quarts. In a mixer, combine the crushed cookies and shortening. Mix on low speed for 3 minutes. Divide among 2 large sheet pans. Press crust evenly into bottom of pans.								
2	Separate egg yolks from whites. In a heavy saucepan or steam kettle, beat egg yolks with lime juice and 2 tbsp lime zest. Place over low heat.								
3	Beat in flour, sugar, margarine and water, alternating each ingredient so as to maintain a smooth consistency. Cook stirring constantly for 3 minutes on medium low heat. CCP: Temperature must reach 155° F. or higher. Pour into the cookie crust.								
4	In a mixer, beat egg whites until stiff, but not dry. Gradually add sugar and whip for 3 minutes. Spread over filling. Bake at 450° F. for 10 minutes or until meringue is brown.								
5	Chill for 1 hour before serving. CCP: Refrigerate to reach an internal temperature of 41° F. or less within 4 hours. Keep refrigerated until time of service. Cut 6 x 9.								

Pie Recipes, continued

Two-Crust, Baked Pie Recipes

Here are two recipes for two-crust, unbaked pies:

- Apple cobbler
- Cherry pie

APPLE COBBLER

YIELD: 100 Portions (2 Pans)			EACH PORTION: 1 Square	
PAN SIZE: 18 by 26-inch Sheet Pan			TEMPERATURE: 425°F. Oven	
INGREDIENTS	WEIGHTS	MEASURES		METHOD
Pie crust, dough. . .	15 lb 2 oz	.....	.....	<ol style="list-style-type: none"> 1. Prepare 1¹/₄ recipes Pie Crust (Recipe No. I-1). 2. Divide dough into 4-3 lb 12 oz pieces; use 2 pieces for each sheet pan. 3. Place dough on lightly floured board; sprinkle lightly with flour; flatten gently. 4. Roll 2 pieces dough into rectangular sheets about 1/8 inch thick and large enough to fit each pan. Press dough into bottom and sides of pan. Reserve remaining pieces for use in Step 6.
Pie filling, prepared, apple	28 lb. . .	3 gal (4-No. 10 cn)	.....	<ol style="list-style-type: none"> 5. Pour 14 lb (1¹/₂ gal) filling into each pan. 6. Roll remaining pieces of dough for top crusts. 7. Place top crusts carefully over filling in each pan. 8. Crimp to seal edges.

Continued next page

Pie Recipes, continued

Two-Crust, Baked Pie Recipes, contd.

CHERRY PIE (Canned Cherries–Cornstarch)

YIELD: 100 Portions (13 Pies)			EACH PORTION: 1/8 Pie	
PAN SIZE: 9-inch Pie Pan		TEMPERATURE: 425° F. Oven		
INGREDIENTS	WEIGHTS	MEASURES	METHOD	
Pie shells, unbaked	13-2 crust	1. See Recipe Nos. I-G-2 and I-1.
Cherries, canned red tart, pitted	19 lb 5 oz	2 1/4 gal (3-No. 10 cn	2. Drain cherries; reserve juice for use in Step 3 and cherries for use in Step 5.
Reserved juice.....	1 1/3 qt.	3. Combine reserved juice, sugar and salt; bring to a boil.
Sugar, granulated. .	5 lb 4 oz	3 qt. . . . .	.....
Salt. . . . .	.....	2 1/4 tsp. . .	.....
Starch, corn.	12 oz. . .	2 2/3 cups	4. Combine cornstarch and water; stir until smooth. Add gradually to boiling mixture. Cook at medium heat, stirring constantly until thick and clear. Remove from heat.
Water, cold. . . . .	.....	2 1/4 cups	.....
Food coloring, red (optional)	1 1/2 tsp.	5. Add red food coloring. Fold cherries carefully into thickened mixture. Cool thoroughly. 6. Pour 3 cups filling into each unbaked pie shell. Cover with top crust. Seal edges. 7. Bake 30 to 35 minutes or until lightly browned. 8. Cut 8 wedges per pie.

NOTE: In Step 7, if convection oven is used, bake at 375°F. 20 to 25 minutes or until golden brown on high fan, open vent.

VARIATION

1. CHERRY PIE (PIE FILLING, PREPARED): Follow Step 1. Omit Steps 2 through 5. Use 22 lb 12 oz (3 1/4-No. 10 cn) canned cherry pie filling. In Step 6, pour 3 cups filling into each unbaked pie shell. Follow Steps 7 and 8.

Lesson Review

Purpose The intention of this exercise is to help you to clarify and/or confirm your understanding of how to bake pies.

Directions Test your knowledge of the 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 “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 fat used most frequently in volume production of pie dough is _____.
 - a. regular shortening
 - b. emulsified shortening
 - c. margarine
 - d. none of the above
 2. _____ flour is the best choice for pie dough.
 - a. Cake
 - b. Bread
 - c. Pastry
 - d. Strong
 3. Pie dough should be kept cool during mixing and make-up because _____.
 - a. if it is too warm, gluten will develop too slowly
 - b. shortening has its best consistency when it is neither too warm nor too cold
 - c. a butter-based dough will turn rancid very quickly if its temperature is too high
 - d. the salt in the dough will keep the shortening and the flour from mixing properly at high or low temperatures
 4. As Chef Roulez rolled his pie dough and lined his pie pans with it, you were likely to see him _____.
 - a. stretch it to fit the pan snugly
 - b. begin from the edges and roll toward the center
 - c. roll the dough out to a uniform $\frac{1}{4}$ -inch thickness
 - d. roll it around the rolling pin to lift it without breaking

Continued next page

Lesson Review, continued

**Questions,
contd.**

5. If you want to avoid a soggy bottom on your pies, you should _____.
 - a. avoid using dark metal pie tins
 - b. use flaky dough for your bottom crusts
 - c. add very hot fillings to your unbaked crusts
 - d. use high bottom heat, at least at the beginning of baking
 6. To avoid lumping, starches must be used with hot water and sugar.
 - a. True
 - b. False
 7. The best starch to use for thickening most fruit pie fillings is _____.
 - a. pastry flour
 - b. waxy maize
 - c. modified starch
 - d. cornstarch
 8. Sugar and strong acids increase the thickening power of starch.
 - a. True
 - b. False
-

Practicing What You Have Learned

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:

- Prepare a one-crust pie from raw ingredients
 - Prepare a two-crust pie from raw ingredients
-

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 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 EPQ/core task for this lesson is:

- 4.A.22—Prepare the following from raw ingredients:
 - One-crust pie
 - Two-crust pie
-

Lesson Summary

Summary

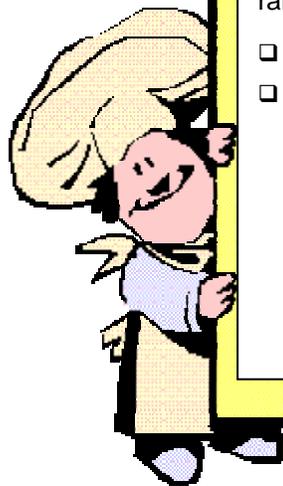
In this lesson, you learned about preparing pies. Having completed this lesson, you can:

- Prepare a one-crust pie
 - Prepare a two-crust pie
-

Next in this Unit

In the next lesson you will learn how to prepare yeast-raised bread products. More specifically, you will learn:

- How to prepare soft rolls
- How to prepare sweet rolls



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

- The fat used most frequently in volume production of pie dough is _____.
 - regular shortening**
 - emulsified shortening
 - margarine
 - none of the above
- _____ flour is the best choice for pie dough.
 - Cake
 - Bread
 - Pastry**
 - Strong
- Pie dough should be kept cool during mixing and make-up because _____.
 - if it is too warm, gluten will develop too slowly
 - shortening has its best consistency when it is neither too warm nor too cold**
 - a butter-based dough will turn rancid very quickly if its temperature is too high
 - the salt in the dough will keep the shortening and the flour from mixing properly at high or low temperatures
- As Chef Roulez rolled his pie dough and lined his pie pans with it, you were likely to see him _____.
 - stretch it to fit the pan snugly
 - begin from the edges and roll toward the center
 - roll the dough out to a uniform $\frac{1}{4}$ -inch thickness
 - roll it around the rolling pin to lift it without breaking**
- If you want to avoid a soggy bottom on your pies, you should _____.
 - avoid using dark metal pie tins
 - use flaky dough for your bottom crusts
 - add very hot fillings to your unbaked crusts
 - use high bottom heat, at least at the beginning of baking**

Continued next page

Lesson Review Feedback, continued

**Answers,
contd.**

6. To avoid lumping, starches must be used with hot water and sugar.
 - a. True
 - b. **False**
 7. The best starch to use for thickening most fruit pie fillings is _____.
 - a. pastry flour
 - b. **waxy maize**
 - c. modified starch
 - d. cornstarch
 8. Sugar and strong acids increase the thickening power of starch.
 - a. True
 - b. **False**
-

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PERFORMANCE EVALUATION 8.5.1

Prepare Pies

Goal The student will perform the following:

- Prepare pies
-

Process Given a recipe you will prepare two types of pie:

- Prepare a one-crust pie (unbaked) from raw ingredients
 - Prepare a two-crust pie (baked) from raw ingredients
-

Directions Using recipes as guidelines, and reference material and job aids, you will:

Hands-On Practice

1. Interpret the recipes.
2. Prepare the equipment and food items.
3. Prepare the products according to the recipe.

When you have completed the practice, see your supervisor for further instructions.

Checklist Fill in your name on the Unit 8 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 8.5.1A

Prepare One-Crust Pie (Unbaked)

Location <hr style="border: 0; border-top: 1px solid black; margin: 2px 0;"/> <hr style="border: 0; border-top: 1px solid black; margin: 2px 0;"/>	Completed by: _____ Reviewed by: _____ <div style="display: flex; justify-content: space-around; font-size: small;"> (Enter your name) (Obtain Supervisor's signature) </div>
--	--

EPQ
4.A.22 Prepare the following from raw ingredients IAW "Professional Cooking" by Wayne Gisslen and Armed Forces Recipe Service (AFRS), NAVSUP Publication 7:

- One-crust pie
- Two-crust pie

Criteria <u>Accuracy:</u> <ul style="list-style-type: none"> Select proper equipment 100% of the time. Follow recipes guidelines Use the proper temperature 	<u>Safety:</u> <ul style="list-style-type: none"> Remove loose clothing when working around mixers Exercise caution when working with hot pans
---	---

TASK	COMMENTS									
	1st Attempt		2nd Attempt		3rd Attempt					
	Y	N	____/____/____ Date	Y	N	____/____/____ Date	Y	N	____/____/____ Date	
1. The performer sifted flour in a mixing bowl.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		
2. The performer cut or rubbed shortening into flour until incorporated in walnut sized pieces.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		
3. The performer dissolved salt in 32 °F water.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		
4. The performer added water and salt mixture to flour and shortening mixture.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		

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Location _____ _____		Completed by: _____ (Enter your name)						Reviewed by: _____ (Obtain Supervisor's signature)					
TASK		COMMENTS											
		Y	N	1st Attempt ____/____/____ Date		Y	N	2nd Attempt ____/____/____ Date		Y	N	3rd Attempt ____/____/____ Date	
5. The performer combined dough mixture and water until dough is just formed.		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>		
6. The performer scaled dough according to the recipe equaling the number of pie crusts to be made.		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>		
7. The performer flattened dough portions into small patties (about 1/2" to 3/4" thick) and wrapped each patty with plastic wrap.		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>		
8. The performer placed flattened and wrapped dough patties in refrigerator to chill for at least one hour.		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>		
9. The performer removed one pie dough at a time from the refrigerator once the pie dough was chilled.		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>		
10. The performer unwrapped and place dough patty on lightly floured board.		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>		
11. Using a floured rolling pin, the performer rolled the patty lightly with quick strokes from the center out to the edge in all directions.		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>		
12. The performer shifted or turned dough frequently to prevent sticking.		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>		
13. If the edges split while rolling out the dough, the performer pinched the cracks together.		<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>		
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Location <hr/> <hr/>	Completed by: _____ (Enter your name)	Reviewed by: _____ (Obtain Supervisor's signature)
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TASK	COMMENTS									
	1st Attempt		2nd Attempt		3rd Attempt					
	Y	N	/ /	/ /	/ /	/ /	/ /	/ /	/ /	
		Date		Date		Date		Date		
14. The performer formed a circular pie crust $\frac{1}{8}$ " thick and one inch larger than the outer edge of an upside down pie pan.	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>
15. The performer folded the rolled dough into quarters (triangular in shape).	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>
16. The performer placed the folded dough in ungreased pie pan with corner of triangle at center.	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>
17. The performer carefully unfolded the dough and fit it into the pie pan, being careful not to leave any air spaces between the pie pan and the dough.	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>
18. The performer trimmed the ragged edge of the dough with the edge of the pie pan using a knife or dough cutter.	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>
19. The performer fluted the edge of the dough with a fork.	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>
20. The performer docked the dough on the bottom and sides to prevent puffing during baking.	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>
21. The performer preheated a conventional oven to 400 °F (or a convection oven to 350 °F).	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>
22. The performer heavily sprayed empty pie tin with pan spray.	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>

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Location <hr/> <hr/>	Completed by: _____ Reviewed by: _____ (Enter your name) (Obtain Supervisor's signature)										
TASK	COMMENTS										
	Y	N	1 st Attempt ____/____/____ Date	Y	N	2 nd Attempt ____/____/____ Date	Y	N	3 rd Attempt ____/____/____ Date		
23. The performer placed empty pie tin on top of the pie crust.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>			
24. The performer placed pie crust in the oven.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>			
25. The performer removed single pie crust after 8–10 minutes or when crust was golden brown.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>			
26. The performer allowed single pie crust to cool.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>			
27. The performer followed directions of pie filling recipe to make pie filling.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>			
28. The performer added pie filling to the cooked pie crust.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>			
29. The performer placed single crust pie in cooler to later add topping (meringue, whipped cream, etc.).	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>			
30. The performer added pie topping to single crust pie once pie has cooled.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>			
31. The performer properly held and store single crust pie for later serving.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>			
			<input type="checkbox"/> Go <input type="checkbox"/> No Go				<input type="checkbox"/> Go <input type="checkbox"/> No Go				<input type="checkbox"/> Go <input type="checkbox"/> No Go

PERFORMANCE EVALUATION 8.5.1B

Prepare Two-Crust Pie (Baked)

Location <hr style="border: 0; border-top: 1px solid black; margin: 2px 0;"/> <hr style="border: 0; border-top: 1px solid black; margin: 2px 0;"/>	Completed by: _____ Reviewed by: _____ (Enter your name) (Obtain Supervisor's signature)
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EPQ
4.A.22 Prepare the following from raw ingredients IAW "Professional Cooking" by Wayne Gisslen and Armed Forces Recipe Service (AFRS), NAVSUP Publication 7:

- One-crust pie
- Two-crust pie

Criteria <u>Accuracy:</u> <ul style="list-style-type: none"> Select proper equipment 100% of the time Follow recipes guidelines Use the proper temperature 	<u>Safety:</u> <ul style="list-style-type: none"> Remove loose clothing when working around mixers Exercise caution when working with hot pans
--	---

TASK	COMMENTS											
	1st Attempt		2nd Attempt		3rd Attempt		1st Attempt		2nd Attempt		3rd Attempt	
	Y	N	____/____/____ Date	Y	N	____/____/____ Date	Y	N	____/____/____ Date	Y	N	____/____/____ Date
1. The performer preheated the convection oven according to temperature listed in the two-crust pie recipe.	<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 sifted flour in a mixing bowl.	<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 cut or rubbed shortening into the flour until incorporated into walnut sized pieces.	<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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Location <hr/> <hr/>	Completed by: _____ Reviewed by: _____ (Enter your name) (Obtain Supervisor's signature)								
TASK	COMMENTS								
	Y	N	1st Attempt _____/_____/_____ Date	Y	N	2nd Attempt _____/_____/_____ Date	Y	N	3rd Attempt _____/_____/_____ Date
4. The performer dissolved salt in 32 °F water.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
5. The performer added water and salt mixture to flour and shortening mixture.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
6. The performer combined flour and shortening mixture and water until dough is just formed.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
7. The performer scaled dough according to the recipe equaling the number of piecrusts to be made.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
8. The performer flattened dough portions into small patties (about 1/2" to 3/4" thick) and wrapped each patty with plastic wrap.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
9. The performer placed flattened and wrapped dough patties in refrigerator to chill for at least 1 hour.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
10. The performer removed one pie dough patty at a time from refrigerator once pie dough had been chilled.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
continued next page									

Location <hr/> <hr/>	Completed by: _____ Reviewed by: _____ (Enter your name) (Obtain Supervisor's signature)										
TASK	COMMENTS										
	Y	N	1 st Attempt ____/____/____ Date	Y	N	2 nd Attempt ____/____/____ Date	Y	N	3 rd Attempt ____/____/____ Date		
11. The performer unwrapped the patty and placed it on a lightly floured board.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>			
12. The performer rolled the pie dough patty lightly using a floured rolling pin. S/he used quick strokes from the center out to the edges in all directions.											
13. The performer shifted or turned the dough frequently to prevent sticking.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>			
14. If the edges split while rolling out dough, the performer pinched the cracks together	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>			
15. The performer formed a circular piecrust 1/8 inch thick and one inch larger than the outer edge of the pie pan.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>			
16. The performer folded the rolled dough in quarters.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>			
17. The performer repeated steps 10 through 15 to create a second piecrust.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>			
18. The performer placed the first folded dough piecrust in an ungreased pie pan with the point of the triangle at the center.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>			
Continued next page											

Location _____ _____	Completed by: _____ Reviewed by: _____ (Enter your name) (Obtain Supervisor's signature)								
19. The performer unfolded the dough carefully and fit it into the pie pan being careful not to leave any air spaces between pie pan and dough.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
20. The performer trimmed the ragged edge of the dough about 1/2 inch beyond the edge of the pie pan.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
21. The performer added pie filling to the piecrust.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
22. The performer placed second folded dough piecrust on top of first piecrust and pie filling.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
23. The performer rolled the first and second piecrusts together, and folded them under.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
24. The performer crimped the edge of dough with thumb and forefinger to make a high fluted edge.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
25. The performer baked the two-crust pie for 20 minutes.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
26. The performer made egg wash and sugar (if needed).	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
27. The performer baked the two-crust pie until desired color is achieved.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
continued next page									

Location _____ _____	Completed by: _____ Reviewed by: _____ (Enter your name) (Obtain Supervisor's signature)									
TASK	COMMENTS									
	Y	N	1st Attempt ____/____/____ Date	Y	N	2nd Attempt ____/____/____ Date	Y	N	3rd Attempt ____/____/____ Date	
28. The performer allowed the pie to cool until cooled to room temperature on the bottom.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		
29. The performer properly held and stored the pie for serving.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		
			<input type="checkbox"/> Go <input type="checkbox"/> No Go			<input type="checkbox"/> Go <input type="checkbox"/> No Go			<input type="checkbox"/> Go <input type="checkbox"/> No Go	

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LESSON 6

How to Prepare Soft Rolls and Sweet Rolls

Introduction

Overview

In this lesson, you will learn to prepare yeast-raised bread products, including soft rolls and sweet rolls.

This section of the lesson covers:

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

Performance Qualification

This lesson covers one Enlisted Performance Qualification (EPQ):

4.A.25 Prepare the following yeast-raised products from raw ingredients IAW “Professional Cooking” by Wayne Gisslen:

- Soft Rolls
 - Sweet Roll Dough
-

Objectives

Upon completion of this lesson, given recipes, raw ingredients, and access to required equipment, you will:

- Prepare soft rolls
 - Prepare sweet rolls
-

Performance Evaluation

There will be a performance evaluation in this lesson. This evaluation will cover EPQ 4.A.25 as listed above.

Introduction, continued

Tools and References

The tools and references for this lesson include:

- Professional Cooking*, by Wayne Gisslen
 - Armed Forces Recipe Service (AFRS), NAVSUP Publication 7
 - Recipes for:
 - Hot Rolls, Quick Method (Soft Rolls)
 - Sweet Dough (Sweet Rolls)
 - Cookware/cooking equipment
 - Food products (flour, butter, sugar, etc.) for all activities
 - Unit 1, Appendix C, Glossary of Key Terms
-

Recommended Reading

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

- Professional Cooking*, “Yeast Products” (Chapter 27).
-

Topics Covered by This Lesson

This lesson covers the following topics:

- Yeast-raised products
 - Dough recipes and techniques
 - How to prepare soft rolls
 - How to prepare sweet rolls
-

Yeast-Raised Products

Overview

Bread can seem so simple. In its most basic form it is nothing more than dough made from flour and water that is leavened by yeast and baked. Yet for something that seems so simple, bread can be one of the most exacting and complex products to make. And when it is made well, what a delight to the senses it can be—the glow of baked crust, the aroma of proofing yeast, and the warmth of the steam from a fresh, hot roll broken open. Welcome to the challenge and the rewards of learning to create yeast-raised bread products!

In this lesson you will learn how to make two yeast breads and in the process you will further your understanding of two important principles. These principles are critical to success in bread making: gluten development and yeast fermentation.

The first component of the lesson helps you get ready to prepare soft rolls and sweet rolls. It covers:

- Yeast product types
 - Mixing methods
 - Steps in yeast dough production
-

Yeast Dough Product Types

There are two main yeast dough product types to know:

- Regular
- Rolled-in

These can be further subdivided as follows:

- Regular yeast dough products
 - Lean dough products
 - Rich dough products
- Rolled-in yeast dough products
 - Non-sweet (croissants)
 - Sweet (Danish pastry)

Continued next page

Yeast-Raised Products, continued

Yeast Dough Product Types, contd.

The dividing line between the two regular yeast dough products, lean dough and rich dough, is sometimes fuzzy; generally speaking, however, they are defined as follows:

REGULAR YEAST DOUGH PRODUCTS		
TYPE	DEFINITION	EXAMPLES
Lean	Low in fat and sugar	<ul style="list-style-type: none"> ■ Hard-crust breads and rolls ■ Dinner rolls ■ Whole grain breads
Rich	High in fat and sugar, sometimes contains eggs	<ul style="list-style-type: none"> ■ Non-sweet breads, rich dinner rolls, brioche ■ Sweet rolls, coffee cakes

Rolled-in doughs are those in which a fat is incorporated into the dough in many layers by means of a rolling and folding procedure.

Mixing Methods

Before looking at the methods, look at the reasons for mixing yeast doughs.

Mixing yeast doughs serves three main purposes. Use *Professional Cooking*, Chapter 27 to describe these in the table below:

PURPOSES OF MIXING YEAST DOUGHS	
NO.	PURPOSE
1.	
2.	
3.	

Continued next page

Yeast-Raised Products, continued

Mixing Methods, contd.

There are three mixing methods for yeast doughs:

- The straight dough method
- The modified straight dough method
- The sponge method

Use the table below to help you understand the differences among these. The method you are likely to use the most is the straight dough method.

MIXING METHODS FOR YEAST DOUGHS		
METHOD	DESCRIPTION	VALUE
Straight Dough	Has one step: Combine all ingredients in the mixing bowl and mix.	Softening the yeast in water helps to ensure that the yeast is evenly distributed in the dough.
Modified Straight Dough	Has several steps in which ingredients are added separately. Similar to straight dough in that the yeast is first softened in water.	Used for rich dough. Ensures even distribution of fat and sugar.
Sponge Dough	Has two stages. In the first, a “sponge” is prepared, using liquid, yeast, and part of the flour. This sponge is fermented between one to three hours, and then re-mixed with the remaining ingredients.	Helps strengthen the flour in the dough, and produces a product with a great amount of flavor and desirable texture.

Yeast-Raised Products, continued

Steps in Yeast Dough Production

When learning to prepare yeast products, you will find the more you know about the steps of production, the easier it will be for you to understand bread recipes/formulas and perform the production steps. These steps are applied to virtually all yeast products, with some variations from product to product. Study the table below to help you learn these.

THE 12 BASIC STEPS FOR YEAST DOUGH PRODUCTION		
NO.	NAME	GENERAL DESCRIPTION
1.	Scaling Ingredients	Ingredients are weighed accurately. Water, milk, and eggs may be measured by volume.
2.	Mixing	Ingredients are mixed in two parts. First, ingredients are combined into dough, and the yeast is distributed. Then, the gluten is allowed to develop. Properly developed doughs feel smooth and elastic.
3.	Fermentation	The dough is placed in a lightly oiled container and allowed to rise until it doubles in volume.
4.	Punching	The dough is deflated by pulling up the dough on all sides, folding over the center, and pressing down. It's then turned upside-down in the bowl.
5.	Scaling	The dough is divided into pieces of uniform weight according to the product being made.
6.	Rounding	The pieces of dough are shaped into smooth, round balls, forming a kind of skin by stretching the gluten on the outside of the dough into a smooth layer.
7.	Benching	Rounded portions of the dough are allowed to rest and ferment on the bench for 10–15 minutes.
8.	Make-Up and Panning	The dough is shaped into loaves or rolls and placed on pans or on baking sheets.
Continued next page		

Yeast-Raised Products, continued

Steps in Yeast Dough Production, contd.	NO.	NAME	GENERAL DESCRIPTION
	9.	Proofing	The panned products are placed in a proof box at 80–85 °F (generally higher than fermentation temperature) until they double in bulk.
	10.	Baking	Products are baked. This results in rapid rising (from temporarily highly active yeast), coagulation of proteins, gelatinization of starches, and formation and browning of the crust.
	11.	Cooling	The bread is removed from the pan and cooled rapidly on racks to allow the escape of excess moisture and alcohol created during fermentation.
	12.	Storing	Breads to be served after eight hours (unless hard-crusted) are wrapped in moisture-proof bags to retard staling.

Key points:

- ❑ To help you understand and recover from common problems in bread production, use the Bread Faults and Their Causes table in *Professional Cooking*, Chapter 27.
- ❑ All ingredients must be weighed accurately.
- ❑ Mixing times given in bread recipes are guidelines only.
- ❑ Dough that ferments too long or at too high a temperature becomes sticky.
- ❑ Punching is not hitting the dough with your fist. (It is deflating the dough by pulling it up on the sides, folding over the center, and pressing down.)
- ❑ The rapid rising of yeast bread that occurs when you first place it in the oven is called *oven spring*.

Yeast-Raised Products, continued

Summary

In this component of the lesson you learned about yeast-raised products, including:

- ❑ Yeast dough product types
- ❑ Mixing methods
- ❑ Steps in yeast dough production

In the next section you will focus on recipes and techniques.

Dough Recipes and Techniques

Overview

In this lesson component you will learn about yeast dough recipes and techniques. It covers:

- ❑ Bread and roll recipes
- ❑ Make-up techniques

Bread and Roll Recipes

For many recipes, including the one below, you will use the basic yeast dough mixing and baking methods discussed earlier. In these recipes the basic procedures will be indicated. You should refer to your job aids and/or *Professional Cooking* if you need to refresh your memory for details.

Soft Rolls (Gisslen)					
Ingredients	U.S.		Metric	Percentage	Procedure
Water	1 lb	4 oz	600 g	45.0%	Mixing: Straight dough method. 10-12 minutes at 2nd speed (see <i>Professional Cooking</i> , p. 776).
Yeast, fresh		2 oz	60 g	4.5%	
Bread flour	2 lb	12 oz	1300 g	100.0%	Fermentation: About 1.5 hours at 80 °F.
Salt		1 oz	30 g	2.3%	
Sugar		4 oz	125 g	9.0%	Scaling and makeup: 16-20 oz. per dozen rolls (see makeup techniques <i>Professional Cooking</i> , 789-790).
Nonfat milk powder		2 oz	60 g	4.5%	
Shortening		2 oz	60 g	4.5%	
Butter or margarine		2 oz	60 g	4.5%	Baking: 400 °F
Eggs		4 oz	125 g	9.0%	
Yield:	5 lb	1 oz	2420 g		

Another type of dough that is made using a different method is *rolled-in dough*. Items such as Danish pastry and croissants are created with rolled-in doughs. These doughs contain many layers of fat sandwiched between layers of dough, which creates the flakiness in these items.

Key points:

- ❑ For more recipes using basic methods and rolled-in doughs, see *Professional Cooking*, Chapter 27.

Dough Recipes and Techniques, continued

Make-up Techniques

In order to have rolls or loaves that bake properly and have an attractive appearance, you must be able to shape the dough correctly. This is what make-up techniques are all about.

When you shape a roll or loaf correctly, you stretch the gluten strands on the surface into a kind of smooth skin.

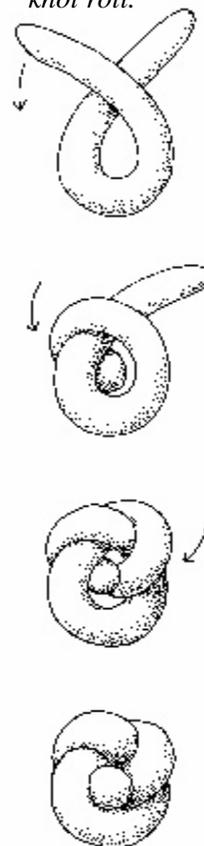
This tight gluten surface holds the item in shape. This is especially important for loaves and rolls that are baked freestanding, not in pans. Units that are not made up correctly develop irregular shapes and splits and may flatten out on the pan.

Here’s an example of a make-up technique for tying a double-knot roll. It’s one of many techniques that can be used when preparing soft rolls.

TYING A DOUBLE-KNOT ROLL	
STEP	ACTION
1.	Scale the dough to 1–2 ounces each.
2.	With the palm of your hand, roll each unit on the workbench into a strip or rope of dough.
3.	Tie the roll as shown in Figure 8.6.1.
4.	Place the rolls two inches apart on greased baking sheets.
5.	Apply egg wash after proofing.

Figure 8.6.1

Tying a double-knot roll.



For more examples of make-up techniques, see *Professional Cooking*, Chapter 27.

Summary

This lesson component covered dough recipes and techniques. You learned about:

- Bread and roll recipes
- Make-up techniques

How to Prepare Soft Rolls

Overview

In this component of the lesson you will learn how to:

- ❑ Prepare soft rolls
-

Preparing Soft Rolls

Follow the steps below to prepare soft rolls.

HOW TO PREPARE SOFT ROLLS	
STEP	ACTION
1.	Read the recipe details.
2.	Ensure the proof box is operating and at the correct temperature and humidity (85 °F, 85–90% humidity).
3.	Gather equipment and ingredients required.
4.	Weigh all ingredients accurately.
5.	Combine all dry ingredients and 80% of the water in the mixing bowl of a vertical mixer.
6.	Mix all ingredients according to the recipe guidelines using a dough arm attachment. Add part of, all of, or more than the remaining 20% of the water if necessary.
7.	Check the dough for smoothness and elasticity. (Window)
8.	Cover the mixing bowl with a plastic cover.
9.	Allow the dough to rest until it is relaxed (about 15–20 minutes).
10.	Punch down the dough.
11.	Remove the dough from the mixing bowl.
12.	Divide the dough into equal portions using a bench scraper.
13.	Round the equal portions of dough.
14.	Loosely cover the divided portions with plastic wrap.
Continued next page	

How to Prepare Soft Rolls, continued

Preparing Soft Rolls, contd.	STEP	ACTION
	15.	Allow the dough to relax by benching the rounded portions for at least 10–15 minutes.
	16.	Make up or pan the dough into one of the following forms: <ul style="list-style-type: none"> ■ Tied or knotted rolls ■ Pan rolls ■ Parker house rolls ■ Cloverleaf rolls ■ Butterflake rolls
	17.	Place the made-up or panned soft rolls in the proof box.
	18.	Allow the rolls to ferment in the proof box until they double in size or until the imprint of a finger stays in the dough (usually 20–30 minutes).
	19.	Preheat a conventional oven to 400 °F (or a convection oven to 350 °F).
	20.	Place the made-up or panned soft rolls in the oven.
	21.	Bake the made-up or panned soft rolls for the amount of time required by recipe.
	22.	Remove the baked soft rolls from the oven.
	23.	If the rolls are to have soft crusts, brush the rolls with melted shortening before cooling.
	24.	Leave the rolls on the sheet pan to cool—this will allow adequate ventilation.
Continued next page		

How to Prepare Soft Rolls, continued

Preparing Soft Rolls, contd.

STEP	ACTION	
25.	Determine the proper storage method for the soft rolls:	
	IF THE SOFT ROLLS ARE TO BE...	THEN...
	Served within eight hours,	Leave the rolls on the cooling racks.
Held for more than eight hours,	Wrap the cooled, soft rolls in moisture proof bags.	
End of Procedure		

Key points:

- ❑ When weighing ingredients, the water, milk, and eggs may be measured by volume, which is scaled at 1 pint per pound.
- ❑ Mixing times provided by recipes are guidelines only (where the amount of water used is a variable).
- ❑ When checking the dough for smoothness and elasticity, you may wish to obtain the assistance of the supervisor when using the “window test” method.
- ❑ In Step 10, the dough is punched down in order to release carbon dioxide, redistribute the yeast, relax the gluten, and equalize the internal temperature of the dough.
- ❑ Maintain the proof box temperature at 85 °F with enough water to create a sufficient amount of steam for proofing (85–90% humidity).
- ❑ Do not cool soft rolls in a draft, or the crusts may crack.
- ❑ Soft rolls must be thoroughly cooled before wrapping. One way to test this is to feel the bottom of the cooking pan—it should be cool to the touch, thus indicating no heat. If the rolls are not cool, moisture will collect inside the bags.

How to Prepare Sweet Rolls

Overview

In this component of the lesson you will learn how to:

- ❑ Prepare sweet rolls
-

Preparing Sweet Rolls

Follow the steps below to prepare sweet rolls.

HOW TO PREPARE SWEET ROLLS	
STEP	ACTION
1.	Read the recipe details.
2.	Ensure the proof box is operating and at the correct temperature and humidity (85 °F, 85–90% humidity).
3.	Gather equipment and ingredients required.
4.	Weigh all ingredients accurately.
5.	Combine all dry ingredients and 80% of the water in the mixing bowl of a vertical mixer.
6.	Mix all ingredients according to the recipe guidelines using a dough arm attachment. Add part of, all of, or more than the remaining 20% of the water if necessary.
7.	Check the dough for smoothness and elasticity. (Window)
8.	Cover the mixing bowl with a plastic cover.
9.	Allow the dough to rise in volume according to the baking, rolling, and filling methods.
10.	Punch down the dough.
11.	Remove the dough from the mixing bowl.
12.	Divide the dough into equal portions using a bench scraper.
13.	Round the portions of dough.
14.	Loosely cover the divided portions with plastic wrap.
15.	Allow the dough to relax by benching the rounded portions for at least 10–15 minutes.
Continued next page	

How to Prepare Sweet Rolls, continued

Preparing Sweet Rolls, contd.	STEP	ACTION
	16.	Shape the dough into the desired sweet dough shapes.
	17.	Place the shaped dough in the proof box.
	18.	Allow the rolls to ferment in the proof box until they double in size or until the imprint of a finger stays in the dough (usually 20–30 minutes).
	19.	Preheat a conventional oven to 400 °F (or a convection oven to 350 °F).
	20.	Place the rolls in the oven.
	21.	Bake the rolls for the amount of time required by the recipe.
	22.	Remove the baked rolls from the oven.
	23.	Let the rolls cool for five minutes. Do not let them cool completely.
	24.	Place the desired topping/glaze on the warm rolls.
	25.	Serve the rolls immediately.
End of procedure		

Key points:

- ❑ When weighing ingredients, the water, milk, and eggs may be measured by volume, which is scaled at 1 pint per pound (or 1 liter per kilogram).
- ❑ Mixing times provided by recipes are guidelines only.
- ❑ When checking the dough for smoothness and elasticity, you may wish to obtain the assistance of the supervisor.
- ❑ In step 10, the dough is punched down in order to release carbon dioxide, redistribute the yeast, relax the gluten, and equalize the internal temperature of the dough.
- ❑ Maintain the proof box temperature at 85 °F with enough water to create a sufficient amount of steam for proofing (85–90% humidity).

Topic Review

Purpose The intention of this exercise is to give you the opportunity to clarify and/or confirm your understanding of yeast-raised bread products.

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 “Topic Review Feedback” section at the end of this lesson.

Questions

1. What are the three major purposes of mixing yeast doughs?

Review each question/statement below and circle the best, most correct, answer/response from among the answer items.

2. Fermentation _____.
- Produces carbon monoxide gas and alcohol
 - Is complete when the dough has doubled in volume
 - Is the process during which yeast acts on the proteins in dough
 - All of the above
3. Proper temperature for fermenting most bread doughs is about 100 °F.
- True
 - False
4. Proofing _____.
- Is a continuation of the fermentation process
 - Temperature is usually lower than fermentation temperature
 - Ideally takes place in an enclosed area whose humidity is approximately 10%
 - All of the above

Continued next page

Topic Review, continued

**Questions,
contd.**

5. As Chef Fricassée lectured about what happens during “oven spring,” she explained that one of the following takes place. Which one of these statements was she likely to make?
- “Rapid rising occurs due to expansion of trapped gasses, and yeast dies at 140 °F.”
 - “Rising stops.”
 - “Trapped gases escape from the dough, and yeast dies at 120 °F.”
 - “The dough is removed from the oven for its final rise.”
6. Which of the following is true about the cooling step of the baking process?
- Bread should be cooled as slowly as possible.
 - Brushing the bread with melted shortening before cooling can produce a soft crust.
 - It is particularly important to use a rack to cool rolls baked apart from each other.
 - To prevent crust cracking, loaves of bread should be cooled directly in front of a fan.
7. Rolled-in dough is a phrase used to describe _____.
- A round quick bread that has more than one layer
 - A yeast-raised dough that is low in fat and sugar
 - A yeast-raised dough that contains many layers of fat sandwiched between layers of dough
 - A very wealthy person
8. You’ve just removed your rolls from of the oven and you find that they are shaped poorly. Name three possible causes for this.
- _____
- _____
- _____
9. You’ve just removed your rolls from the oven and you find that they are too crumbly (their texture is poor). Name three possible causes for this.
- _____
- _____
- _____
-

Lesson Review

Purpose The intention of this exercise is to give you the opportunity to practice preparing soft rolls and sweet rolls.

Directions Given recipes for each, prepare the following:

- Hot rolls, quick method (soft rolls)
- Sweet dough (sweet rolls)

This activity will take several hours. You will need to meet with your supervisor to discuss and plan for:

- Quantities to prepare
- Mise en place
- Equipment to use
- Timelines within which to work
- Teamwork—where and with whom you will be working
- Recipe conversions to use
- Preparations to make ahead of time (the day/night before)

You will have time to ask questions of your supervisor before starting, but after that time you will be on your own to plan and act on your plans to produce the cake and frosting listed above.

Before practicing, be sure to observe a demonstration of the following tasks by your supervisor:

- How to prepare Hot Rolls, Quick Method (Soft Rolls)
 - Sweet Dough (Sweet Rolls)
-

Lesson Review, continued

Gathering Feedback

When you are finished preparing your soft rolls and sweet rolls, gather feedback from your supervisor regarding what they think of:

- What you prepared (how it looks, how it tastes), and
- How you prepared it (the methods you used)

Specific areas of feedback your supervisor will be paying attention to include the following:

DIMENSION	DESCRIPTION
Product Appearance and Presentation	Do the products produced meet the standards discussed in class?
Recipe Conversions	How free from errors were your recipe conversions, including lack of temps, pans, mise en place, method, and working factors?
Safety and Sanitation	To what degree did you operate within safety and sanitation guidelines, including washing your hands, proper use of the two-pan method, cuts, burns, knives, equipment, etc.?
Taste	How do the products taste?
Time Management	How did you manage your time? Was/were the product(s) completed on time?
Uniform	Did your uniform, as it was presented on the day of testing, meet the standard?

Lesson Review, continued

Feedback on Your Preparation of Sweet Rolls

Use this section to summarize the feedback you received from your supervisor on your preparation of sweet rolls.

The recipe I prepared was: _____

THE FOOD I PREPARED	THE FEEDBACK I RECEIVED
Sweet Rolls	<p>What were the desired behaviors I performed that met or exceeded standards?</p> <p>_____</p> <p>What advice for improvement did I receive?</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>

Before leaving this exercise, be sure your notes on your feedback are complete and accurate. This will help you remember to keep doing what you are doing well and change those things you need to change in order to improve your preparation of yeast-raised bread products.

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 EPQ/core task for this lesson is:

- 4.A.25—Prepare the following yeast-raised products from raw ingredients:
 - Soft rolls
 - Sweet rolls
-

Lesson Summary

Summary

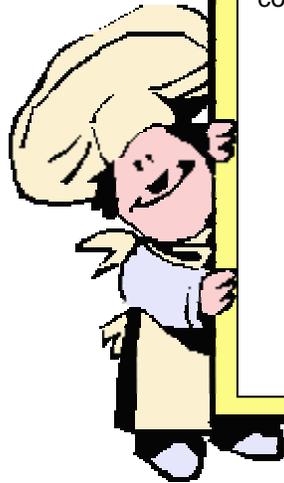
In this lesson, you learned about yeast-raised bread products and, given recipes, raw ingredients, and access to required equipment, you prepared:

- ❑ Soft rolls
 - ❑ Sweet rolls
-

Next in this Course

Congratulations! This is the last lesson of Unit 8. To complete the course in its entirety:

- Review your Progress Tracking Chart for anything that has not yet been signed off.
- Perform/demonstrate mastery of remaining EPQ tasks and obtain sign-off from your supervisor.
- If you still have un-mastered EPQs to perform, arrange for demonstrations or practice in order to build competency in these tasks. Then perform them for sign-off.



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. What are the three major purposes of mixing yeast doughs?

To combine all ingredients into a uniform, smooth dough.

To distribute the yeast evenly throughout the dough.

To develop gluten.

Review each question/statement below and circle the best, most correct, answer/response from among the answer items.

2. Fermentation _____.
- Produces carbon monoxide gas and alcohol
 - Is complete when the dough has doubled in volume**
 - Is the process during which yeast acts on the proteins in dough
 - All of the above
3. Proper temperature for fermenting most bread doughs is about 100 °F.
- True
 - False**
4. Proofing _____.
- Is a continuation of the fermentation process**
 - Temperature is usually lower than fermentation temperature
 - Ideally takes place in an enclosed area whose humidity is approximately 10%
 - All of the above
5. As Chef Fricassée lectured about what happens during “oven spring,” she explained that one of the following takes place. Which one of these statements was she likely to make?
- “Rapid rising occurs due to expansion of trapped gasses, and yeast dies at 140 °F.”**
 - “Rising stops.”
 - “Trapped gases escape from the dough, and yeast dies at 120 °F.”
 - “The dough is removed from the oven for its final rise.”

Continued next page

Topic Review Feedback, continued

Answers, contd.

6. Which of the following is true about the cooling step of the baking process?
 - a. Bread should be cooled as slowly as possible.
 - b. Brushing the bread with melted shortening before cooling can produce a soft crust.**
 - c. It is particularly important to use a rack to cool rolls baked apart from each other.
 - d. To prevent crust cracking, loaves of bread should be cooled directly in front of a fan.
7. Rolled-in dough is a phrase used to describe _____.
 - a. A round quick bread that has more than one layer
 - b. A yeast-raised dough that is low in fat and sugar
 - c. A yeast-raised dough that contains many layers of fat sandwiched between layers of dough**
 - d. A very wealthy person
8. You've just removed your rolls from of the oven and you find that they are shaped poorly. Name three possible causes for this.

Too much liquid; improper molding or make-up; improper proofing; too much steam in the oven

9. You've just removed your rolls from the oven and you find that they are too crumbly (their texture is poor). Name three possible causes for this.

Fermenting time too long or short; overproofing; baking temperature too low; flour too weak; too little salt

Soft Rolls Recipe

HOT ROLLS QUICK METHOD		
100 PORTIONS		PORTION SIZE: 1 ROLL
TEMPERATURE: 350 CONVECTION OVEN		PANS: 3 SHEET
INGREDIENTS	WEIGHTS	MEASURES
FLOUR, WHEAT G.P., SIFTED	12 LB.	
SUGAR	1 LB. 8 OZ.	
SALT	3 1/2 OZ.	
MILK, NONFAT, DRY	8 OZ.	
YEAST, INSTANT	3 OZ.	
WATER, 70°		3 QT. 1 PT. 1/2 CUP
SHORTENING	1 LB. 8 OZ.	
1. Place sugar, salt, and nonfat dry milk in mixing bowl.		
2. Place flour on top of ingredients in bowl.		
3. Add shortening and instant yeast.		
4. Add 3 quarts of water to mix.		
5. Mix with dough hook 1 to 2 minutes.		
6. Adjust dough consistency by adding remaining water or flour.		
7. Mix on medium speed to develop the gluten, about 10 minutes. Check for window.		
8. Scale to equal size. Round and cover.		
9. Let rest for 5 minutes.		
10. Scale to 2 to 2 1/4 ounce pieces. Shape. Place on parchment lined sheet pan 6 X 8.		
11. Proof until doubled in size.		
12. Bake until golden brown.		

Sweet Dough Recipe

SWEET DOUGH		
100 PORTIONS		PORTION SIZE: 1 ROLL
TEMPERATURE: 325 CONVECTION OVEN		PANS: 5 SHEET
INGREDIENTS	WEIGHTS	MEASURES
FLOUR, G. P.	6 LB. 10 OZ.	
BUTTER	1 LB.	
SUGAR, GRANULATED	1 LB. 3 OZ.	
SALT	1 1/2 OZ.	
NONFAT DRY MILK	4 OZ.	
EGGS, WHOLE		2 1/4 CUPS (12 EGGS)
YEAST INSTANT	5 OZ.	
WATER		4 CUPS
<ol style="list-style-type: none"> Place ingredients in mixing bowl in order listed except the water. Start the mixer on low speed, using a dough hook, add most of the water. Add remaining water only if the dough is still dense. As the dough absorbs the water, turn the mixer to medium speed and mix for 10 to 12 minutes. Cover for 10 minutes or until double in size. Punch down dough and divide in half. Roll into rectangle 1/4 inch thick. Mise en Place - (FOR BAKESHOP - DO NOT CONVERT) 1/2 pound butter melted, 1 pound brown sugar, 2 cups chopped unsalted nuts, 1 pound raisens, chocolate chips or other desired fillings. (Filling is for 33 portions.) Roll the dough lengthwise. Cut into one inch thick rolls. Place on greased parchment lined sheet pan. Proof until double in size. Bake until golden brown. About 15 minutes. After cooking let rest 1 minute, flip pan. Glaze when completely cooled. 		

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PERFORMANCE EVALUATION 8.6.1

Preparing Soft Rolls and Sweet Rolls

Goal

The student will perform the following:

- Prepare yeast-raised bread products
-

Process

Given recipes, you will prepare:

- Soft rolls
 - Sweet rolls
-

Directions

Using the recipe(s) as guidelines, and reference material and job aids, you will:

Hands – On Practice

1. Interpret the recipes.
2. Prepare the equipment and food items.
3. Prepare the products according to the recipe.

When you have completed the practice, see your supervisor for further instructions.

Checklist

Fill in your name on the Unit 8 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 8.6.1A

Prepare Soft Rolls

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

EPQ
4.A.25 Prepare the following yeast-raised products from raw ingredients IAW "Professional Cooking" by Wayne Gisslen:

Soft Rolls
 Sweet Roll Dough

Criteria <u>Accuracy:</u> <ul style="list-style-type: none"> Select proper equipment 100% of the time Follow recipes guidelines Use the proper temperature 	Safety: <ul style="list-style-type: none"> Remove loose clothing when working around mixers Exercise caution when working with hot pans
---	--

TASK	COMMENTS									
	1 st Attempt		2 nd Attempt		3 rd Attempt					
	Y	N	Y	N	Y	N				
1. The performer ensured that the proof box was operating and set at the correct temperature and humidity (85 °F, 85–90% humidity).	<input type="checkbox"/>									
2. The performer weighed all ingredients accurately.	<input type="checkbox"/>									
3. The performer combined all dry ingredients and 80% of the water in the mixing bowl of a vertical mixer.	<input type="checkbox"/>									
4. The performer mixed all ingredients according to the recipe guidelines using a dough arm attachment, adding part of, all of, or more than the remaining 20% of the water as necessary.	<input type="checkbox"/>									

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Location _____ _____	Completed by: _____ Reviewed by: _____ (Enter your name) (Obtain Supervisor's signature)								
TASK	COMMENTS								
	Y	N	1st Attempt ____/____/____ Date	Y	N	2nd Attempt ____/____/____ Date	Y	N	3rd Attempt ____/____/____ Date
5. The performer checked the dough for smoothness and elasticity.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
6. The performer covered the mixing bowl with a plastic cover.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
7. The performer allowed the dough to rest until it was relaxed (about 15–20 minutes).	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
8. The performer punched down the dough.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
9. The performer removed the dough from the mixing bowl.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
10. The performer divided the dough into equal portions using a bench scraper.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
11. The performer rounded the equal portions of dough.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
12. The performer loosely covered the divided portions with plastic wrap.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
13. The performer allowed the dough to relax by benching the rounded portions for at least 10–15 minutes.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
continued next page									

Location _____ _____		Completed by: _____ Reviewed by: _____ (Enter your name) (Obtain Supervisor's signature)										
TASK	Y	N	1 st Attempt		Y	N	2 nd Attempt		Y	N	3 rd Attempt	
			____/____/____ Date				____/____/____ Date				____/____/____ Date	
14. The performer made up or panned the dough into one of the following forms: <ul style="list-style-type: none"> • Tied or knotted rolls • Pan rolls • Parker house rolls • Cloverleaf rolls • Butterflake rolls. 	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>		
15. The performer placed the made-up or panned soft rolls in the proof box.	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>		
16. The performer allowed the rolls to ferment in the proof box until they doubled in size or until the imprint of a finger stayed in the dough (usually 20–30 minutes).	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>		
17. The performer preheated the oven to 400 °F (or if a convection oven was used, to 350 °F).	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>		
18. The performer placed the made-up or panned soft rolls in the oven.	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>		
19. The performer baked the soft rolls for the amount of time required by recipe.	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>		
20. The performer removed the baked soft rolls from the oven.	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>		
continued next page												

Location _____ _____		Completed by: _____ Reviewed by: _____ (Enter your name) (Obtain Supervisor's signature)									
TASK	Y	N	1 st Attempt		2 nd Attempt		3 rd Attempt				
			____/____/____ Date	Y N	____/____/____ Date	Y N	____/____/____ Date				
21. If the rolls were to have soft crusts, the performer brushed the rolls with melted shortening before cooling.											
22. The performer left the rolls on the sheet pan to cool.	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		
23. The performer determined the proper storage method for the soft rolls: <ul style="list-style-type: none"> If the rolls were to be served within eight hours, s/he left the rolls on the cooling racks. If the rolls were to be held for more than eight hours, s/he wrapped the cooled rolls in moisture proof bags. 	<input type="checkbox"/>	<input type="checkbox"/>			<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		
			<input type="checkbox"/> Go <input type="checkbox"/> No Go		<input type="checkbox"/> Go <input type="checkbox"/> No Go		<input type="checkbox"/> Go <input type="checkbox"/> No Go				

PERFORMANCE EVALUATION 8.6.1B

Prepare Sweet Rolls

Location <hr style="border: 0; border-top: 1px solid black; margin: 2px 0;"/> <hr style="border: 0; border-top: 1px solid black; margin: 2px 0;"/>	Completed by: _____ Reviewed by: _____ <div style="display: flex; justify-content: space-around; font-size: small;"> (Enter your name) (Obtain Supervisor's signature) </div>
--	--

EPQ
4.A.25 Prepare the following yeast-raised products from raw ingredients IAW "Professional Cooking" by Wayne Gisslen:
 Soft Rolls
 Sweet Roll Dough

- | | |
|---|--|
| Criteria
<u>Accuracy:</u> <ul style="list-style-type: none"> Select proper equipment 100% of the time Follow recipes guidelines Use the proper temperature | <u>Safety:</u> <ul style="list-style-type: none"> Remove loose clothing when working around mixers Exercise caution when working with hot pans |
|---|--|

TASK	COMMENTS											
	1st Attempt		2nd Attempt		3rd Attempt		1st Attempt		2nd Attempt		3rd Attempt	
	Y	N	____/____/____ Date	Y	N	____/____/____ Date	Y	N	____/____/____ Date	Y	N	____/____/____ Date
1. The performer ensured that the proof box was operating and set at the correct temperature and humidity (85 °F, 85–90% humidity).	<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 weighed all ingredients accurately.	<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 combined all dry ingredients and 80% of the water in the mixing bowl of a vertical mixer.	<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 mixed all ingredients according to the recipe guidelines using a dough arm attachment, adding part of, all of, or more than the remaining 20% of the water as necessary.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	

continued next page

Location <hr/> <hr/>	Completed by: _____ Reviewed by: _____ (Enter your name) (Obtain Supervisor's signature)								
TASK	COMMENTS								
	Y	N	1st Attempt _____ Date	Y	N	2nd Attempt _____ Date	Y	N	3rd Attempt _____ Date
5. The performer checked the dough for smoothness and elasticity.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
6. The performer covered the mixing bowl with a plastic cover.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
7. The performer allowed the dough to rise in volume according to the baking, rolling, and filling methods.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
8. The performer punched down the dough.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
9. The performer removed the dough from the mixing bowl.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
10. The performer divided the dough into equal portions using a bench scraper.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
11. The performer rounded the equal portions of dough.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
12. The performer loosely covered the divided portions with plastic wrap.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
13. The performer allowed the dough to relax by benching the rounded portions for at least 10–15 minutes.	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
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Location <hr/> <hr/>	Completed by: _____ Reviewed by: _____ (Enter your name) (Obtain Supervisor's signature)									
TASK	Y	N	1 st Attempt		2 nd Attempt		3 rd Attempt			
			____/____/____ Date	Y N	____/____/____ Date	Y N	____/____/____ Date			
14. The performer shaped the dough into the desired sweet dough shapes.	<input type="checkbox"/>	<input type="checkbox"/>								
15. The performer placed the shaped dough in the proof box.	<input type="checkbox"/>	<input type="checkbox"/>								
16. The performer allowed the rolls to ferment in the proof box until they doubled in size or until the imprint of a finger stayed in the dough (usually 20–30 minutes).	<input type="checkbox"/>	<input type="checkbox"/>								
17. The performer preheated the oven to 400 °F (or if a convection oven was used, to 350 °F).	<input type="checkbox"/>	<input type="checkbox"/>								
18. The performer placed the rolls in the oven.	<input type="checkbox"/>	<input type="checkbox"/>								
19. The performer baked the rolls for the amount of time required by recipe.	<input type="checkbox"/>	<input type="checkbox"/>								
20. The performer removed the baked rolls from the oven.	<input type="checkbox"/>	<input type="checkbox"/>								
21. The performer let the rolls cool for five minutes; s/he did not let them cool completely.	<input type="checkbox"/>	<input type="checkbox"/>								
22. The performer placed the desired topping/glaze on the warm rolls.	<input type="checkbox"/>	<input type="checkbox"/>								
			<input type="checkbox"/> Go <input type="checkbox"/> No Go		<input type="checkbox"/> Go <input type="checkbox"/> No Go		<input type="checkbox"/> Go <input type="checkbox"/> No Go			

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