Preparing Cakes, Cookies, and Pastry

National Food Service Management Institute
The University of Mississippi
Culinary Techniques for Healthy School Meals
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The University of Mississippi

Building the Future Through Child Nutrition

The National Food Service Management Institute was authorized by Congress in 1989 and established in 1990 at The University of Mississippi in Oxford. The Institute operates under a grant agreement with the U.S. Department of Agriculture, Food and Nutrition Service.

PURPOSE
The purpose of the National Food Service Management Institute is to improve the operation of child nutrition programs through research, education and training, and information dissemination. The Administrative Offices and Divisions of Information Services and Education and Training are located in Oxford. The Division of Applied Research is located at The University of Southern Mississippi in Hattiesburg.

MISSION
The mission of the National Food Service Management Institute is to provide information and services that promote the continuous improvement of child nutrition programs.

VISION
The vision of the National Food Service Management Institute is to be the leader in providing education, research, and resources to promote excellence in child nutrition programs.

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Table of Contents

Preparing Cakes, Cookies, and Pastry .......................................................... 2
Important Terms ......................................................................................... 3
Mise en Place ............................................................................................... 4
Cakes, Cookies, and Pies and Healthy School Meals ......................... 5
Culinary Principles .................................................................................... 6 - 11
Basic Principles of Preparing Pies ............................................................. 12
Culinary Technique: Creaming Method or Conventional Method ....... 13
Culinary Technique: Blending Method for Cakes ................................. 14
Culinary Technique: Preparing Pie Crust .................................................. 15
Quality Standards ...................................................................................... 16
Quality Score Card for Cakes and Cookies ............................................... 17
Quality Score Card for Pies (Pastry) ......................................................... 18
Culinary Application and Practice Activity .............................................. 19
Culinary Practice Score Card for Cakes, Cookies, and Pies (Pastry) .... 20
References ................................................................................................. 21
Objectives
Improve the quality of cakes, cookies, and pastries served to students.
Improve the variety of cakes, cookies, and pastries served to students.
Improve the appeal of cakes, cookies, and pastries served to students.
Improve the nutrition profile of cakes, cookies, and pastries served to students.

Main Ideas in This Lesson
• Many cake and cookie recipes have been modified to reduce the fat.
• The ingredients in a cake, cookie, or pastry recipe have been carefully balanced to result in a quality product.
• The conventional method is the culinary technique used for cakes and cookies that have a larger amount of fat, like pound cake, brownies, or bar cookies. However, some reduced fat cake recipes also use this method.
• The blending method is the culinary technique used for mixing cakes in which the weight of the sugar is equal to or greater than the weight of the flour. Some examples of cakes made with this culinary technique are yellow cake, carrot cake, and gingerbread.

Preparation for Learning
Review the list of recipes with each Culinary Technique. The recipes are available at:
Available online: http://www.nfsmi.org
Available online: http://www.nfsmi.org

Practice or Application
Prepare one or more of the recipes listed with one of the Culinary Techniques.

Additional Suggestions
Use the training kit, On the Road to Professional Food Preparation, to demonstrate correct measuring and weighing of ingredients.
Blend
To thoroughly mix two or more ingredients.

Conventional Oven
An electric or gas oven arranged either as decks or under a range top.

Convection Oven
An oven that has a fan that constantly circulates heated air across the food. This convection action increases the heat absorption process, shortens required cooking time, and reduces shrinkage of food.

Culinary
Relating to the kitchen or cooking. An example of use is to describe food preparation skills as culinary skills.

Culinary Technique

Fold
To combine by using two motions, cutting vertically through the mixture and turning the mixture over and over.

Just-In-Time Preparation
This term is used throughout the lessons to mean preparing a menu item in small enough amounts so that it will be at its peak of quality when placed on the serving line. This preparation schedule avoids holding any food for a long time. Other terms that mean the same thing are batch cooking and cooking to the line.

Leavening Agent
An ingredient that makes a product light and porous. Leavening agents include yeast, baking powder, baking soda, eggs, egg whites, air, and steam.

Mise en Place (meez-un-plahss)
A French term used by chefs and other food professionals to describe all the different things that have to be done to get ready up to the point of cooking. Translated, it means put in place. It includes all the get ready steps in food preparation such as using the recipe to assemble the equipment needed and getting ingredients ready to combine.

Nutrients
The chemical substances found in food that nourish the body. There are six classes of nutrients: proteins, carbohydrates, fats, water, minerals, and vitamins.
Dairy Products
Dairy products in baked good can be used as a liquid ingredient or as a fat. They provide batters with moisture, tenderizing ability, and increased nutrients. Dairy products are also used in icings and fillings.

Commonly Used Dairy Products

<table>
<thead>
<tr>
<th>Type of dairy product</th>
<th>Percent fat</th>
<th>Grams of fat per cup</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skim milk</td>
<td>0 %</td>
<td>.5</td>
</tr>
<tr>
<td>Fat-free yogurt</td>
<td>Less than 1/2 %</td>
<td>.5</td>
</tr>
<tr>
<td>Evaporated skim milk</td>
<td>Less than 1/2 %</td>
<td>.5</td>
</tr>
<tr>
<td>Sour cream, fat free</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Buttermilk</td>
<td>1 %</td>
<td>2.2</td>
</tr>
<tr>
<td>Lowfat milk</td>
<td>1 %</td>
<td>2.2</td>
</tr>
<tr>
<td>Reduced-fat milk</td>
<td>2 %</td>
<td>4.4</td>
</tr>
<tr>
<td>Whole milk</td>
<td>3.25 %</td>
<td>7.7</td>
</tr>
<tr>
<td>Yogurt, whole milk</td>
<td>3.25%</td>
<td>7.7</td>
</tr>
<tr>
<td>Evaporated milk</td>
<td>6.5 %</td>
<td>19</td>
</tr>
<tr>
<td>Sweetened condensed milk</td>
<td>8 %</td>
<td>26.6</td>
</tr>
<tr>
<td>Ricotta cheese</td>
<td>7 %</td>
<td>32</td>
</tr>
<tr>
<td>Half-and-half</td>
<td>10–12 %</td>
<td>27.6</td>
</tr>
<tr>
<td>Cream cheese, lowfat</td>
<td>17–18 %</td>
<td>42</td>
</tr>
<tr>
<td>Light cream</td>
<td>16–22 %</td>
<td>46.3</td>
</tr>
<tr>
<td>Sour cream</td>
<td>18–30 %</td>
<td>48.2</td>
</tr>
<tr>
<td>Cream cheese</td>
<td>33–55 %</td>
<td>80.9</td>
</tr>
<tr>
<td>Heavy cream</td>
<td>36–40 %</td>
<td>88</td>
</tr>
<tr>
<td>Butter</td>
<td>80 %</td>
<td>182</td>
</tr>
</tbody>
</table>
Menu-Planning Practices for Healthy School Meals

- Reduce the fat in some baked goods by replacing up to half the fat with fruit or bean purees.
- Offer school-baked cakes, cookies, and pies, replacing most of the white flour with whole wheat flour. Begin slowly by replacing one-third of the white flour with whole wheat flour and gradually increasing until the whole wheat part is greater than 50%.
- Serve with fruit filling or fruit sauce.

Minimum fat needed in baked items:

Cakes, soft drop cookies: 2 tablespoons fat per 1 cup flour
Pie crust: 4 tablespoons fat per 1 cup flour

Purchasing Practices for Healthy School Meals

- Purchase polyunsaturated and/or monounsaturated oils, such as canola, corn, cottonseed, olive, peanut, safflower, soybeans, or sunflower oils.
- Do not purchase lard.
- Avoid hydrogenated oils/fats which may contain trans fats.
- Replace higher fat dairy products with lowfat dairy products.
- Use non-stick cooking sprays on baking pans.

Cakes, cookies, and pies are classic dessert items popular with every age group, including students. Although some cake and cookie recipes are high in fat, like an old-fashioned pound cake, many new cake recipes have been modified to reduce the fat. As with any food that includes fat and sugar, cakes and other desserts should be served as an occasional treat for students, not added to every menu.

Cakes, cookies, and pies, like most other baked desserts, are classified as discretionary calories because they include both fat and sugar. Moderation is the key. Cakes, cookies, and pies are added to some school menus to increase the calories to meet students’ needs for energy.

The nutritional value of traditional cakes, cookies, and pies can be enhanced by serving them with fruit toppings, fruit garnishes, or fruit added to the cake batter. These more nutritious toppings and additions can take the place of the traditional cake icing. Look for new cake recipes where some of the fat has been replaced by a fruit puree. Also consider using cake, cookie, and pie recipes that include added fruit, either fresh or dried.

One of the important jobs of a school menu is to help students learn to choose foods wisely. By offering desserts sometimes, but not every day, students can learn that desserts are fine to eat, but in moderation. When cakes, cookies, pies, and other desserts are on the menu, follow the recipe carefully so the product will be the best quality. A special treat should really be special.

Portion control is a very important part of serving quality cakes, cookies, and pies. Cost control and customer satisfaction must be considered. Equal portions cut according to the yield of the recipe should be standard procedure.
Basic Principles of Preparing Cakes and Cookies

A culinary technique is a step-by-step way to prepare a quality food product. There are several different culinary techniques for preparing cakes and cookies. The right one to use depends on the kind of cake or cookie. The recipe for a cake or cookie describes the step-by-step culinary technique that should be used. Knowing some basic culinary techniques helps a professional cook understand why the steps of a cake recipe are important to follow in order to produce a quality cake. Remember, cookies are basically small cakes, so the mixing methods for preparing cookies and cakes are similar.

The culinary technique or the mixing method that is right for a cake or cookie is based on a specific balance of ingredients, combined in a certain way. Each ingredient is included in a recipe to do a special job. Combining the ingredients using the correct culinary technique results in the ingredients working together in the right way.

To prepare a quality cake or cookie:
• begin with a good recipe.
• make only in quantities that can be baked immediately. Cake batter or cookie dough should not be left in pans waiting for an oven.
• have ingredients at the right temperature. Most cake recipes suggest that all ingredients should be at room temperature.
• weigh or measure ingredients carefully.
• follow the recipe that includes the right culinary technique or mixing method.
• weigh the right amount of cake batter for each pan.
• bake at the correct temperature.
• bake for the right amount of time.

Well-balanced cake and cookie recipes have been tested many times to be sure they produce a quality product every time. Each ingredient has a certain job to do and has a special effect on the finished product. If one ingredient is changed, it can affect many other ingredients. The message to a cook is, follow the recipe to the letter.

Ingredients

Knowing the job of each ingredient in a recipe can help a cook determine what happened when a product fails.

Ingredient 1: Flour

Purpose in the recipe

Most cakes and cookies have flour as a major ingredient. All-purpose flour or cake flour may be used in cakes. In some recipes up to half of the flour can be whole wheat flour. The purpose of flour in a cake or cookie recipe is to give structure, the same as in breads. Because cakes or cookie are much more delicate than breads, just a little too much or too little flour can make a big difference. Too much flour makes a cake or cookie tough and results in a coarse texture. Too little flour causes the cake to collapse or fall.

Most schools use all-purpose flour and USDA recipes require all-purpose flour. However, cake flour can be used since it gives a more tender product with a finer crumb. Cakes made with cake flour have a better volume and finer texture than ones made with regular, all-purpose flour.

Because flour in a bin packs down, weighing flour is more accurate than measuring it. When flour has to be measured, because there is no scale, stir the flour well before it is measured. Never measure more than 1 quart of flour at a time. Scrape the top of the dry measure to level flour for more accurate measuring.
**Timely Tip**
To substitute all-purpose flour for cake flour, for each pound of all-purpose flour weighed, remove 1/2 cup.

**Ingredient 2: Sugar**

*Purpose in the recipe*
Sugar provides the sweet flavor and helps to make the cake tender. Also, sugar has an important effect on the structure of a cake and cookies. It is very important to follow the recipe for a cake or cookie because changing the amount of any ingredient, especially sugar, affects many other factors. Too little sugar can make a cake or cookie tough. Too much sugar causes the surface to be rough and brown too much and the cake will fall. Sugar should be weighed. The sugar crystals help to incorporate air when sugar is creamed with fat in some cake recipes.

**Ingredient 3: Fat**

*Purpose in the recipe*
Most cake and cookie recipes include some kind of fat. The fat may be margarine, butter, oil, or shortening. Fat in a cake or cookie has several important jobs. The most important job of a fat is to make the cake tender and soft. Fat also helps to improve the keeping qualities of a cake or cookie. Different fats change the texture and tenderness of a cake or cookie. For example, cakes and cookies made with butter are the most tender and have a velvet-like crumb. Cakes and cookies made with hydrogenated shortening have a more even grain and will rise more than butter cakes or cookies. The hydrogenated shortening helps a cake to rise because it can trap more air bubbles in the batter or dough.

Lowfat margarine, light margarine, whipped margarine, or whipped butter cannot be substituted for the fat in cake and cookie recipes because the amount of fat in the product has been reduced. They will not give a satisfactory product.

Some cake and cookie recipes have reduced the amount of fat and substituted pureed fruit or beans for some of the fat. Applesauce can be used to substitute for some of the fat in a cake or cookie recipe. This can give an excellent product. Cakes and cookies with reduced amounts of fat or no fat should be served immediately after baking since they do not keep well. If the cake or cookies are baked ahead, cool, then wrap securely and freeze until needed.

Try cake or cookie recipes that have fruits or yogurt to replace some of the fat. Prepare the cake or cookies in a 25-portion amount before it is placed on the menu. It can be served as a choice. Take the time to get feedback from students about their taste preferences.
Ingredient 4: Eggs
Eggs in a cake provide some moisture and help to give the cake structure. The recipe may call for whole eggs or yolks or egg whites. When a recipe calls for whole shell eggs, USDA frozen eggs can be substituted.

- 5 pounds of frozen whole eggs = 45 large eggs
- 4 pounds of frozen whole eggs = 36 large eggs
- 3 tablespoons of frozen whole eggs = 1 large egg

Frozen eggs should be thawed in the refrigerator. After thawing, the amount needed for the cake or cookies should be measured and then allowed to come to room temperature before adding to the other ingredients in the recipe. Remember, most cake and cookie recipes suggest that all ingredients should be at room temperature when the batter or dough is mixed.

Ingredient 5: Liquid

Purpose in the recipe
Liquids in a recipe have the job of dissolving the sugar and salt. The liquid mixes with the baking powder in a recipe to produce a gas that helps the batter or dough rise. Eggs provide some liquid also. The liquid in a cake or cookie recipe may be milk, water, juice, or fruit with juice. Nonfat dry milk can be substituted for liquid milk in a recipe. Combine the dry milk with the dry ingredients and add the required amount of water called for in the recipe as “milk.”

Some cake or cookie recipes call for sour cream. To reduce the fat, plain nonfat or lowfat yogurt can be substituted for the sour cream. Always use a low-fat or skim milk in place of whole milk to reduce the total fat.

Ingredient 6: Baking Powder

Purpose in the recipe
Baking powder causes a cake to rise because it produces a gas (carbon dioxide) when combined with a liquid and also when the batter is heated. Be careful to measure the exact amount called for in the recipe. Too much baking powder gives a cake a coarse texture, a gummy crumb, and can make the cake fall. Too little baking powder results in a heavy, compact cake.

Be sure to check the expiration date of baking powder. If uncertain, add a small amount of water to some baking powder. If it doesn’t bubble, the baking powder may be inactive and should be discarded.

Ingredient 7: Flavorings

Purpose in the recipe
Cake and cookie recipes include a variety of flavorings. Some common flavorings are salt, vanilla, chocolate, spices, lemon extract, almond extract, butter flavoring, and many others.

Although these flavorings are used only in small amounts, they have a big impact on flavor. Measure the flavorings accurately, according to the recipe.

Some cake and cookie recipes call for nuts. Since nuts are high in fat, dried fruits, such as raisins or dates, can be substituted for nuts in the recipe. Substitute equal amounts.
There are two basic types of cake batters:

- Butter or shortened cakes. Butter or shortened cakes contain some kind of fat and they are usually leavened with either baking powder or baking soda and an acid, such as butter-milk or fruit juice.
- Foam or sponge cakes. Foam cakes include sponge cakes, angel food cakes, and chiffon cakes. These cakes are leavened by the air in the egg foam. They contain little or no fat. Foam cakes cannot be prepared in quantities greater than 100 portions per batch because the batter is delicate.

**Cake Mixes**

Cake mixes are prepared using carefully tested formulas. Since these formulas are balanced, no changes should be made in the few ingredients that are added. For example, if the directions call for water to be added, do not add milk instead. Substituting ingredients or adding other ingredients will make the formula out of balance and can ruin the finished product. Follow the directions for a cake mix to get a good product.

**Baking Cakes**

Be sure to have a timer when baking cakes. Cakes bake in four stages.

**Stage 1:**
The cake batter becomes slightly thinner and rises rapidly. Rising starts at the sides and moves in toward the center.

**Stage 2:**
The center of the cake begins to rise a little higher than the sides. The structure of the cake is beginning to form at this time. On the surface of the cake, some browning begins and small bubbles may appear. This is a very delicate stage and any jarring may cause the cake to fall or lose volume. When a convection oven is used, the fan should be turned off until the second stage of baking is complete. The amount of time for this will vary with different recipes from one-third to one-half of the total baking time.

**Stage 3:**
The cake begins to get firm and the crust continues to brown.

**Stage 4:**
As the cake gets done, it begins to shrink slightly and pull away from the sides of the pan. When a cake is done, it should be firm to the touch and should spring back when touched not leaving a fingerprint. When a wire tester or toothpick that is inserted in the center of the cake comes out clean, the cake is done.
<table>
<thead>
<tr>
<th>Cake Problem (Exterior)</th>
<th>What Could Have Happened to Cause It</th>
</tr>
</thead>
</table>
| Too little volume      | · Too little flour  
                          | · Too much leavening  
                          | · Wrong kind of flour  
                          | · Batter too warm  
                          | · Too much liquid  
                          | · Oven too hot  
                          | · Unbalanced recipe  |
| Uneven shape           | · Improper mixing  
                          | · Uneven oven heat  
                          | · Batter spread unevenly  
                          | · Oven rack not level  |
| Crust too dark         | · Too much sugar  
                          | · Overbaked  
                          | · Oven too hot  |
| Pale color             | · Too little sugar  
                          | · Wrong type pan  
                          | · Oven temperature too low  
                          | · Too much liquid  
                          | · Underbaked  |
| Crust too thick        | · Oven not hot enough  |
| Cake bursts on top     | · Incorrect amount of flour  
                          | · Too little liquid  
                          | · Improper type of flour  |
| Specks on cake         | · Sugar too coarse  
                          | · Not enough liquid  |
| Cake falls during baking | · Not enough flour  
                          | · Underbaked  
                          | · Cake is moved before structure is formed  |

**Cake Problem (Interior)**

| Coarse, uneven crumb | · Improperly mixed  
                          | · Not enough leavening agent  
                          | · Unbalanced formula  
                          | · Batter too stiff  
                          | · Not enough eggs  |
| Compact texture       | · Overmixed  |
| Tunnels               | · Too much egg  
                          | · Overmixed  
                          | · Excessive bottom heat  
                          | · Too little sugar  
                          | · Oven too hot  |
| Sinking of fruit      | · Too much leavening agent  
                          | · Improper type of flour  
                          | · Imbalanced recipe  
                          | · Too much heat  
                          | · Fruit not drained properly  |
Cookies

Categories of Cookies

Bar or Sheet Cookies
- Make a soft dough or batter.
- Bake in a half-sheet pan (50 servings) or a full sheet pan (100 servings).

Scooped or Dropped Cookies
- Make a soft dough.
- Shape and bake as soon as the dough is mixed.
- Use the appropriate scoop:
  - A number 40 scoop will make a medium-sized, 2 1/2–3 inch cookie, weighing about 3/4 ounce.
  - A number 20, 24, or 30 scoop can be used for larger cookies.
- Allow room for expanding – cookies typically spread during baking.
- Bake at 325 °F–350 °F.

Molded or Refrigerated Cookies
- Make a stiff dough.
- Roll into a log or balls.

Rolled Cookies
- Make a stiff dough.
- Roll on a lightly floured surface.

Tips
- Remove from sheet pans using an offset spatula while cookies are still slightly warm.
- Do not overbake cookies.
- Cool cookies on a rack.

What Happened to the Cookie?

<table>
<thead>
<tr>
<th>Cookie Problem</th>
<th>What Could Have Happened to Cause It</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uneven shape</td>
<td>Improper mixing · Uneven oven heat</td>
</tr>
<tr>
<td></td>
<td>Improper dropping of dough</td>
</tr>
<tr>
<td>Excessive spreading</td>
<td>Too much liquid · Dough too warm · Overcreaming</td>
</tr>
<tr>
<td></td>
<td>Too much fat and sugar · Incorrect oven temperature</td>
</tr>
<tr>
<td>Dry, crumbly texture</td>
<td>Incorrect proportion of ingredients</td>
</tr>
<tr>
<td></td>
<td>Incorrect oven temperature · Overbaking</td>
</tr>
<tr>
<td>Coarse, uneven crumb</td>
<td>Improperly mixed · Not enough leavening agent · Unbalanced formula</td>
</tr>
<tr>
<td></td>
<td>Batter too stiff · Not enough eggs</td>
</tr>
<tr>
<td>Tough</td>
<td>Excessive rolling</td>
</tr>
<tr>
<td>Hard, crusty top</td>
<td>Overmixed</td>
</tr>
<tr>
<td></td>
<td>Overbaked</td>
</tr>
</tbody>
</table>
Basic Principles of Preparing Pies

A good pie has a tender, flaky crust that can top a variety of fillings. Pies can be sweet and served as a dessert. Filled with various fruits, pies are a favorite way to add more fruit to your menus. Pies can be savory and be meat-filled or vegetarian.

A basic pie dough ratio of ingredients:
- 3 parts flour
- 2 parts fat
- 1 part water (by weight)

Tips for a tender, flaky pie crust:
• Use a solid, cold fat.
• Use a low-protein flour.
• Add an acid.
• Avoid using too much water.
• Do not overmix.
• Allow the dough to rest.

What Happened to the Pie?

<table>
<thead>
<tr>
<th>Pie Problem</th>
<th>What Could Have Happened to Cause It</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smooth surface</td>
<td>· Overhandling  · Too much flour when rolling</td>
</tr>
<tr>
<td>Shrunken</td>
<td>· Stretched crust when easing into the pan  · Overmixing  · Too much water</td>
</tr>
<tr>
<td></td>
<td>· Protein content of flour too high</td>
</tr>
<tr>
<td>Tough</td>
<td>· Too much water  · Overmixing  · Protein content of flour too high</td>
</tr>
<tr>
<td>Not flaky</td>
<td>· Temperature of dough too high  · Shortening too soft  · Overmixing</td>
</tr>
<tr>
<td>Too tender</td>
<td>· Undermixing  · Too much shortening  · Not enough liquid</td>
</tr>
<tr>
<td>Soggy bottom crust</td>
<td>· Baked too short time  · Oven temperature too low  · Too much fat in crust</td>
</tr>
<tr>
<td>Dry</td>
<td>· Shortening cut in too finely  · Not enough liquid</td>
</tr>
</tbody>
</table>
The creaming method or conventional method is the culinary technique usually used for cakes and cookies that have a larger amount of fat. Products mixed by this method include pound cake, coffee cakes, brownies and other bars, and some cookies.

1. **Have all ingredients at room temperature.**
2. **Scale the ingredients.**
   - Weigh the dry ingredients and measure the liquid ingredients. Mix all the dry ingredients together with the exception of the sugar.
3. **Prepare the pans.**
   - Vegetable oil spray can be used. Pans may be greased and floured or lined with parchment paper. Do not use oil as it will cause the cookies or cake to stick.
4. **Place the butter or shortening in the mixing bowl.** Beat slowly with the paddle attachment until the fat is smooth and creamy.
5. **Add all of the sugar and beat until light and fluffy.**
   - Turn off the mixer and scrape down the sides.
6. **Add the eggs in several parts, beating well after each addition.**
   - Beat this mixture until light and fluffy. Turn off the mixer and scrape down the sides.
7. **Add the mixed dry ingredients alternately with the liquid to the creamed mixture.**
   - Always end with dry ingredients.
   - Follow the recipe to determine when to add flavorings or other ingredients.
8. **Weigh or measure the amount of cake batter for each pan.**
   - The recipe will specify the type and size of pans and the weight of batter to be scaled per pan.
9. **Bake according to the recipe.**
   - Turn the fan off in a convection oven until the batter is set, about one-third to halfway through the baking time.
10. **Cool in the pan for 15 minutes.**
11. **Continue with the recipe or freeze.**
   - Cakes freeze well. In fact, freezing improves the taste of cakes made with mixes. Wrap airtight to freeze.

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**Try these USDA Recipes that include this Culinary Technique**

- **Brownies** C-4
- **Peanut Butter Cookies** C-14
- **Royal Brownies** C-21
- **New Oatmeal Raisin Cookies** C-25
- **Peanut Butter Bars** C-26
- **New Spice Cake** C-28
- **Whole Wheat Sugar Cookies** C-30
Blending Method for Cakes

The blending method is a culinary technique used for mixing cakes when the weight of the sugar is equal to or greater than the weight of the flour. This method is used for layer cakes, gingerbread, and many other cakes made in quantity.

1. Have all ingredients at room temperature.
2. Scale the ingredients.
   Weigh the dry ingredients and measure the liquid ingredients.
3. Prepare the pans.
   Vegetable oil spray can be used. Pans may be greased and floured or lined with parchment paper. Do not use oil as it will cause the cake to stick.
4. Blend the dry ingredients in a mixing bowl and mix on low speed for 1 minute.
   Use the flat paddle.
5. Blend the liquid ingredients in a separate bowl.
   Follow the recipe for the specific ingredients to be blended at this step. Most recipes have the oil or shortening mixed with the liquid ingredients.
6. Add half the liquid ingredients to the dry ingredients and blend.
   Follow the recipe to know how long to blend the batter at this stage.
7. Add remaining liquid ingredients and mix for 1 minute on low speed, then 3 minutes on medium speed.
8. Weigh or measure the amount of cake batter for each pan.
   The recipe will specify the type and size of pans and the weight of batter to be scaled per pan.
9. Bake according to the recipe.
   Turn the fan off in a convection oven until the batter is set, about one-third to halfway through the baking time.
10. Cool in the pan for 15 minutes.
11. Continue with the recipe or freeze.
   Cakes freeze well. In fact, freezing improves the taste of cakes made with mixes. Wrap airtight to freeze.

Try these USDA Recipes that include this Culinary Technique

- Applesauce Cake . . . . . C-3
- Carrot Cake ............ C-5
- Chocolate Cake .......... C-8
- Spice Cake ............... C-16
- Yellow Cake ............. C-20
- Gingerbread ............. C-23
- Chocoleana Cake ....... C-31

Preparing Cakes, Cookies, and Pastry
Preparing Pie Crust

1. **Combine the flour and the fat.**
   Cut the fat into the flour either by hand, by using a mixer with a paddle attachment, with a pastry knife, or with a food processor. The flour-fat mixture should resemble small peas.

2. **Add the ice cold water to the dough and combine.**
   Add the liquid all at once to the flour-fat mixture. Mix to ensure that all the dough is evenly moistened.

3. **Turn the dough onto a lightly floured surface and form a compact, flat disk.**

4. **Wrap and refrigerate the dough.**
   Chilling allows the dough to relax, the fat to firm, and the starches to absorb the liquid.

5. **Roll the dough.**
   Place the dough onto a lightly floured work surface. Lightly dust the surface of the dough with flour. Roll the dough into desired thickness and shape. Transfer the dough to the baking pan.

6. **Bake the pie or cobbler in a hot oven until the crust is golden brown and the filling cooked.**

---

Try these USDA Recipes that include this Culinary Technique

- Apple Cobbler . . . . . . . . C-01
- Cherry Cobbler . . . . . C-06
- Bottom Pastry Crust . . . . C-12
- Top Pastry Crust . . . . . C-12A
- Sweet Potato Pie . . . . . C-17
- Chicken or Turkey Pot Pie . . . . . . . . D-19
Before any food is placed on the serving line, it should be evaluated using the Quality Score Card. The quality standards shown on the score card can only be reached when a cake or cookie recipe or package directions for a cake mix are followed exactly. The school nutrition manager and assistant who prepared the food should make the determination whether the food product meets the standards on the Quality Score Card. If the decision is made that the food does not meet the quality standards, do the following things:

1. Substitute another similar food on the serving line. Follow the school district procedure for menu substitutions.
2. Use the cake or cookies, if possible, in another way in order to avoid wasting the food. Cake or cookie pieces can be layered with pudding, fruit, or lowfat whipped topping as a dessert.
3. Determine what happened during preparation that caused the poor quality and make plans to correct the preparation next time.
## Quality Score Card for Cakes and Cookies

**Date:** ______________  
**Name of Menu Item:** ________________________________________________________

**Proudly Prepared by**  ____________________________________________________________

**Quality Scored by**  ____________________________________________________________

*Directions*: When the food is ready to serve, use this Quality Score Card to evaluate the quality. Mark **YES** when the food meets the standard and **NO** when it does not. Mark **NA** (Not Applicable) when a specific quality standard does not apply to the food being evaluated. Use the **COMMENTS** section to explain why a food does not meet a standard.

*Remember, if a food does not meet the quality standards, it should not be placed on the serving line.*

<table>
<thead>
<tr>
<th>Quality Standard</th>
<th>Yes</th>
<th>No</th>
<th>NA</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance</strong></td>
<td>-----</td>
<td>----</td>
<td>----</td>
<td>----------</td>
</tr>
<tr>
<td>Top has a smooth surface.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td></td>
</tr>
<tr>
<td>Top is slightly rounded.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td></td>
</tr>
<tr>
<td>Volume is high for the pan size.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td></td>
</tr>
<tr>
<td>Interior is fine-grained with small, evenly distrib.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td></td>
</tr>
<tr>
<td>Interior has uniform distribution of gas holes.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td></td>
</tr>
<tr>
<td>Color is golden-brown (except chocolate cake).</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td></td>
</tr>
<tr>
<td>Portions are uniform in size.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td></td>
</tr>
<tr>
<td>Icing or flavor enhancer covers entire cake portion.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td></td>
</tr>
<tr>
<td><strong>Texture or Consistency</strong></td>
<td>-----</td>
<td>----</td>
<td>----</td>
<td>----------</td>
</tr>
<tr>
<td>Cake is light, but not crumbly.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td></td>
</tr>
<tr>
<td>Texture is soft, velvety, and moist (not tacky or sog.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td></td>
</tr>
<tr>
<td>Crumb is so tender as to <em>melt in the mouth.</em></td>
<td>○</td>
<td>○</td>
<td>○</td>
<td></td>
</tr>
<tr>
<td><strong>Flavor and Seasoning</strong></td>
<td>-----</td>
<td>----</td>
<td>----</td>
<td>----------</td>
</tr>
<tr>
<td>Flavor is delicate, sweet, and well-blended (no foreign flavors such as oily, starchy, or burnt flavor).</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td></td>
</tr>
<tr>
<td>Icing or other flavor enhancer is fresh tasting.</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td></td>
</tr>
<tr>
<td><strong>Service Temperature</strong></td>
<td>-----</td>
<td>----</td>
<td>----</td>
<td>----------</td>
</tr>
<tr>
<td>60 °F–70 °F</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td></td>
</tr>
</tbody>
</table>
Quality Score Card for Pies (Pastry)

Date: ____________  Name of Menu Item: ____________________________________________________________

Proudly Prepared by  _________________________________________________________________________

Quality Scored by  __________________________________________________________________________

Directions: When the food is ready to serve, use this Quality Score Card to evaluate the quality. Mark YES when the food meets the standard and NO when it does not. Mark NA (Not Applicable) when a specific quality standard does not apply to the food being evaluated. Use the COMMENTS section to explain why a food does not meet a standard.

Remember, if a food does not meet the quality standards, it should not be placed on the serving line.

<table>
<thead>
<tr>
<th>Quality Standard</th>
<th>Yes</th>
<th>No</th>
<th>NA</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Filling pieces are similar in size.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>Filling pieces are intact.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>Garnish is edible and appropriate for the dish.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>Pastry or topping has a golden brown color.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>Pastry has a blistery surface.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td><strong>Texture or Consistency</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All pieces of the filling have the same texture.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>Pastry has a flaky texture.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>Pastry cuts easily.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td><strong>Flavor and Seasoning</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If seasonings have been used, they are detectable but not overpowering.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>Seasonings enhance the filling flavor.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>Pastry has a pleasant, bland flavor.</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td><strong>Service Temperature</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pastry Dessert – 60 °F–70 °F</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>Hot Pastry – 160 °F–180 °F</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
</tbody>
</table>
Description of the Activity
Culinary Practice is an activity designed to give foodservice assistants an opportunity to practice preparing cakes, cookies, or pies. This practice should be completed within 10 days after the lesson. Use the Culinary Practice Score Card for the activity.

1. Foodservice assistants may work as partners or individually, depending on the directions from the manager. One partner should be someone who cooks and the other, someone who has other responsibilities. Both foodservice assistants should work together to complete the Culinary Practice.

2. The manager and foodservice assistants should discuss the Culinary Practice for Preparing Cakes, Cookies, and Pies. Make a note of the date the Culinary Practice should be completed and discussed with the manager.

3. The manager will approve the recipe to be used for the practice. Review the steps of each culinary technique:
   • Culinary Technique: Creaming Method or Conventional Method
   • Culinary Technique: Blending Method
   • Culinary Technique: Pie Crust

4. The manager and foodservice assistants who prepared the product will evaluate the product before it is placed on the service line. Use the Quality Score Card.
Culinary Practice Score Card for Cakes, Cookies, and Pies (Pastry)

Name(s): ________________________________________________________________

(This practice activity may be completed individually or with a partner. The manager will make this assignment at the end of the lesson.)

**Purpose:** The purpose of the activity is to practice Preparing Cakes, Cookies, and Pastry.

**Culinary Technique:** (Identify the culinary technique that you will use. Refer to the previous pages for a description of each technique.)

Name of the Recipe: _______________________________________________________

Date for Production: _____________________________________________________

**Directions:** The manager and foodservice assistant(s) will select a recipe for either cakes, cookies, or pies that includes one of the culinary techniques described in this lesson. Check YES or NO when each step is completed.

<table>
<thead>
<tr>
<th>Step Description</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plan food production for just-in-time service.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Did you plan food production for just-in-time service?</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Review the Quality Score Card and the recipe.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Did you review the recipe so you are familiar with the ingredients, equipment, and directions?</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Did you review the Quality Score Card so you will know how the finished product should look and taste?</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Organize equipment and ingredients.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Did you assemble all the equipment needed?</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Did you assemble all of the ingredients needed?</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Use the right culinary technique.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Did you use the culinary technique correctly?</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Deliver a quality product.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Did you use the Quality Score Card to evaluate the product?</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Did you review the product with the manager?</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Discuss the following questions with the manager before serving.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How can the appearance of the food be improved?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How can the flavor or taste of the food be improved?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How can the texture and tenderness of the food be improved?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How can the service temperature of the food be improved?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The manager’s signature indicates this practice has been completed satisfactorily. The manager should keep this on file or submit it to the central office to document the completion of the lesson.

Name of Manager: ____________________________ Date Signed: ________________
References


