

Cookie Capers

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High School Lesson

National FCS Standards

- 7.1.5 – Demonstrate job acquisition skills to gain work-based learning opportunities and employment in family and community services careers.
- 8.4.3 – Analyze food, equipment, and supplies needed for menus.
- 8.4.5 – Apply the fundamentals of time, temperature, and cooking methods to cooking, cooling, reheating and holding of a variety of foods.
- 8.5.10 – Prepare breads, baked goods and desserts using safe handling and professional preparation techniques.
- 9.5.4 – Maintain test kitchen/laboratory and related equipment and supplies.
- 9.5.6 – Conduct sensory evaluations of food products.
- 14.4.1 – Analyze conditions and practices that promote safe food-handling.

Objectives: Students will ...

- Review professional test kitchen cookie baking methods and techniques
- Identify the six types of cookies
- List the functions of twenty cookie ingredients
- Select, plan preparation steps, and demonstrate proper measuring and preparation methods for baking cookie recipes
- Demonstrate safe food handling methods for cookie ingredients, raw dough and handling baked cookies for evaluation and gifting
- Apply food label guidelines to package products to donate at the school or in the community
- Properly clean labs and equipment, and store ingredients and baked goods
- Evaluate cookies and provide one or more suggestion for troubleshooting the problems identified.

Essential Questions

What are the types of cookies consumers bake and purchase? What are the functions of the ingredients in cookies? What needs to be on a cookie label for sale or gifting?

Career Clusters (& Pathways)

Hospitality and Tourism (Restaurants and Food/Beverage Services)

FCCLA Connections

Program - Leaders at Work, Community Service

STAR Events - Culinary Arts, Food Innovations



Baking and Career Connections

- **Baking in a test kitchen, coffee house or restaurant is science and art.** See baking and test kitchen professionals at work. Click on members at www.homebaking.org/hbmembers/index.html
- **Temperature and technique matter.** For creaming, butter or margarine should be cold or room temperature (65°F). Unless recipe specifies, never use reduced-fat or low-fat margarines (they contain added water).
- **Demo or view how to measure flour.** *A Bakers Dozen DVD* OR www.kingarthurfour.com/videos/how-to-measure-flour
- **View "how to" cream on** *A Baker's Dozen DVD*, Section 13 OR DIY Baking Channel, www.homebaking.org
- **Questions? Chat with a baker!** Baking Banter, www.kingarthurfour.com
- More Cookie Baking Tips



www.bettycrocker.com, www.chsugar.com
www.dominosugar.com, www.landolakes.com

(Image courtesy of The King Arthur Flour Company)

Materials List

- "Cookie Capers Types of Cookies" and "Cookie Baking Tips"
 - Example package labels from cookies or cookie dough
 - "Cookie Ingredient Functions" worksheet and answer key and the related 20 cookie ingredients
 - "Foods Lab Planner"
 - "Cookie Capers Score Card"
 - Download "Baking Glossary" – www.homebaking.org
 - "Keeping Food Safe" handout – www.homebaking.org
 - "Cookie Tips – Secrets to Making Perfect Cookies" – www.whatscookingAmerica.net/Cookie/CookieTips.htm
 - Tested cookie recipes from cookbooks or internet – www.homebaking.org/hbmembers/index.html
 - Cookie ingredients for baking labs
 - Dry and liquid measuring equipment
 - Mixing equipment, bowls, cookie sheet pans
 - Electronic scale
 - Wire cooling racks
 - *A Baker's Dozen DVD*, *Baker's Dozen Labs*, Home Baking Assoc.
- ### Optional Supporting Resources
- *A Baker's Dozen DVD* ingredient functions and methods and cookie science
 - Download PowerPoint "Flour to Table, Cookies," www.kswheat.com, click on Consumers, Baking Laboratories, Lessons, Section 5
 - "Cookies in History" PowerPoint Cookie Chronicles, www.homebaking.org/cookiechronicles.ppt
 - "Cookie Creations" rubrics, www.homebaking.org in Educator Resources
 - Rubrics, "Cookie Creations," 2001, www.homebaking.org/foreducators/lessonplans.html

Prior to Lesson:

1. Download the "Baking Glossary" and "Keeping Food Safe," from www.homebaking.org and "Cookie Tips – Secrets to Making Perfect Cookies," www.whatscookingAmerica.net/Cookie/CookieTips.htm.
2. Assemble twenty ingredients used in baking cookies and number them from 1 - 20.
3. Copy "Cookie Ingredient Functions" and "Types of Cookies" worksheet/handout.
4. Download PowerPoints, Optional Supporting Resources, p.1, DIY Creaming Video, www.homebaking.org or load A Baker's Dozen DVD segment.

Day 1 – Topics: Cookie Ingredient Functions and Types of Cookies

Introduction (5 minutes)

Q: Ask students what they know about cookies. Do they know the function of ingredients used in baking cookies? Do they know the various types of cookies?

Activity 1 (20 minutes)

Review accurate measurement, mixing and portioning methods (*Demonstrated: A Baker's Dozen DVD*). Review safe food-handling as needed. Learn about functions of cookie ingredients. (Optional PowerPoint)

Set out 20 cookie ingredients and have students complete the "Cookie Ingredient Functions" worksheet using the downloaded resources, PowerPoint or textbooks provided. See resource list above or on worksheet.

Activity 2 (15 minutes)

After students have completed the activity, have students share answers and discuss their findings. What did they learn? Was it difficult to find the functions of some ingredients? Did some ingredients have more than one function?

Activity 3 (10 minutes)

Pass out the "Cookie Capers: Types of Cookies" handout and have students read about the various types of cookies. (Optional Cookie Chronicles PowerPoint, www.homebaking.org)

Activity 4 (5 minutes)

Have students brainstorm and list as many cookies as possible and categorize them by type of cookie. Their answers could be recorded on the board.

→ Assign students to visit professional Test Kitchen websites at www.homebaking.org. Click on Members **OR** review Cookie Baking sections in cookbooks from test kitchens or professional bakers. Public libraries offer many great cookbooks to check out.

Day 2 – Topics: Selecting Cookie Recipes and Planning a Cookie Lab

Activity 1 (5-10 minutes)

Review the various types of cookies from the "Cookie Capers: Types of Cookies" handout and the research the students did.

Activity 2 (5-10 minutes)

Working in groups, have students select a cookie recipe to prepare on Day 3 of the unit based on the research they have done online or in cookbooks.

Activity 3 (5-10 minutes)

Optional Community Service Activity: Each group should select a school or community group or class that the cookies could be donated to, such as a Senior Citizen Center, Preschool, Day Care or even another school class. Think about appropriate cookie choices for the group that will be receiving the donation. Consider a baking service learning project with FCCLA Partner Share Our Strength. Hold a **Great American Bake Sale** to help end childhood hunger. Visit www.gabs.strength.org for bake sale resources.



Q: Ask students: Are there special needs the recipients might have, such as low-sodium or an ingredient allergy?

→ Baking Science option:

Students can apply test kitchen ingredient substitutions to meet special consumer needs.

"Kitchen Science: Baking for Special Needs"

www.homebaking.org/kitchenscience2012.pdf

Activity 4 (15-20 minutes)

Each group should complete the "Foods Lab Planning Sheet" and hand it in.

Day 3 – Topic: Baking and Evaluating Cookies

Prior to the Lesson:

1. Prior to the Lesson: Have available all supplies and equipment needed to bake cookies
2. Have sample cookie product labels available to review for "what goes on a food label." Provide labeling tools for students to create food labels for Community Service option. (Avery or Staples labels work well and may be computer designed and printed.)

→ Copy "Cookie Capers Score Card" or "Cookie Creations Rubrics" or "Kitchen Science Matter of Taste" forms found at www.homebaking.org, Educator Resources.

Activity 1 (30-40 minutes)

Working in groups, prepare cookies using the "Foods Lab Planner" completed on Day 2.

Activity 2 (10 minutes)

When finished with the cookie lab, group members should evaluate their cookies using the "Cookie Capers Score Card." Each production team should offer one possible way to solve any problem they identify. If time permits, the lab experiences can be shared and discussed.

Activity 3 (10 minutes):

Optional Community Service Activity: Have groups create cookie product labels for their products, including:

- Product name
- Net weight
- Ingredient list
- Production date and location
- Create attractive packages for their remaining cookies to donate to others in their school or community. These can be delivered during an appropriate time during the school day or after school.

Cookie Ingredient Functions

Directions: List cookie baking ingredients. Using the baking resources, list their function(s).

Ingredient	Function
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____
6. _____	_____
7. _____	_____
8. _____	_____
9. _____	_____
10. _____	_____
11. _____	_____
12. _____	_____
13. _____	_____
14. _____	_____
15. _____	_____
16. _____	_____
17. _____	_____
18. _____	_____
19. _____	_____
20. _____	_____

Cookie Ingredient Function Resources:
Baking Glossary, www.homebaking.org
A Baker's Dozen Labs, Cookie Science, Lab 7
Kitchen Science, homebaking.org/foreducators/cookiescience.html
Baking Laboratories, *Flour to Table* PowerPoint pdf, Cookies section,
www.kswheat.com

Cookie Capers Score Card

Name: _____

	Excellent (4)	Good (3)	Fair (2)	Poor (1)
Drop Cookies				
Fairly uniform mounded shape	___	___	___	___
Delicately browned exterior	___	___	___	___
Slightly moist, tender texture	___	___	___	___
Flavor characteristic of ingredients	___	___	___	___
Total Score (16 possible)	___			
Troubleshooting suggestion(s): _____				
Bar Cookies				
Uniform, well-cut	___	___	___	___
Thin, delicate, tender crust	___	___	___	___
Rich, moist texture	___	___	___	___
Flavor characteristic of ingredients	___	___	___	___
Total Score (16 possible)	___			
Troubleshooting suggestion(s): _____				
Refrigerator Cookies				
Uniform, thin slices	___	___	___	___
Lightly browned surface	___	___	___	___
Crisp and crunchy texture	___	___	___	___
Flavor characteristic of ingredients	___	___	___	___
Total Score (16 possible)	___			
Trouble shooting suggestion(s): _____				
Rolled Cookies				
Retain shape of cutter	___	___	___	___
Lightly browned surface	___	___	___	___
Texture crisp and thin or soft and thick	___	___	___	___
Rich flavor, depending on ingredients	___	___	___	___
Total Score (16 possible)	___			
Troubleshooting suggestion(s): _____				
Molded Cookies				
Uniform, well-shaped	___	___	___	___
Delicately browned	___	___	___	___
Crisp and tender texture	___	___	___	___
Pleasing flavor, characteristic of ingredients	___	___	___	___
Total Score (16 possible)	___			
Troubleshooting suggestion(s): _____				
Pressed Cookies				
Well-shaped and well-defined pattern of cookie press	___	___	___	___
Delicately browned edges	___	___	___	___
Very tender and crisp texture	___	___	___	___
Rich and buttery flavor	___	___	___	___
Total Score (16 possible)	___			
Troubleshooting suggestion(s): _____				

Cookie Capers by Marla Prusa, FCS Teacher, HBA Educator Award winner

Cookie Capers: Types of Cookies

Cookie Creations. Marla Prusa, Howell, NE Home Baking Association Educator Award winner.

Although the variety of cookies seems endless, there are only six basic types – drop, bar, refrigerator, molded, rolled and pressed. Once you learn these, there are many variations!

1. **Drop Cookies** – dough is dropped from a teaspoon or cookie scoop onto baking sheet pan.
Examples: Chocolate chip and oatmeal cookies.
2. **Bar Cookies** – cookies are baked in a square or rectangular pan, and when slightly cool, cut into squares.
Example: Brownies are among the most popular bar cookies.
3. **Refrigerator Cookies** – rolls of dough are chilled in the refrigerator, then sliced with a sharp knife and baked. *Example:* “Mix and slice” sugar cookies.
4. **Molded Cookies** – dough is usually shaped with the hand into walnut-sized balls; some molded cookies are flattened before baking. *Example:* Peanut butter cookies.
5. **Rolled Cookies** – cookie dough is rolled out and cut into any shape.
Examples: Christmas sugar cookies and gingerbread men.
6. **Pressed Cookies** – cookies dough is shaped with a cookie press. The dough must be kept pliable to produce the desired shapes. *Example:* Spritz cookies.

General Cookie Baking Tips

- Read the recipe completely and assemble ingredients and equipment.
- Fluff flour, spoon into dry measuring cup and level off **OR** weigh, to avoid too much flour.
- Butter or margarine should be cold (65-68°F), not melted; unless recipe directs, do not use reduced-fat butter or margarine. Using part vegetable shortening will reduce cookie spread and change height and texture.
- Raw ingredients and dough should not be eaten. Enjoy the baked version!
- When shaping or scooping cookie dough, make all the same size so they bake evenly.
- Space cookie dough about 2 inches apart; avoid placing close to the pan edge.
- Avoid putting cookie dough on a hot baking sheet – they will melt and spread and lose their shape. If you bake cookies frequently, invest in extra baking sheets. While one pan is baking, you can prepare the next pan and save time.
- Cool baked cookies on a wire cooling rack.
- Because most cookies are small, they can be easily over-baked. Always test/check cookies a few minutes before the baking time is up. Remember, when you take cookies out of the oven, they continue to bake until you remove them from the hot baking sheet.
- When done, all cookies will be delicately browned. Give drop and bar cookies an extra test: press the tops lightly with your finger – the imprint should show slightly.
- If you can't bake after mixing, refrigerate or freeze cookie dough.
Directions at: www.landolakes.com/TestKitchen/Blog/make-ahead-cookie-baking-tips-freezing-cookies



Cookie History Connections and many cookie baking tips!

A Bakers Dozen Labs, www.homebaking.org, Labs 4 and 7
Cookie Chronicles PowerPoint, Nancy Baggett,
www.homebaking.org/cookiechronicles.ppt
Cookie Tips, www.whatscookingAmerica.net/Cookie/CookieTips.htm
Test Kitchen bakers, www.homebaking.org/hbamembers/index.html
Wheat Foods Council Fact Sheets, www.wheatfoods.org/resources

Foods Lab Planner (1)

Name of Lab: _____ Date: _____

Lab Objective: _____

Group Members: _____

Lab Recipe Name: _____
(Write out, attach recipe, list Cookbook/page #, or website credit)

Measurement and Ingredients:



Directions:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

Preparation Time Estimated: _____ Baking Time: _____

Cooling Time: _____ How to Package: _____

Go to next page.

Foods Lab Planner (2)



List Groceries Needed:

Equipment Needed:

Outline Duties to Organize, Prepare, Clean Up:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

Lab Member:

What I still need to know to do this lab: _____

Cookie Ingredient Functions Answer Key

Directions: List cookie baking ingredients. Using the baking resources, list their function(s).

Ingredient

1. Flour
2. Butter or Margarine
3. Baking powder
4. Salt
5. Sugar
6. Eggs
7. Milk
8. Baking soda
9. Water
10. Cocoa
11. Oatmeal
12. Vanilla
13. Cinnamon
14. Brown sugar
15. Shortening
16. Chocolate or Other Flavored Chips
17. Peanut Butter
18. Syrup
19. Molasses
20. Oil

Function

- Provides structure
- Tenderness; flavor
- Leavening agent
- Flavor; strengthens gluten structure
- Sweetness; browning; aeration
- Color; emulsify; light texture, leavens
- Tenderness; browning; carries flavoring
- Leavening agent
- Moistness
- Flavor
- Flavor; texture; binds ingredients together
- Flavor
- Flavor
- Sweetness; chewiness; aids browning
- Tenderness
- Flavor
- Moistness, tenderness, fat, flavor
- Sweetness; aids in browning
- Flavor, moisture, color
- Tenderness

Cookie Ingredient Function Resources:
Baking Glossary, www.homebaking.org
A Baker's Dozen Labs, Cookie Science, Lab 7
Kitchen Science, homebaking.org/foreducators/cookiescience.html
Baking Laboratories, *Flour to Table* PowerPoint pdf, Cookies section,
www.kswheat.com

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