

Cookie Capers

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Middle School – Three or Four-Day Lesson

National FCS Standards

- 1.2.1 – Analyze potential career choices to determine the knowledge, skills, and attitudes associated with each career.
- 1.2.4 – Demonstrate leadership skills and abilities in school, workplace and community settings.
- 3.5.2 – Design or analyze a consumer product.
- 8.4.3 – Analyze food, equipment, and supplies needed for menus.
- 8.5.3 – Utilize weights and measurement tools to demonstrate knowledge of portion control and proper scaling and measurement techniques.
- 8.5.10 – Prepare breads, baked goods and desserts using safe handling and professional preparation techniques.
- 8.7.5 – Demonstrate sensitivity to diversity and individuals with special needs.
- 9.5.6 – Conduct sensory evaluations of food products.
- 14.4 – Analyze conditions and practices that promote safe food handling.

Objectives *Students will ...*

- Measure ingredients properly
- Explore professional test kitchen cookie baking techniques
- Apply baking science knowledge of temperatures in the cookie baking lab
- Practice reading, halving and doubling recipes
- Select and prepare cookie recipes in a group
- Conduct evaluation of product
- Bake cookies to donate in the school and community
- List and apply food safety practices essential for preparing and packaging foods for donation.

Lab will address question:

What measuring, preparation, portioning and food handling skills are needed to prepare and package cookies?



Career Clusters (& Pathways):

Hospitality and Tourism (Restaurants and Food/Beverage Services)

FCCLA Connections:

STAR Event - Food Innovations
Program - Community Service



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/hbamembers/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 Baker's Dozen DVD* OR www.kingarthurflour.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
- **More creaming tips:** Page 2, Activity 2
- **Questions?** Chat with a baker! Baking Banter, www.kingarthurflour.com



(Image courtesy of The King Arthur Flour Company)

Materials List

- *A Baker's Dozen DVD* (#1 Getting Started; #8 Eggs; #13 Creaming), Home Baking Association
- *Nasco's Kitchen Math and Measuring DVD*
- Download as needed at www.homebaking.org, Click on Educator Resources
 - "Baking Certificate"
 - "Cooking Skills Check List"
 - "How to Wash Hands"
 - "Keeping Food Safe"
- Download with this lesson: "Cookie Capers Recipe Sheet: Chocolate Chip Cookies," "Cookie Capers Scorecard," and "Foods Lab Planning Sheet"
- Cookbooks/internet recipe sites
- Measuring cups and spoons
- Electronic scales for portion weight and package net weight
- Mixing bowls and equipment
- Cookie ingredients
- Cookie baking sheets
- Chocolate chip cookie package labels for ingredient and net weight examples
- Bags or containers for storing/delivering cookies
- Optional: *A Baker's Dozen Lab Manual*, Home Baking Association, p. 199, "Create a Food Label" worksheet
- See Trouble Shooting Cookies, page 2

Day 1 – Topic: Measuring Ingredients and Butter Temperature for Creaming

Introduction (5-10 minutes) – The Chocolate Chip Cookie is the No. 1 cookie baked in the U.S. Of the six types of cookies, it is called a “drop” cookie for the way it is portioned or “dropped” out onto the baking sheet pans. In this unit, we will be practicing using proper measuring and cookie mixing techniques and cutting recipes in half and doubling them.

Activity 1 (22 minutes) – Begin the class by asking students:

Q. Why is it important to measure properly when preparing foods? What can happen when a person does not measure correctly? (Dry or spread out cookies; product doesn’t turn out the same each time; taste may be too salty, bitter.)

Q. What are common pieces of measuring equipment?

(Dry and liquid measuring cups; measuring spoons; electronic scales; probe food thermometer.)

→ Demonstrate proper equipment and methods or view on *Nasco’s Kitchen Math and Measuring DVD OR A Baker’s Dozen DVD* www.homebaking.org

Q. What will happen if the butter/margarine is melted or too soft when you cream it with the sugar? (Cookies spread out too much, are greasy and run together.)

Q. What steps will you take in lab to prepare cookies that are food safe for you and other consumers?

Review handouts from www.homebaking.org

- “How to Wash Hands”
- “Keeping Food Safe” tips

(Include the importance of not consuming raw cookie batter or sampling cookies while serving or packaging food others will consume.)

Activity 2 (15-18 minutes) – Have students get into groups, read the recipe, and plan their lab for tomorrow. Hand out:

- “Foods Lab Planning Sheet” to each group
- “Cookie Capers Recipe Sheet: Chocolate Chip Cookies”

(Be sure to remind students to include all needed ingredients and measuring and mixing equipment in their plan.)



Day 2 – Topic: Measurements and Method Lab

Have ready all needed cookie ingredients and equipment for the Measurement and Method Lab.

Prepare to show (see Baking Career Connections on page 1) how butter and sugar look when they are “creamed” properly.

Activity 1 (35-40 minutes) – Review with students how to:

- measure ingredients with correct measuring tools and method
- uniformly measure (portion) and space cookies on sheet pans
- shell an egg
- cream sugar and butter – butter or margarine temperature
- the steps to clean up

Have students get into their lab groups from yesterday and use their Foods Lab Planning Sheet as they prepare their chocolate chip cookies.

Activity 2 (5 minutes) – Students will evaluate their chocolate chip cookies using the Cookie Capers Scorecard. Did they have a cookie problem to solve? If yes, have them write suggested ways to solve the problem. If they need to research ideas:

→ Check out Cookie Baking Tips from Test Kitchen baking staff:
www.bettycrocker.com/tips/tipslibrary/baking-tips/building-blocks-of-baking#Cookies
www.chsugar.com/Consumer/secrets_cookie.html
www.dominosugar.com/baking-tips-how-tos/basic-baking-tips/cookie-tips
www.landolakes.com/TestKitchen/TipsAndTechniques.aspx
www.kingarthurflour.com

Activity 3 (5 minutes) – Store cookies when cool. Freeze cookies to preserve freshness, if they will not be packaged and donated the next day.

→ Assign students or bring several chocolate chip cookie package labels to show ingredient lists and net weight for their labeling examples.

Community Service Options: Students can brainstorm and discuss to whom in the school or community they would like to donate remaining cookies to on Day 3 **OR** plan how and when to conduct a Great American Bake Sale with Share Our Strength, to help end childhood hunger.



Bake Sale Resource Center is at www.gabs.strength.org
Bake Sale resources also at www.bettycrocker.com

Troubleshooting Cookies:

- Home Baking Association *A Baker's Dozen Labs* and members' Test Kitchens www.homebaking.org/hbamembers/index.html
- Baking Lessons, *Flour to Table Power Point*, *Baking Ingredient Functions*, *Cookies* www.kswheat.com/consumerspageid286_BakingLaboratories.shtml
- Go to www.kswheat.com Go to Consumers, Baking Laboratories, Labs, Substitution Science: Cookie Science pdf

Days 3-4 – Topics: Halving and Doubling Recipes Labeling and Packaging Cookies Community Service, Skills and Baking Certificate

Prior to the Lesson:

- Download “Baking Skills Checklist” and “Baking Certificate” from www.homebaking.org.
- Bring large stick-on address labels (such as Avery or Staples sells) to create food labels for their cookie packages on the computer or by hand.
- Have cookie product labels as a reference.

Activity 1 (10-15 minutes) – Have students get out the “Cookie Capers Recipe Sheet: Chocolate Chip Cookies” that was passed out on Day 1. After explaining that cutting a recipe in half is done by taking the amount times $\frac{1}{2}$, have students practice cutting the recipe in half. Explain that taking each ingredient amount times $2\frac{1}{2}$ is how a recipe is doubled, then have students double the recipe in the space provided.

Activity 2 (5-10 minutes) – Ask students to share their answers to the recipe halving and doubling activity. Be prepared to show the students how to work out the answers if there are questions.

Activity 3 (10-15 minutes)

- Optional resource: *Baker’s Dozen Labs*, Appendix “Create a Food Label” worksheet, p. 199.
- On-line Food Label resource: www.healthchecksyste.ms.com/label.htm
- Download gift labels at: www.chsugar.com; www.dominosugar.com; www.landolakes.com

Community Service Option: Have students attractively package their cookies.

Students will create a food label for the cookies that includes:

1. Product name
2. Ingredient list (list each ingredient, most to least)
3. Net weight of each package
4. Packaging date and location

Activity 4 – May be done on Day 3 or extended to Day 4. Deliver the cookies to their selected group in the school or community, if time allows. Deliveries can be made after school, if needed.

- Copy and hand out the Baking Skills Checklist and Baking Certificate to each student.
- Ask each student to check the skills they acquired in this lab and share something that they learned about measuring, halving or doubling recipes, or baking cookies from the unit.
- Have them set goals for the next skills they will learn and what they will bake or cook, where and when.
- Fill out the certificate for each student or have students complete the certificate. Sign their certificate!
- Consider entering the next Home Baking Educator Award! www.homebaking.org/foreducators/educatoraward.html

OR conduct your S.O.S. Great American Bake Sale!

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): _____				

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Cookie Capers Recipe Sheet

Chocolate Chip Cookies

Name: _____

Ingredients

- ½ cup (4 oz/114g) butter or margarine (softened slightly)
- ½ cup (3.5 oz/100g) granulated sugar
- ¼ cup (2 oz/56g) packed brown sugar
- ½ teaspoon vanilla
- 1 large egg
- 1¼ cups (5.3 oz/150g) all-purpose flour*
(stirred, spooned, leveled)
- ½ tsp. baking soda (2.3g)
- ¼ tsp. salt (1.5g)
- 1 cup (8 oz/227g) chocolate chips



Directions

1. Preheat oven to 375°F.
2. Cream butter, sugars, and vanilla until light in a large mixing bowl. Add egg, beat well.
3. Combine flour, baking soda and salt. Gradually add to the creamed mixture. Beat well.
4. Stir in chocolate chips. Roll into balls or use a cookie scoop and place 2" apart on an ungreased cookie sheet. Bake at 375° for 8-10 minutes or until lightly browned.
5. Cool pan slightly before removing cookies from cookie sheet. Cool cookies on wire racks.

*prepare cookies substituting 1 cup whole wheat flour for 1¼ cup all-purpose flour (Source, www.GoldMedalWholeWheat.com)

Yields 30 (0.8 oz/23g) cookies

Nutrition Facts

Serving Size (23g)	
Servings Per Container	
Amount Per Serving	
Calories 100	Calories from Fat 45
% Daily Value*	
Total Fat 5g	8%
Saturated Fat 3.5g	18%
Trans Fat 0g	
Cholesterol 15mg	5%
Sodium 70mg	3%
Total Carbohydrate 14g	5%
Dietary Fiber 1g	4%
Sugars 10g	
Protein 1g	
Vitamin A 2%	Vitamin C 0%
Calcium 0%	Iron 2%
*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:	
Calories: 2,000 2,500	
Total Fat	Less than 65g 80g
Saturated Fat	Less than 20g 25g
Cholesterol	Less than 300mg 300 mg
Sodium	Less than 2,400mg 2,400mg
Total Carbohydrate	300g 375g
Dietary Fiber	25g 30g
Calories per gram:	
Fat 9 • Carbohydrate 4 • Protein 4	

Baking Math: Halving and Doubling a Recipe

Using the recipe above, practice halving and doubling the recipe by filling in the chart below with the correct numbers and units of measure.

Recipe Cut In Half:

(Take each amount above x ½)

_____ butter
_____ brown sugar
_____ white sugar
_____ vanilla
_____ egg
_____ flour
_____ baking soda
_____ salt
_____ chocolate chips

Recipe Doubled:

(Take each amount above x 2/1)

_____ butter
_____ brown sugar
_____ white sugar
_____ vanilla
_____ egg
_____ flour
_____ baking soda
_____ salt
_____ chocolate chips

Cookie Capers. Marla Prusa, Howell, NE, Home Baking Association Educator Award winner. Recipe weights and nutrition analysis, ESHA II, The Food Processor. Sharon Davis, FCS Education, www.homebaking.org.

Foods Lab Planning Sheet (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 Planning Sheet (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:
