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## 4-H 269 Baking is Fun!

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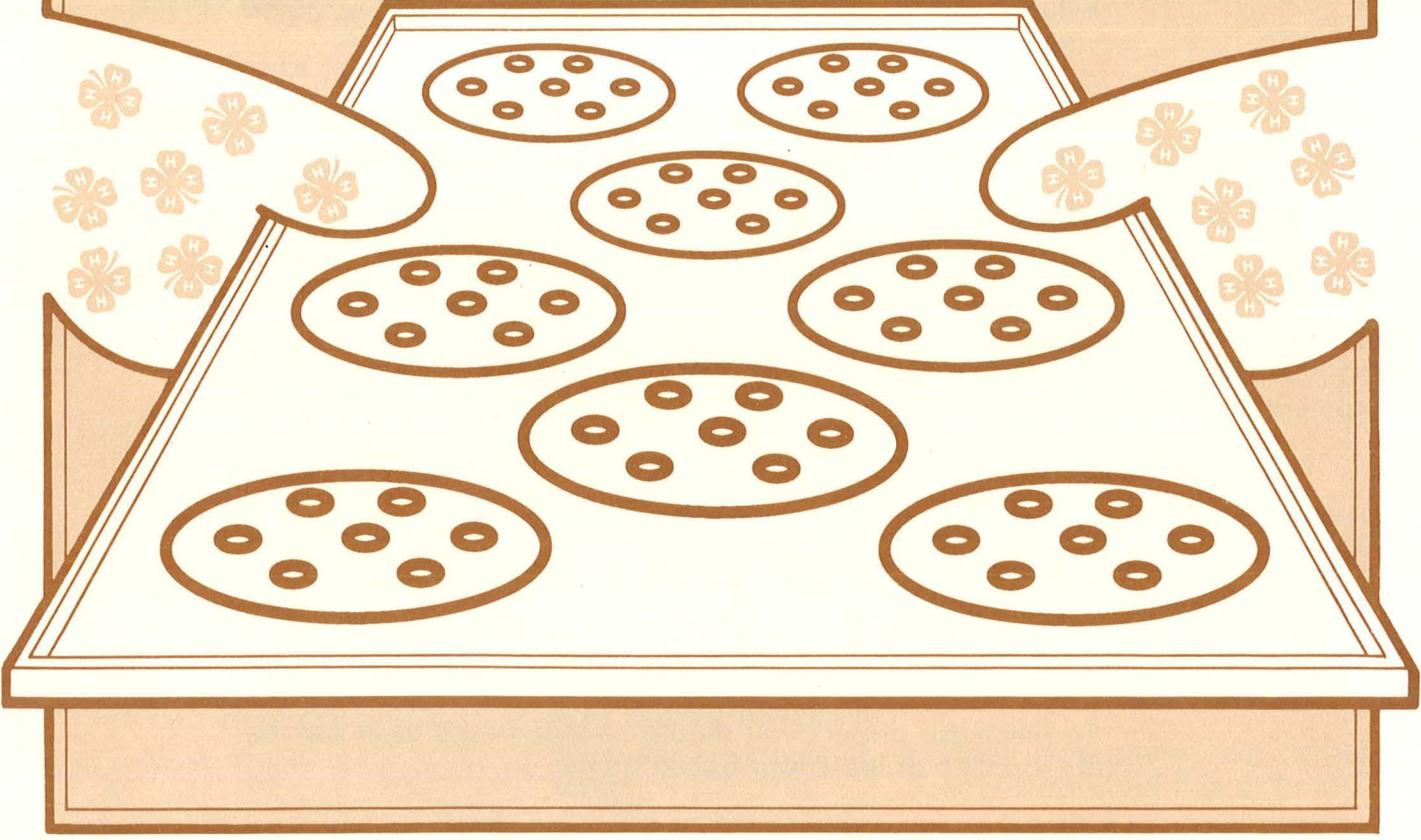
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4-H 269

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Nebraska Cooperative Extension

# Baking Is Fun!



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# Baking Is Fun!

by Linda Boeckner, Extension Nutrition Specialist

Have you ever thought that baking cookies, muffins, biscuits or bread might become a lost art? Imagine if baked products only came from the store rather than hot and fresh from your oven! When you bake, there is a lot happening to each ingredient. It's almost like a little science experiment in each baked item. The first baking project, *Baking Is Fun!*, will lead you on an adventure of discovery and decision-making. You will learn about basic baking skills as you:

- practice measuring;
- identify the right kinds of baking equipment;
- read and follow directions;
- follow safety rules;
- experiment with baking ingredients and baking methods; and
- decide the qualities of cookies, biscuits, muffins or quick bread.

In this project you will also explore the world of baked products. You will:

- interview an older person about baked products in years past;
- display how baked products fit into your way of eating;
- learn about baked items from other countries; and
- describe how baked products can be part of healthy eating.

You will get into the kitchen and practice baking skills. You can share your experiences with others by giving a presentation or exhibit at the fair.

Most of all, this project is for you to enjoy. You should feel good about your kitchen experiences. So brush your hair out of the way, wash your hands and let's get started!

To finish this project you should be able to use basic baking skills to make at least four baked items.

## Lesson 1

---

# Kitchen Review

In *Road to Good Cooking* you learned about the tools used in cooking. When you bake, many of the same tools or equipment are used. Let's review these tools and go on a scavenger hunt for them. Here are the rules:

1. Find the items on the list below.
2. Check the items off the list with your 4-H leader or parent.
3. As you check each item, describe how you use it in cooking or baking.

### TOOLS FOR GOOD BAKING

- |  |   |
|--|---|
| <input type="checkbox"/> rubber scraper    | <input type="checkbox"/> flour sifter         |
| <input type="checkbox"/> pie plate         | <input type="checkbox"/> rolling pin          |
| <input type="checkbox"/> paring knife      | <input type="checkbox"/> mixing bowls         |
| <input type="checkbox"/> pancake turner    | <input type="checkbox"/> wire whisk           |
| <input type="checkbox"/> pastry brush      | <input type="checkbox"/> liquid measuring cup |
| <input type="checkbox"/> muffin pan        | <input type="checkbox"/> wooden spoon         |
| <input type="checkbox"/> 13 x 9 baking pan | <input type="checkbox"/> table knife          |
| <input type="checkbox"/> cookie sheet      | <input type="checkbox"/> dry measuring cups   |
| <input type="checkbox"/> measuring spoons  | <input type="checkbox"/> egg beater           |
| <input type="checkbox"/> rubber spatula    | <input type="checkbox"/> biscuit cutter       |

Are there any items you couldn't find?

Do you know how to use all of the items? If you have questions, now is the time to ask!

### Making The Measure

Measuring correctly is important to successful baking. When you measure the right way you are one step closer to a good product. Try matching the following ingredients with the correct measuring technique.

- |   |   |
|---|---|
| <input type="checkbox"/> Flour, sifted  | a. Spoon into dry measuring cup, level with straight edge of spatula                  |
| <input type="checkbox"/> Sifted flour   |   |
| <input type="checkbox"/> Granulated sugar                                     | b. Cut using markings on wrapping and soften for use                                  |
| <input type="checkbox"/> Salt, baking powder or soda, spices, cream of tartar | c. Pour into measuring spoon held over small cup or bowl                              |
| <input type="checkbox"/> Vanilla or liquid flavorings                         | d. Stir, spoon into dry measuring cup, level with straight edge of spatula, then sift |

\_\_\_ Milk, water, oil,  
syrup or molasses

\_\_\_ Shortening

\_\_\_ Brown sugar

\_\_\_ Butter or margarine

e. Dip and fill measuring spoon,  
level with spatula

f. Pack firmly into dry measuring  
cup, level with spatula and re-  
move with rubber scraper

g. Sift onto waxed paper, spoon  
into dry measuring cup and  
level with straight edge of  
spatula

h. Pack firmly into dry measuring  
cup, level with spatula

i. Pour into liquid measuring cup,  
check amount at eye level

### Helpful Hints

- Shortening comes out of a dry measuring cup more easily if the cup is damp.
- Use wax paper or a large plate to catch the extra that is leveled off. It saves an ingredient and a mess!
- Sticky liquids such as syrup or molasses will come out more easily if the cup is oiled first. Use a rubber scraper to get the last drop.
- Sometimes it helps to stir baking powder if it has been sitting on the shelf for a long time.



### How to Measure Some Other Ingredients

Do not sift. Spoon mix lightly into measuring cup. Level with straight edge of spatula.



Stir cocoa to break up lumps. Dip measuring spoon into cocoa and level off with spatula. If using a dry measuring cup, spoon cocoa into cup. Level off with spatula.



Chocolate is packed in 1 ounce amounts. Recipes usually ask for chocolate in ounces.



Pour dry milk into dry measuring cup until it overflows. Level off excess with spatula.



When eggs are called for, crack one egg at a time into a small cup or bowl. Check to see that the egg is good and has no egg shell in it. Add the egg to recipe. You may crack an egg with a gentle rap of a table knife or a rap on the edge of the bowl.

\*For food safety, be careful of using eggs with cracked shells.

### Hint

3 tablespoons of cocoa can be used for 1 ounce of chocolate. Cocoa has less fat than chocolate.

### Math Skills

Before you start, here are some measures for you to know:

3 teaspoons	=	1 tablespoon (15 ml)
4 tablespoons	=	1/4 cup (60 ml)
5 tablespoons + 1 teaspoon	=	1/3 cup (80 ml)
8 tablespoons	=	1/2 cup (125 ml)
16 tablespoons	=	1 cup (250 ml)
2 cups	=	1 pint (500 ml)
4 cups	=	1 quart (1000 ml)
4 quarts	=	1 gallon (3.8 liters)

Sometimes a recipe will call for liquid ounces. There are 8 fluid ounces to a cup.

A quart has \_\_\_\_\_ fluid ounces.

A recipe calls for 1/2 tablespoon. How many teaspoons is that?  
\_\_\_\_\_

1/2 cup has \_\_\_\_\_ fluid ounces.

1/2 gallon is \_\_\_\_\_ quarts or \_\_\_\_\_ cups.

## REMEMBER YOUR KITCHEN RULES

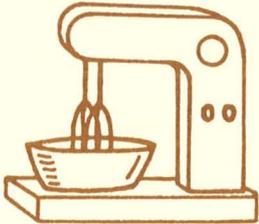
### Courtesy

- Ask to use the kitchen.
- Clean up after yourself so that someone else will have the pleasure of coming into a neat clean kitchen.

### Cleanliness and Safety

- Work clean and be clean. Keep your hair out of the way. Wear an apron.
- Wash your hands with soap and hot water.
- Have an older person close by. Let them show you oven safety and knife safety. Use a cutting board when you use a sharp knife.

- When finished with cutting boards, wash with hot sudsy water.
- Don't lick your fingers or your stirring spoons. Use a tasting spoon if you must taste.
- Wipe up spills right away.
- Use hot pads (pot holders) for hot pans from the oven.
- Use electric mixers safely. Have an older person demonstrate the following points:



- Put beaters into food. Then turn on motor.
- Turn off motor before scraping the sides of bowls.
- Turn off motor before lifting beaters out of food.
- Unplug electric mixer before removing beaters from the mixer.

- Turn off all equipment when finished with it.
- Store foods in airtight containers.

### Organization

Think of a factory line as you get organized. A good factory line knows what it is doing. It has all of the equipment and materials at the places where they will be needed.

#### Helpful Hints for Organization

- Read the recipe through before starting
- Gather all of your ingredients
- Get your mixing and baking equipment ready

## LET'S EXPERIMENT

### What Kind of Baking Pan Should I Use?

#### Materials Needed

- 1 shiny pie pan or small baking pan
- 1 dark-dull pie pan or baking pan
- 1 roll of refrigerated cookie dough that was bought at the store
- 1 slicing knife
- 1 cutting board
- timer or clock

**Directions**

1. Place oven rack in center of oven.
2. Preheat oven to temperature on cookie package.
3. Slice eight even slices of cookies from the roll.
4. Place four cookies on the shiny pan and four cookies on the dark-dull pan.
5. Bake the shiny pan of cookies first. Place near center of the oven. Bake until light brown and done. WATCH TIME CLOSELY. Remove from oven. Leave cookies on pan to cool.

The shiny cookies baked for \_\_\_\_\_ minutes.

6. Bake the dark-dull pan of cookies for the same number of minutes as the cookies baked on the shiny pan. Remove from oven. Leave cookies on pan to cool.

What are the differences in color between the two cookies? Check top and bottom. \_\_\_\_\_

\_\_\_\_\_

What is the difference in the feel of the cookies? Break cookies in half. \_\_\_\_\_

\_\_\_\_\_

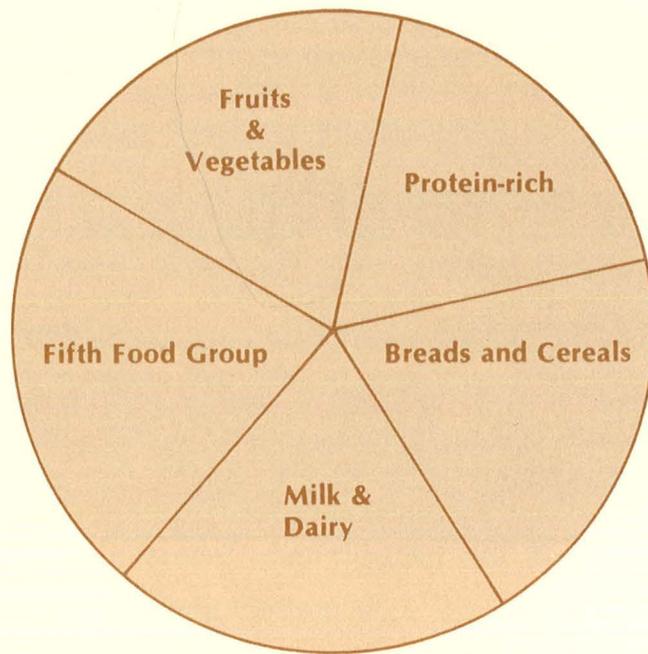
Which pan do you prefer for your cookies? \_\_\_\_\_

\_\_\_\_\_

Dark, dull metal pans keep more heat in them than bright, shiny pans. Shiny pans reflect heat. Cookies baked on dark, dull pans brown faster. They may have a thicker bottom crust and be dry.

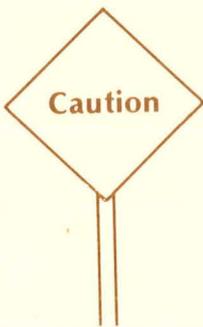
On the other hand, aluminum foil pans may be too shiny and lightweight to give really good baking results.

# Do I Like Baked Products?



The things you bake will fit into your daily food plan nicely. From the Bread and Cereal Group we eat baked foods such as bread, muffins or biscuits. They provide energy and some vitamins and minerals. Some bakery choices like bran muffins, whole wheat bread and others will give you fiber. Fiber adds a little texture to foods.

Other baked items like cookies or cakes fit better into the Fifth Food Group. They are sweeter and have more fat in them. They also give lots of energy.



Foods with too much fat or sugar could replace other foods that would give you energy **plus** vitamins and minerals. You need to be careful that you don't overdo the Fifth Food Group.

### Did You Know.....

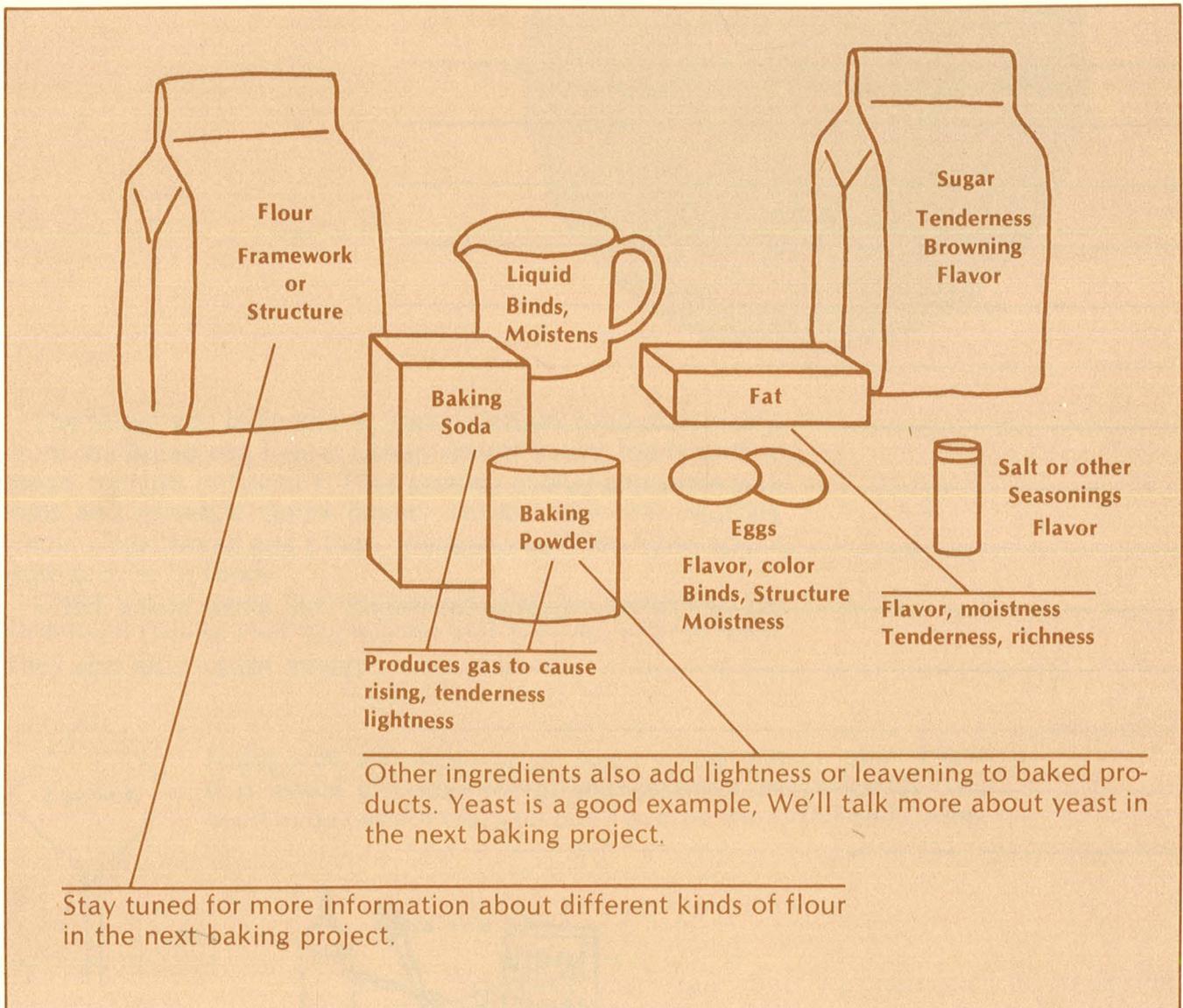
- At least 9000 years ago wheat was harvested in the Fertile Crescent?
- Bread that is soft but sturdy enough to be sliced is a modern food?
- For years, India has had a flat bread called chapatis? Scotland's flat bread is made of oat flour. Round, chewy cakes of rye flour came from Scandinavian countries. Welshmen have eaten "haidd", a shallow, chewy bread of barley flour. Of course, there's the Mexican tortilla, too!
- Before ovens were made, it was easier to flatten balls of dough so they could be baked on heated stones.



## Lesson 3

# A Closer Look At Your Ingredients

Baked foods use different kinds and amounts of ingredients. However, there are some **basic ingredients** that are used in almost all bakery items. Here they are and here's what they do!



WOW! There's a lot of chemistry going on here! Every ingredient has a job to do!

# LET'S EXPERIMENT

## Rising to the Occasion

Once a baker was in a hurry. The recipe needed baking powder. Baking soda was used instead. They are both used as **leavening agents** (to add lightness and cause the product to "rise"). Will the baker's project be a success?

### Materials Needed

3 glass cups or small saucers  
measuring spoons  
baking powder  
baking soda  
lemon juice  
water

### Directions

1. Measure 1/2 teaspoon of baking powder into one glass cup. Measure 1/2 teaspoon of baking soda in each of the other two cups.
2. Add 1 teaspoon of water to baking powder. What happened?  
\_\_\_\_\_
3. Add 1 teaspoon of water to container of baking soda. What happened? \_\_\_\_\_  
\_\_\_\_\_
4. Add 1 teaspoon of lemon juice to the other container of soda. What happened? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Do you think the baker's food product will be okay? \_\_\_\_\_

What might have happened to it? \_\_\_\_\_  
\_\_\_\_\_

Leavening agents like baking powder and baking soda form gas bubbles in the batter. The gas bubbles make the batter rise. Baking powder plus a liquid such as water or fresh milk will form gas bubbles as soon as they are mixed. Baking soda will form the gas bubbles best when just a little bit of acid is present. Ingredients that help baking soda are sour milk, sour cream, buttermilk, brown sugar, molasses or cream of tartar. Lemon juice or vinegar, two common acids, are often used to make fresh milk sour.

**Rule of Thumb:** Don't get in a hurry! Be sure you use the leavening agent that is written in the recipe.

## Lesson 4

# The World of Cookies

Cookie lovers are found around the world. Have you ever eaten langue du chat (France), speculaas (Netherlands), jumbles and rocks (England), lebkuchen (Germany), buneolos (Mexico), or spritz (Sweden)? They are all cookies from other countries. Do you know any that are special from another country?

If you ask for a biscuit in Australia or England, you will get a cookie!

Not all cookies are sweet. In fact the Chinese are not great sweet lovers. Some people say the fortune cookie was made to satisfy the sweet tooth of Americans!

Cookies come in all sizes and shapes in the United States. There are bars, drop, formed, rolled, refrigerator and filled cookies. Cookies are really tiny cakes that have less liquid and more fat for the amount of flour than cakes.



Let's put a cookie together from the beginning.



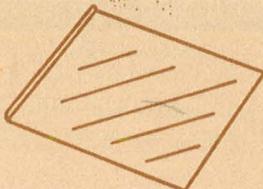
Most cookies are mixed like a cake. The fat (shortening, butter or margarine) is **creamed**.

Then sugar and eggs are added. When finished, the creamed mixture is light and fluffy.



If you use an electric mixer for this, be sure to follow the safety rules.

The dry ingredients are sifted and then added.



If cookie sheets are to be used, try using shiny ones. Edges on cookie sheets help you take them in and out of the oven more easily. Read the recipe to see if you should grease it.



To grease a cookie sheet, use a clean paper towel or clean fingertips to spread the fat evenly over the sheet. Butter or margarine may cause your product to burn. Shortening is okay. A baking spray also can be used.

Cookies should be placed in the middle of the oven for best baking.

## Consumer's Choice

Let's see how you like the following cookies.

- |  |                                  |
|--|----------------------------------|
| Refrigerated Cookie Roll<br>Cookie Mix<br>Ready-to-eat Cookies<br>Homemade Cookies | ] Purchased in the grocery store |
|--|----------------------------------|

1. Make each of the cookies according to the following directions.
2. Record the time it took to make each cookie on the chart below.
3. Record the price per cookie. Check with your leader.
4. Rate each cookie for quality. See the quality standards on page 15.

	Time to make			Price	Quality
	Start	Finish	Total		
Roll & Slice Cookie					
Cookie Mix					
Ready-to-eat Cookies					
Cookie Recipe					

What cookie is your favorite? \_\_\_\_\_

What do you like about it? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### Refrigerated Cookie Roll

1. Follow directions on package. *Utensils Needed*

Cookie sheet, slicing knife, cutting board, pancake turner, timer or clock, cooling racks

### Cookie Mix

1. Follow directions on package. *Materials Needed*

Mixing bowl and spoon, liquid measuring cup, egg (as suggested on package directions), 2 teaspoons, cookie sheet, rubber scraper, pancake turner, timer or clock, cooling racks

## Ready-to-eat Cookies

1. Place cookies on plate, ready to taste

## Homemade Cookies

### SNICKERDOODLES

About 6 dozen

#### Ingredients

3 cups all-purpose flour  
2 teaspoons cream of tartar  
1 teaspoon baking soda  
1/4 teaspoon salt  
1/2 cup margarine, softened  
1/2 cup shortening  
1 1/2 cup granulated sugar  
2 eggs  
2 tablespoons sugar  
2 teaspoons cinnamon

#### Utensils

dry measuring cups  
measuring spoons  
flour sifter  
large mixing bowl, small bowl  
mixing spoon or electric mixer  
rubber scraper  
cookie sheet(s)  
2 teaspoons  
spatula or pancake turner  
cooling racks  
timer or clock

#### Directions:

1. Adjust oven rack to center of oven. Set oven for 400°F.
2. Measure the flour, cream of tartar, baking soda, and salt into the flour sifter. Sift the mixture onto waxed paper and set aside.
3. Cream shortening and margarine in mixing bowl until smooth and creamy. Gradually add the granulated sugar and beat until light and fluffy.
4. Add the eggs to the shortening-sugar mixture and beat until well mixed.
5. Carefully stir in the flour mixture until the flour disappears.
6. Mix the 2 tablespoons sugar and 2 teaspoons cinnamon together in a small bowl.
7. With the teaspoons, dip a teaspoonful of cookie dough. Roll into small 1" ball. Roll the ball in sugar-cinnamon mixture. Place cookie balls on an ungreased cookie sheet, about 2 inches apart. Make cookies about the same size so they will bake evenly.
8. Bake for 8-10 minutes or until done. Cookies are done when they are firm and edges are light brown.
9. Remove from oven. Take cookies from pan with pancake turner. Place on cooling racks or paper towels.

## WHAT'S A GOOD COOKIE

### Look

Same size and shape  
Delicate brown on top  
and bottom  
Ingredients evenly  
mixed

### Feel

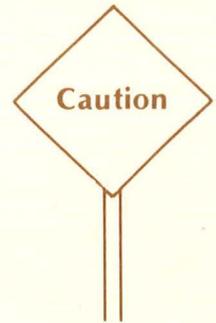
Drop/Bar Cookie: soft,  
chewy and tender  
  
Refrigerator Cookie:  
crisp, crunchy  
  
Rolled Cookie: crisp  
outside, moist and  
tender inside

### Taste

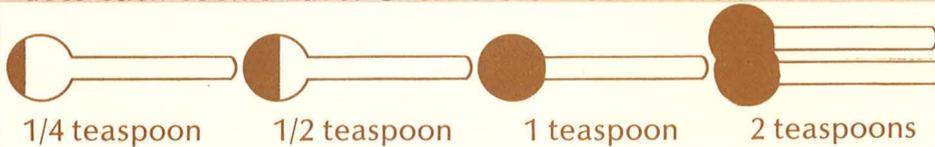
Sweet, not overly  
strong

Now we have more choices than ever. We can make our own cookies or buy cookies from the store in rolls that we slice and bake, boxes that we mix and bake or bags that we open and eat!

Be careful! There's a lot of energy in those cookies. You can easily get too many.



Think about this! A sugar cookie recipe used 1 cup of fat to make 48 cookies. One cup of fat equals \_\_\_\_\_ tablespoons of fat or \_\_\_\_\_ teaspoons of fat. How many teaspoons of fat does each cookie have? Circle the correct answer.



### DID YOU KNOW.....

For each cup of sugar in a recipe you can substitute 1/4 cup of nonfat dry milk for 1/4 cup of sugar. That cuts sugar a little. It also adds vitamins and minerals.

Other good things to bake!

## GRANOLA

NOT a cookie but still good to eat  
About 8 cups

### Ingredients

1/4 cup brown sugar	1 tablespoon vanilla
1/4 cup oil	8 cups rolled oats
1 cup water	1 cup wheat germ
1/2 teaspoon salt	1 cup raisins

### Utensils

large mixing bowl and spoon	shallow baking pan
dry measuring cups	timer or clock
measuring spoons	hot pads/pot holders
liquid measuring cup	

### Directions

1. Adjust oven rack to center of oven. Set oven to 275°F.
2. Mix brown sugar, oil, water, salt, and vanilla in mixing bowl.
3. Stir in rolled oats.
4. Spread thinly in shallow baking pan.
5. Bake for 45-60 minutes or until light brown. Stir every 15 minutes of baking.
6. Remove from oven and cool.
7. Add wheat germ and raisins to cooled mixture. Place in covered container. Put it in the refrigerator if you plan to keep it longer than a week.

## OATMEAL-CARROT-RAISIN BARS

What makes these bars different from other cookie bars?

24 bars

### Ingredients

1/2 cup all purpose flour  
1/2 cup whole wheat flour  
1 teaspoon baking powder  
1/2 cup oatmeal  
1/4 cup wheat germ  
1/3 cup margarine  
1/2 cup brown sugar  
2 eggs  
1/2 teaspoon vanilla  
3/4 cup carrots, shredded  
1/2 cup raisins

### Utensils

mixing bowls  
small sauce pan  
dry measuring cups  
measuring spoons  
wooden spoons or electric mixer  
9 x 9" baking pan  
cooling rack  
timer or clock  
hot pads/pot holders

### Directions

1. Adjust oven rack to center of oven. Set oven at 350°F.
2. Lightly oil a 9 x 9" baking pan.
3. Stir together flour, baking powder, oatmeal and wheat germ in a bowl. Set aside.
4. In a mixing bowl, cream sugar, margarine, egg and vanilla until light and fluffy.
5. Add shredded carrots and mix well.
6. Stir the dry ingredients into the creamed mixture.
7. Fold in raisins.
8. Pour mixture into oiled baking pan. Bake for 25-30 minutes.
9. Remove from oven. Cool on cooling rack. Cut into 24 bars.

## SUPER COOKIES

3 Dozen

### Ingredients

1 cup sifted all-purpose flour  
1/2 teaspoon baking soda  
1/2 teaspoon baking powder  
1/2 teaspoon salt  
1 teaspoon cinnamon  
1/2 cup margarine  
1/2 cup brown sugar  
1/2 cup granulated sugar  
1 egg  
1 teaspoon vanilla  
1 tablespoon milk  
1 cup quick cooking oatmeal

### Optional:

1/2 cup chocolate chips  
1 cup coconut  
1/2 cup raisins

### Utensils

mixing bowls  
dry measuring cups  
measuring spoons  
wooden spoons or  
electric mixer  
teaspoons  
cookie sheet(s)  
cooling rack  
timer or clock  
spatula or  
pancake turner  
hot pads/pot  
holders

### Directions

1. Adjust oven rack to center of oven. Set oven to 350°F.
2. Sift together the flour, baking soda, baking powder, salt and cinnamon in a bowl. Set aside.
3. Cream margarine, brown sugar and granulated sugar until light and fluffy.
4. Add the egg, vanilla and milk to the creamed mixture and beat until well mixed.
5. Stir in the sifted flour mixture until thoroughly mixed.
6. Add the oatmeal and any of the desired optional ingredients.
7. Drop by teaspoonfuls on ungreased cookie sheet.
8. Bake until lightly brown — about 10-12 minutes.
9. Remove from oven. Remove cookies from cookie sheet and place on cooling rack.

## Lesson 5

# Welcome To Biscuit Baking

Biscuits, muffins, waffles, pancakes, coffee cakes, popovers and scones are all quick bread mixtures. They are "quick" because they use fast-acting leavening agents like baking powder or baking soda instead of yeast. They all rise quickly and should be light in texture.

Quick breads are mixed in different ways.

Some are **pour batters**. Waffles, pancakes and popovers have a thin batter. It's ready to pour.

Some are **drop batters**. Drop batters are thick. They need to be spooned into the baking pan. Muffins and coffee cakes are examples.

Others are **soft dough** mixtures. They are rolled or shaped by hand. Biscuits and scones are soft dough mixtures.

### Biscuit Method of Mixing



Mix together dry ingredients



Cut shortening into dry ingredients with pastry blender or two forks. Mixture should look like big crumbs.



Pastry blender helps to mix the shortening just right.



Add liquid to make a soft dough. Stir lightly with a fork.



Put onto floured surface and knead 10-12 times.

#### To Knead:

1. Rub a little flour into your hands and kneading surface. Press dough on surface.
2. Pick up edge that is away from you and fold top over toward you.
3. With heel of your hand, push dough lightly down.
4. Turn dough 1/4 turn and repeat steps.

After the dough is mixed and kneaded, you roll it out with a rolling pin until you get the right thickness. Biscuits are then cut using a biscuit cutter and placed on an ungreased baking sheet to bake.

As a bread product, biscuits give energy and some vitamins and minerals (especially B vitamins). They have more fat in them than other breads so you probably wouldn't want biscuits for every meal.

Biscuits usually are made with shortening, which helps to make the biscuits light and flaky. To stay healthy, people often are asked to eat less total fat. When fat is eaten, it is wise to use fewer solid fats like lard, shortening, butter and stick margarines. Instead use oils or soft margarines. Let's see if it works with biscuits.

## LET'S EXPERIMENT - Biscuits

### Materials Needed

mixing bowls	rolling pin
measuring cups, dry and liquid	floured surface
measuring spoons	flour sifter
pastry blender or two forks	baking sheets
biscuit cutter	timer or clock

### Directions

1. Make the biscuits below.
2. Using *What's A Good Biscuit*, rate the biscuits you made. Use the Rating Box on the next page.

### Traditional Biscuit

12 biscuits

#### Ingredients

2 cups all-purpose flour  
1/2 teaspoon salt  
1 tablespoon baking powder  
1/4 cup shortening  
3/4 cup milk

#### Directions

1. Adjust oven rack to middle of the oven. Set oven temperature to 450°F.
2. Measure flour, salt and baking powder and sift together into mixing bowl.
3. Add shortening. Mix with pastry blender or two forks until mixture looks like big crumbs.
4. Add milk to make a soft dough. Use a fork to mix lightly.
5. Put onto floured surface and knead 10-12 times.
6. Roll out to 1/2" thickness.
7. Dip biscuit cutter into flour and then cut biscuits.
8. Place biscuits about 2" apart on ungreased baking sheet.
9. Bake for 12-15 minutes until lightly brown.
10. Remove from oven and let cool on protected surface.

## Biscuit with Oil

12 biscuits

### Ingredients

2 cups all-purpose flour  
1/2 teaspoon salt  
1 tablespoon baking powder  
1/4 cup vegetable oil  
2/3 cup milk

### Directions

1. Adjust oven rack to middle of the oven. Set oven temperature to 450°F.
2. Measure flour, salt and baking powder and sift together into mixing bowl.
3. Add oil and milk to flour. Stir lightly with fork until soft dough forms.
4. Put onto floured surface and knead 10-12 times.
5. Roll out to 1/2" thickness.
6. Dip biscuit cutter into flour and then cut biscuits.
7. Place biscuits about 2" apart on ungreased baking sheet.
8. Bake for 12-15 minutes until lightly browned.
9. Remove from oven and let cool on protected surface.

## Rate Your Biscuits

Write your comments in the spaces below

	<i>Look</i>	<i>Feel</i>	<i>Taste</i>
Traditional Biscuit			
Biscuit with Oil			

Which biscuit is better? \_\_\_\_\_

What do you think about biscuits made with oil? \_\_\_\_\_

\_\_\_\_\_

What was good about making the biscuits? \_\_\_\_\_

\_\_\_\_\_

What could be improved the next time you make biscuits? \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### WHAT'S A GOOD BISCUIT

#### *Look*

Pale, golden brown  
 Flat top, slightly rough  
 Straight sides  
 Creamy white inside

#### *Feel*

Crisp crust  
 Thin crust on top  
 and bottom  
 Moist, even crumb  
 Flaky

#### *Taste*

Mild  
 Delicate  
 (not fatty  
 or bitter)

## Lesson 6

# Time For Drop Batters

Corn muffins, blueberry, whole wheat, bran and banana muffins. Cinnamon-apple and cheese muffins and more. There's a muffin for everyone.

The nice thing about muffins is you can eat one all by yourself!

Several years ago muffin pans were called **gem pans**. Do you suppose it was because muffins are a real gem to eat?

Remember, muffins come from a drop batter. They are usually made with the muffin method of mixing. Here's how to do it!



- Stir together dry ingredients



- Mix together liquid ingredients



Add liquid all at once to dry ingredients. Stir just until all of the flour is moistened.



Fill muffin cups 2/3 full. Muffin pans should be oiled unless a non-stick surface is used.

This muffin method of mixing can be used for pour batters, too, like pancakes and waffles.

Plain muffins are okay, but think what a muffin could be if oatmeal, corn meal, cheese, apples, raisins or blueberries were added. Each muffin would be a powerhouse of energy with added vitamins, minerals and fiber. They taste good, too.

### Muffin Making

#### Materials Needed

mixing bowl  
wooden spoon  
measuring cups, dry and liquid  
measuring spoons

muffin pan      flour sifter  
rubber spatula  
fork  
cooling rack

12 muffins

### Ingredients

2 cups sifted all-purpose flour	1/3 cup vegetable oil
3 teaspoons baking powder	1 egg, well beaten
2 tablespoons granulated sugar	1 1/4 cups milk
1 teaspoon salt	

### Directions

1. Adjust oven rack to center of oven. Set oven to 425°F.
2. Lightly oil muffin cups unless you use a non-stick muffin pan.
3. Measure and sift together flour, baking powder, granulated sugar and salt. Make a well in flour mixture. Set aside in mixing bowl.
4. Measure and combine oil, well-beaten egg and milk.
5. Add liquid ingredients all at once to flour mixture. Stir only enough to dampen the flour. Batter should be lumpy.
6. Fill muffin cups 2/3 full with the batter.
7. Bake for 20 to 25 minutes until lightly browned.
8. Remove from oven and let cool. When cool, remove from muffin pan.

## Spicy Apple Muffins

12 muffins

### Ingredients

1 1/2 cups whole wheat flour	1/4 cup vegetable oil
1/2 cup brown sugar, packed	1 egg, slightly beaten
1/2 teaspoon baking soda	1 teaspoon vanilla
1 teaspoon cinnamon	3/4 cup milk
	1 cup apple, peeled and chopped

### Directions

1. Adjust oven rack to center of oven. Set oven to 375°F.
2. Lightly oil muffin cups unless you use a non-stick muffin pan.
3. Peel and chop apple. Measure and set aside.
4. Measure and mix whole wheat flour, brown sugar, baking soda and cinnamon. Make a well in flour mixture and set aside in mixing bowl.
5. Measure and combine oil, egg, milk and vanilla.
6. Add liquid ingredients all at once to flour mixture. Stir only enough to dampen the flour. Batter should be lumpy.
7. Stir in chopped apple.
8. Fill muffin cups 2/3 full with the batter.
9. Bake for 20-25 minutes.
10. Remove from oven and let cool. When cool remove from muffin pan.

## Oatmeal Muffins

12 muffins

### Ingredients

3/4 cup whole wheat flour  
3/4 cup all-purpose flour  
1 cup uncooked oatmeal  
1 tablespoon baking powder  
1 tablespoon granulated sugar  
1 teaspoon cinnamon  
1/4 teaspoon salt  
1 egg, slightly beaten  
1 cup skim milk  
3 tablespoons vegetable oil

### Utensils

mixing bowl  
mixing spoon  
measuring cups,  
dry and liquid  
muffin pan  
rubber scraper  
cooling rack  
timer or clock

### Directions

1. Adjust rack to center of oven. Turn oven to 400°F.
2. Stir flour before measuring, but do not sift it.
3. Measure and mix flour, oatmeal baking powder, sugar, cinnamon and salt together in a mixing bowl.
4. Mix egg, skim milk and oil together.
5. Add liquid mixture to dry ingredients; stir only until all dry ingredients are moistened.
6. Spoon into muffin cups until 2/3 to 3/4 cup full.
7. Put into oven. Bake for 15-20 minutes. Muffins will spring back with a light touch.
8. Remove from oven. Set on cooling rack.
9. Remove muffins from pan when cool.

## BE A FOOD EDITOR

Today you are a food editor who tastes foods and writes an evaluation of them. Write a review of your muffins. Use "What's A Good Muffin" to help you with your story.

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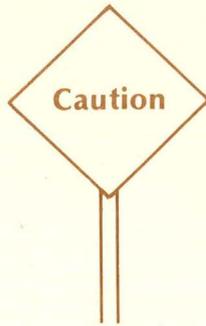
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## WHAT'S A GOOD MUFFIN

<i>Look</i>	<i>Feel</i>	<i>Taste</i>
Rough & pebbly top	Tender, moist	Mild, delicate
Thin crust	Not dry or tough	to slightly sweet
Same size and shape	Even texture	It should taste like
Golden brown	Medium size crumb	the ingredients
No holes or tunnels		



Muffin making can be tricky! If you mix too long or the ingredients aren't measured correctly, your muffin won't look right. The right oven temperature is also very important for good muffins.

### Did You Know?

Quick loaf breads are first cousins to muffins because you can use the same mixing method. Keep your eyes out for quick loaf bread recipes. Here's one to try.

## Honey Dutch Bread

1 loaf

### Ingredients

2 cups unsifted all-purpose flour  
1/4 cup brown sugar, packed  
1 tablespoon baking powder  
1 teaspoon baking soda  
2 teaspoons cinnamon  
1/4 teaspoon nutmeg  
1/4 teaspoon cloves  
1/4 teaspoon salt  
1 cup buttermilk  
1 egg, well beaten  
1/4 cup honey

### Utensils

mixing bowl  
wooden spoon  
measuring cups, liquid and dry  
measuring spoons  
rubber spatula  
one 9 x 5" loaf pan  
cooling rack  
timer or clock

### Directions

1. Adjust oven rack to center of oven. Set oven to 350°F.
2. Lightly oil 9 x 5" loaf pan.
3. Measure and mix together the flour, brown sugar, baking powder, baking soda, cinnamon, nutmeg, cloves and salt. Make a well in flour mixture and set aside.
4. Measure and combine buttermilk, egg and honey.
5. Add liquid ingredients all at once to flour mixture. Stir until all flour is dampened.
6. Put into lightly oiled loaf pan.
7. Bake for 45-60 minutes. Crust will be very firm when bread is done.
8. Remove from oven. Take out of pan to cool.

## Lesson 7 \_\_\_\_\_

# Let's Wrap It Up

Try a Tasting Party. The ticket to enter is a favorite muffin or quick loaf bread that you have made. Invite family members or friends to come, too.

- Set up a table for tasting.
- Place your baked items on the table.
- Begin tasting. Write down your comments. (Have your 4-H leader review the tasting rules.)
- Discuss the results of your tasting party.

What are the good qualities you found?  
What flavors did you really like?  
Were there any unusual items?

Tasting Comments Here \_\_\_\_\_

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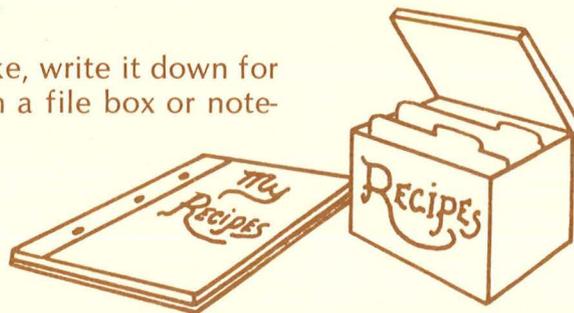
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**Here's an Idea** — Start a recipe collection.

The next time you find a recipe that you like, write it down for your recipe collection. Keep your recipe in a file box or notebook that you can take to the kitchen.



# 4-H Baking Skills

## Baking Is Fun (Level 1)

Be able to check off 32 of 40 skills listed before you move to the next project.

	<i>Skills I Knew</i>	<i>New Skills Learned</i>	<i>Skills to Learn or Improve</i>
<p><b>Preparation</b></p> <p>Know at least 10 baking terms, (mix, melt, sift)            Identify uses for at least 15 baking tools            Follow a recipe            Know how to organize equipment and ingredients            Measure liquid ingredients</p> <p>Measure dry ingredients            Measure solid fat            Sift flour            Know basic measuring equivalents (i.e. 1 tablespoon =                3 teaspoons)            Mix cookie dough</p> <p>Mix quick bread loaf or plain muffin            Mix and knead biscuits            Roll biscuits            Tell difference between biscuit made with oil and biscuit made                with shortening            Make a variety of muffins</p> <p>Know at least three ways to make cookies            Evaluate quality of:                cookies                biscuits                muffins</p> <p>Know the use for each ingredient in a baking recipe            Know the definition of a leavening agent            Use correct baking pans</p> <p><b>Nutrition</b></p> <p>Know the food groups that apply to products            Know the nutritional value of products            Know at least one way to improve nutritional quality of bakery                items</p>			

	<i>Skills I Knew</i>	<i>New Skills Learned</i>	<i>Skills to Learn or Improve</i>
<p><b>Food Safety and Sanitation</b></p> <p>Store foods so they are safe and have good quality  Wear clean, washable clothes when preparing food  Wash dishes and equipment when finished  Keep hands, nails and equipment clean during preparation</p> <p>Use pot holders or hot pads  Know importance of an older person in the kitchen when using  a mixer, range, knife and so forth  Know how to use a knife and cutting board  Know how to use an electric mixer</p> <p><b>Consumer Choices</b></p> <p>Use food labels  Be able to compare prices  Evaluate time and money spent on homemade vs. convenience  bakery items  Know how to figure cost of a bakery item  Identify key rules for tasting and judging bakery products</p> <p><b>Meal Planning</b></p> <p>Know how bakery items fit into meals and snack plans  Use a variety of bakery products in meals and snacks  Know the history of some of your favorite bakery products  Identify various types of bakery items from other countries</p>			