Learning Objectives:
Identify and use kitchen equipment
Correctly measure liquid and dry ingredients
Know the meaning of creaming, whipping, beating, stirring, folding
Be able to read and follow a simple recipe

Let’s Get Acquainted With Kitchen Utensils
A good cook needs good tools. He or she needs to know where to find them in the kitchen. Cooking tools are called utensils.

Here are some of the utensils you will need:
- paring knife
- set of nested measuring cups for dry ingredients
- rubber scraper
- mixing spoons
- glass measuring cup for liquids (with space above “cup” line)
- measuring spoons
- cookie sheet
- mixing bowls
- rotary beater
- spatula

Safety First in the Kitchen
Wash your hands with warm water and soap. Scrub for at least 20 seconds.
Wear clean clothes and an apron.
If you have long hair, tie it back so hair does not get in the food.
Be sure your work area is clean. Use warm, soapy water and a dishrag to clean up spills. Use a spray bottle with bleach (1 teaspoon of chlorine bleach per quart of water) to sanitize surfaces. Let the bleach solution air-dry.
Activity: Naming Kitchen Equipment
Visit the NDSU Extension Service Center for 4-H website (www.ndsu.edu/fileadmin/4h/Food/KitchenEquipment.pdf) and see “Can You Name This Kitchen Equipment?” You will see pictures of common kitchen tools, and you can try to name them. Or you can contact your local Extension office to borrow a binder with pictures of kitchen equipment (like flash cards) to try to name.

Measuring Activities

We use utensils to measure ingredients. When we measure ingredients, we need to be very exact, especially when we are baking. Otherwise, our product will not turn out right.

Activity 1: Let’s Measure Flour
Get out the flour and your utensils: flour sifter (optional), dry measuring cups, table spoons, straight-edged utensil (such as a dinner knife with a straight edge).

Step 1: Since most flour is presifted, skip to Step 2. If it is not presifted, hold the sifter over waxed paper or a shallow pan and sift the flour. Flour is sifted because it packs together and you will get more flour than the recipe calls for.

Step 2: Lightly heap the flour with a spoon into the correct-sized measuring cup. Do not shake down the flour in the cup because this will just repack it.

Step 3: When the flour is piled high in the cup, level it off with a spatula or straight-edged knife. Using a dry measuring cup instead of a liquid measuring cup allows you to level the top and get the right amount of ingredient into your recipe.

Remember: Pile, then level.

Note: if you pack the flour into a cup, you will be adding too much flour to your recipe. You could end up with a dry baked product.

Date completed: _____________________

Activity 2: How to Measure Sugar
You will need a measuring cup, waxed paper or shallow pan, and a spatula or dinner knife.

White sugar: Dip the cup into the sugar; level off with a straight-edged utensil. White sugar does not need to be sifted unless it is lumpy.

Brown sugar: Pack the sugar firmly into the measuring cup. When it is taken out, it will hold the shape of the cup. Store brown sugar in a tightly covered container to keep it moist.

Spoonfuls of Dry Ingredients
Dip the spoon into the ingredients; level off with a straight-edged utensil.

Date completed: _____________________

Activity 3: How to Measure Fats
Utensils you need are measuring cups, rubber scraper and an utensil with a straight edge.

Method 1. Have fat (butter, margarine, shortening) at room temperature. Pack firmly into a dry measuring cup with rubber scraper. Level off with a flat edge of a knife or spatula.

Method 2. For cold, solid fats, fill a liquid measuring cup with cold water. Pour out as much water as the amount of shortening in the recipe. Then add the cold shortening, keeping it under the water line until the water rises to make 1 cup. Drain water.

Example: For ½ cup of shortening, pour away ½ cup of water in a 1-cup measuring cup. Add shortening until the water rises to reach the 1-cup line.

Date completed: _____________________

Activity 4: How to Measure Liquids
Use a liquid measuring cup that has a space above the 1-cup mark so you won’t spill the liquid. If you were to use a dry 1-cup measuring cup, you would have to fill the cup to the brim and you could spill some. If you spill, then you do not have an accurate measure.

Set the cup on the table and pour in the liquid. Now lean down so your eyes are level with the cup and you can tell when you have exactly the right amount.

Activity 5: How to Measure Liquid Spoonfuls
You will need measuring spoons and a bowl.

Dip the spoon into the ingredients and, being careful not to spill, put the liquid into the mixing bowl.
Can You Answer These Questions?

Why does some flour need to be sifted?

________________________________

Why is a straight-edge utensil necessary for leveling when measuring?

________________________________

Should you use a liquid cup for dry ingredients and dry cups for liquid ingredients? Explain.

________________________________

How do you measure cold, solid fat?

________________________________

________________________________

How does measuring brown sugar and white sugar differ?

________________________________

________________________________

Why is a straight-edge utensil necessary for leveling when measuring?

________________________________

Why do you lean down to see how much liquid is in a measuring cup?

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Why do you lean down to see how much liquid is in a measuring cup?

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Should you use a liquid cup for dry ingredients and dry cups for liquid ingredients? Explain.

________________________________

Date completed: _______________

Reading a Recipe Activity

Activity: Let's Read a Recipe

Have you ever read a recipe? To make recipes easy, follow these suggestions:

Read the entire recipe before you begin to cook.

Ask someone to explain anything you don’t understand.

Find the necessary ingredients listed.

Decide what equipment will be needed.

Do any special “beforehands,” such as preheating the oven or melting butter.

Apple Pancakes

1 Granny Smith apple
1 ¼ c. any type pancake mix
½ tsp. cinnamon
1 egg
2 tsp. canola oil
1 c. low-fat milk

Lightly coat a griddle or skillet with cooking spray and heat over medium heat. Peel, core and thinly slice apple into rings. In a large mixing bowl, combine ingredients for pancake batter. Stir until ingredients are evenly moist. (Small lumps are OK. Overmixing makes pancakes tough.) For each pancake, place an apple ring on the griddle and pour about 1/4 cup batter over an apple ring, starting in the center and covering the apple. Cook until bubbles appear. Turn and cook other side until lightly brown.

Makes six servings (two pancakes each). Each serving has 160 calories, 4 grams (g) of fat, 24 g of carbohydrate and 1 g of fiber.

Try These Questions:

1. How much pancake mix do you need? _______________

___________________________________________________

2. What equipment do you need? _______________

___________________________________________________

___________________________________________________

___________________________________________________

3. To what temperature should you preheat the griddle? ______

___________________________________________________

4. How do you know when to flip the pancakes? _______________

___________________________________________________

___________________________________________________

5. How do you know the pancakes are done?

___________________________________________________

___________________________________________________

Date completed: ___________________
Mixing Activities

We need to know one more thing before we can start to bake. We need to understand some of the directions found in recipes.

Activity: Let’s Explore Mixing Terms

To Cream Fat
This may be done with a spoon (a wooden spoon works well) or an electric mixer. Beat the shortening until it is smooth and fluffy. You often are directed to cream shortening and sugar. If you use a spoon, rub the ingredients against the side of the bowl to soften and mix. Then beat until fluffy.

To Beat
This direction means to vigorously mix ingredients together to make sure they are thoroughly combined. Sometimes it means to mix air with the ingredients. This can be done with a spoon, fork or beater. The recipe usually will tell you which to use.

To Stir
When a recipe tells you to “stir,” mix the ingredients around in a circle with a spoon to make sure they are combined well.

When adding flour to a liquid mixture, the more you work it, the tougher the finished product will be. Stir flour as little as possible except when making products such as bread and pizza dough that need more mixing.

To Whip
Ingredients are whipped to incorporate air to make a lighter, fluffier product. This is done with a beater. Just think what cream looks like. Then imagine what whipped cream looks like.

To Fold
When a recipe says to “fold” in an ingredient, it means to mix gently. A clean rubber scraper or wooden spoon works well to fold in ingredients. Bring the scraper or spoon down through the mixture, across the bottom and up over the top until the ingredients are well-blended. Folding is done when a mixture is very delicate. For instance, if you want to add cheese to beaten egg white, the white would break down and lose all of the air if you handled it roughly.

Quiz: Do you know the cooking term?

1. This word means you are to move ingredients around in a circle with a spoon:

2. This word is used when you are to mix fat (such as butter) and sugar until it is fluffy:

3. This word means you are to mix ingredients vigorously:

4. This word means you are to mix in an ingredient, such as egg whites, gently:

5. This word is used when you incorporate air, such as making a topping for pie:

Date completed: _______________

Activity: Let’s Make Pancakes

Now that you know how to measure and read a recipe, try making pancakes using the recipe in this handout. Be sure to get help from an adult.

Date completed: _______________

More Information and Recipes to Try

See “Now Serving: Well-measured Recipes” available at:

Visit www.ndsu.edu/eatsmart (click on “For Kids” for fun links to learn more about food and nutrition)

For snack recipes and video demonstrations, see www.ndsu.edu/eatsmart

Science Whys

Did you know that the heat in an oven is the most even right in the center of the oven?

Be sure to place foods on the racks so the center of the food is in the center of the oven.

Date completed: _______________

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To cook and bake successfully, measure carefully and follow the recipe steps closely.

**Materials You May Need**

- Available kitchen or cooking area with a clean, accessible sink
- Kitchen safety materials: apron, hair net and/or hair tie if needed, soapy water, bleach water
- Products for measuring: flour, sugar, fat (butter, shortening or margarine softened at room temperature), water, wax paper, flour sifter (optional), dinner knife, bowl
- Ingredients for recipe listed: Granny Smith apple, pancake mix, cinnamon, egg, canola oil, low-fat milk. Have other recipes, ingredients and utensils on hand for additional activities.
- Mixing utensils and ingredients: fat (butter, shortening or margarine softened at room temperature), sugar, flour, egg.

**Lesson Outline**

1. Safety first in the kitchen
2. Kitchen utensils
3. Dry measuring
   a. Flour
   b. Sugar
4. Liquid measuring
   a. Fats
   b. Liquids
   c. Liquid spoonfuls
5. Reading recipes
6. Mixing activities

**North Dakota 4-H Youth Development Staff**

May 2011

Designed by Chelsea Langfus, Student Dietitian, and Julie Garden-Robinson, Food and Nutrition Specialist
Suggested Teaching Ideas/Activities

● Explain safety precautions to take in the kitchen or cooking area, especially when handling food. Washing hands and having a clean work environment is the first step in cooking. Briefly discuss how cross-contamination can contaminate the food and cause sickness.

● Discuss the different utensils and how they can be used with the PowerPoint slides. This can be used as a game with teams. Give each team a chance to name the equipment and award 1 point for each correct name.

● Complete Activity 1: “Let’s Measure Flour.” Discuss why flour is spooned into each measuring cup instead of being scooped. Show the difference in spooning the flour compared with scooping it out. If recipes are not measured with the appropriate amount of flour, the product may not rise properly (too little flour) or become dry (too much flour). Careful mixing is very important, especially for baking.

● Complete Activity 2: “How to Measure Sugar.” Discuss the difference between measuring granulated and brown sugar and explain when the different methods are used.
  a. Granulated sugar: made from tropical sugarcane beets; used for sweetening products. Commonly used with breads or as an addition to products such as coffee.
  b. Brown sugar: granulated sugar with thick syrup added; used for sweetening products while adding moisture and a richer flavor. Commonly used with cookies. It tends to harden faster than granulated sugar when being stored. Place a couple of slices of bread in the fresh container of sugar to prevent hardening. If it is hard and needed for immediate use, place the open bag in the microwave for 20 to 30 seconds with either a small bowl of water next to it or a damp paper towel placed over the bag.

● Complete Activities 3, 4 and 5 on how to measure liquids.
  a. Measuring fats: This shows how to measure fats different ways. Be sure to explain why this method works well because fats and water do not mix. Inform participants that volumes vary when adding the fat to the water.
  b. Measuring liquids: Demonstrate the correct method for viewing liquids at eye level. Show how using dry measuring cups to measure liquids will not yield accurate measurements.

● Explain the process for reading recipes: read completely and thoroughly, being careful not to miss any ingredients, procedures or steps. Emphasize why following the steps in the specific order is important. Test various recipes if cooking areas and materials are available. Be sure to point out nutrition information listed on recipes to help participants be more familiar with serving sizes and nutrients.

● Perform the different mixing activities. Have recipes on hand to point out where the different methods would be used. For example, whipping would be used to make whipped cream or egg white peaks.
Optional Activities

- Complete the apple pancake mix recipe using the steps learned. The recipe is found under “Reading a Recipe” in the Learn About handout.

- Practice measuring ingredients with a scale as another way to get accurate measurements. Show how to tare the scale for liquid measuring: Be sure the scale is at zero. Next put an empty container on the scale to measure the ingredients and then set the weight back to zero.
  a. One cup white flour = 120 grams
  b. One cup wheat flour = 140 grams
  c. One cup bread flour = 130 grams
  d. One cup cake flour = 114 grams

- Experiment with amounts of sugar to see and taste the difference. Make four different tested products for each recipe: 1) using granulated sugar, 2) using brown sugar, 3) using “homemade brown sugar” by adding corn syrup or honey to granulated sugar and 4) replacing granulated sugar with brown sugar plus molasses. This also could be used as a recipe reading and demonstrating activity.

- Look at a diverse group of recipes to see different styles and variety of meals, and to compare nutrient content. Have participants pick different recipes for an entire meal, including an appetizer, entrée and dessert.

- View and discuss different handouts on “Now Serving.” See www.ndsu.edu/eatsmart and click on “For Parents/Caregivers” for more at-home cooking involvement.

- Have members create their own cookbook by putting favorite recipes in an organized binder or booklet.

Leadership Ideas

- Have demonstrations of different utensils or cooking methods.

- Encourage members to bake something to share with a homeless shelter or geriatric community home.

- Have members demonstrate how to make their favorite healthful recipe, such as bean dip, smoothies or cookies. Have a “taste testing” snack day to allow members try all products. Examples of video demonstrations and recipes are available at www.ndsu.edu/eatsmart.

Tour or Guest Speaker Ideas

- Tour a school, hospital or facility kitchen to see how different cooking methods, including measuring, are used to follow recipes to make final products for customers.

- Invite a speaker such as a dietitian, chef or cook, food scientist or Extension agent for further information.

Career Exploration

Many career options are available in the area of nutrition and fitness, such as:

- Dietitian/nutritionist
  — Working in food service with the menu items and recipes

- Food scientist
  — Working with various ingredients to make improvements

- Cook, chef or baker
  — Preparing food products for customers

- Extension agent
  — Teaching people in community settings
Do You Know Your Kitchen Utensils?

Paring knife: used for peeling or detailed smaller cutting such as peeling an apple or cutting garlic cloves

Dry measuring cups: used to measure solids such as flour or sugar

Rubber scraper: used for scraping bowls or pans to get wet ingredients or products out; for example, transferring bread mixture into a baking pan

Mixing spoons: used to mix ingredients together or to stir when baking or cooking

Glass measuring cups: used to measure liquids such as oils or milk

Measuring spoons: used to measure solids or liquids in smaller amounts such as baking soda or extracts

Cookie sheets: used to bake or cook items such as cookies or pizzas

Mixing bowls: containers in which ingredients for baking or cooking are mixed

Egg beater: beats together ingredients such as whipped cream

Spatula: used for transferring cooking products such as eggs, cookies or hamburgers from one surface to another