Objectives
Participant will:
1. Name 3 types of food that can be prepared by baking.
2. List the steps to successful baking.
3. Demonstrate how to measure dry ingredients correctly.
4. Demonstrate how to measure liquid ingredients correctly.

Required Materials:
- Ingredients and materials needed to demonstrate correct methods of measuring (see pg. 4-6)
- Ingredients and materials needed for food demonstration.
- Finished baked product for recipe you are demonstrating if there is no time to bake the item during class.
- Handouts for participants (see lesson pg. 8-9).
- Required paperwork for program.

Optional Supplemental Materials:
- Booklet written by Ellen Serfustini, MS, entitled Eating Well Made Easy Handbook: Kitchen Basics @ http://extension.usu.edu/fsne/files/uploads/recipes/kitchen%20basics.pdf. FYI – this booklet is a great resource for you as the instructor, even if you decide not to provide it to the entire class.

Preparation Required:
- Review lesson plan.
- Gather ingredients and materials needed to demonstrate proper measuring techniques (see pg. 4) and oatmeal cookie recipe (see pg. 8) including dry and liquid measuring cups and measuring spoons.
- Baking usually takes 15-60 minutes depending on the recipe. If you will be teaching a large group, will be limited in time, or will not have access to an oven, make enough cookies and/or other items in handouts in advance for all participants to have a taste without having to wait for cookies to bake in class.
• Make copies of recipes and any other handouts you wish to distribute (see pg. 1, 8-9) – enough for all class participants.
• Make copies of all required paperwork for lesson.
Introduction
Time: 5 minutes

• Welcome everyone to the class and thank them for taking time to participate.
• Briefly introduce yourself and the program.
• Brief history of baking:
  o Records show that Egyptians had bread as early as 2500 B.C.
  o In 300 B.C. the pastry cook was a highly respected professional in the Roman Empire. Because of Rome, the art of baking became widely known throughout Europe and Asia.
  o The Industrial Revolution advanced the technology of baking. The quality of ingredients improved and automation replaced time-consuming manual processes.
• Today, home cooks all over the world understand the fun and satisfaction of creating wonderful, mouthwatering baked goods in their own kitchens.
• Ask the class: What kind of baked goods do you like to make that require you to measure out ingredients?
  o Breads, rolls, cakes, cookies, pastries, etc.
• Ask the class: Have you ever baked something that didn’t turn out quite right?
• Baking is a skill that can be learned. In this lesson, we will discuss some of the skills of baking so that your baked goods turn out like the pros!

Objective 1: Name three types of foods that can be prepared by baking.
Time: 5 minutes

• Ask the class: What is baking?
  o The technique of cooking food by dry heat, usually in an oven, but also in hot ashes, or on hot stones.
• We have already listed some of our favorite kinds of foods we like to bake, however, just about anything can be baked including fish, poultry, meat, fruits, and vegetables.
• Ask the class: Does anyone know the key to proper baking?
  o Getting the proper ratio between the oven temperature and the baking time is crucial to successful baking. It is determined by the size or weight of the item to be baked. The larger and more dense the item, the longer it will take to cook; the smaller and less dense, the less time.

Objective 2: List the steps to successful baking.
Time: 15 minutes

• Baking is a little bit like a science project going on in the kitchen with all kinds of fun and interesting chemical reactions taking place. Most baked goods are nothing more than flour, sugar, a fat (like butter or oil), eggs, a moistener (like water or milk), and leavenings (like baking soda, baking powder, or yeast). But just think about the endless possibilities you can create with these few ingredients! The more you understand the chemical reactions that take place with these ingredients when you add heat and the more prepared you are, the better at baking you will be.
• Ask the class: Why do you think most baked goods need flour, sugar, fat, liquids, leavenings, and eggs? What is the purpose of these ingredients in baking?
  o Flour has a protein called gluten that gives structure and strength to the baked good. The more you stir or mix the flour with other ingredients, the more you develop the gluten.
- **Ask the class:** When would you want to do more mixing to develop the gluten and when would you want to do less?
  - More – breads
  - Less – muffins, cakes, pie crust, cookies
- **Sugar** gives sweetness and flavor, tenderness, moisture, and color (think of a browned crust).
- **Fats** like butter or oil are tenderizers. They also give flavor.
- **Liquids** add moisture and are needed to develop the gluten in the flour. The more liquid, the more the gluten develops and the tougher the product; the less liquid, the less gluten and more tender the product.
- **Ask the class:** When would you want a tougher product and when would you want a more tender one?
  - Tougher – loaf of bread
  - Tender – pie crust or cookies
- **Leavenings** like baking soda, baking powder, and yeast give structure, shape, and texture to baked products.
- **Eggs** have lots of different roles in baking. Like flour, they provide structure; like sugar, they provide moisture and flavor; like fats, they act as tenderizers; like liquids, they give moisture; like leavenings they give structure, texture, and shape.
- If all of this sounds way too complicated, just remember that you don’t have to know how much of each ingredient you need to make a cake or a loaf of bread or exactly how all the ingredients work together. You just need to understand how to follow a recipe using a few basic techniques! Pay close attention to how you measure your ingredients and how the instructions tell you to combine those ingredients. The rest is a ‘piece of cake’!
- It is also important to take a few minutes to get prepared before you start.
- **Ask the class:** What are the advantages of being well prepared before baking?
  - Being prepared eliminates those last minute trips to the grocery store.
  - Having the proper ingredients and equipment will help ensure that the end product will be satisfactory.
- Explain the steps to successful baking as follows:
  - Read the recipe thoroughly. Be sure you have the time, ingredients, and utensils you will need. Make sure you understand the terms and techniques required to complete the recipe and the order of procedure.
  - **Ask the class:** Why is it important to understand the techniques the recipe says to use and to use them in the order given?
    - The product may not turn out as planned if you fail to follow the technique. For example, there is a big difference between kneading and folding! If you are making bread and just fold your flour into the other ingredients instead of kneading the dough, you will not end up with a very desirable loaf of bread.
    - Most recipes for baked goods have you add ingredients in a certain order and in a certain way. For instance, most cake and cookie recipes tell you to ‘cream’ the butter and sugar together before adding the other ingredients. This is necessary for the product to rise, giving it a light and delicate texture. If you skip this step, you could end up with a coarse and dense product. It won’t necessarily be ruined but it won’t be the masterpiece you could make by following the instructions.
  - After reading through the recipe, gather all ingredients and equipment. For best results, use the pan size the recipe specifies.
  - Use the correct measuring tools.
    - Use standard dry measures for dry ingredients such as flour, sugar, cocoa, brown sugar, cornmeal, etc.
    - Use standard measuring spoons for amounts less than ¼ cup (4 tablespoons).
- Use a standard liquid measuring cup for liquids such as water, oil, milk, honey or corn syrup.
  - Before preheating the oven, make sure the racks are in the right place for the pans and recipe. It is usually preferable to place the item in the center of the oven to allow even distribution of heat.
  - Preheat the oven as the recipe directs—allow 10 minutes for your oven to reach the temperature specified.
  - Measure the ingredients accurately (next section will cover proper measuring techniques for ingredients).
  - Finish each step and double check to be sure nothing was omitted.
  - Place pan(s) in the oven so they do not touch each other or the oven sides. Do not place pans on racks directly below or above another pan.
  - Do not open oven door to check product during baking. Use the oven light and window to see how things are going.
  - Set out cooling racks to cool the pans and product when it is ready to come out of the oven. Clean up the kitchen while the product bakes.
  - When the product is finished baking, remove the pan(s) carefully from the oven using oven mitts or hot pads. Follow the recipe directions for cooling before removing the product from the pans.

- **Ask the class:** Why do you think it is important not to open the oven door and peek inside while the product is baking?
  - You lose about 25° of heat every time you open the oven door. Keep the oven window clean so you can see what is happening without having to open the door.
  - When you open the door you could cause some items, such as cakes, to fall or sink in the middle.

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**Objective 3: Demonstrate how to measure dry ingredients correctly.**

*Time: 15 minutes*

- **Ask the class:** Did you know that professional bakers don’t measure their flour and sugar when baking?
- **Ask the class:** If bakers don’t measure their ingredients, how do they get their products to turn out so well every single time? How do they know how much flour and sugar to use?
  - They actually weigh the ingredients rather than measure them. This gives them the most precise amount of ingredients to use so that their products turn out the same each time.
- Almost all home recipes call for measuring dry ingredients instead of weighing them. Measuring accurately will help you improve your baking skills so that you can create beautifully baked products that will impress your family and friends!
- **Ask the class:** What is the difference between a dry measuring cup and a liquid measuring cup? *(As you explain the difference, show examples of each type.)*
  - Dry measuring cups allow you to measure to the rim of the cup.
  - Liquid measuring cups are transparent and have extra space at the top to allow the liquid to be measured without spilling.
- **Tell the class:**
  - Graduated dry measuring cups are made in at least ¼ cup, ⅓ cup, ½ cup, and 1 cup sizes.
  - Measuring spoons usually range from ⅛ teaspoon, ¼ teaspoon, ½ teaspoon, 1 teaspoon, and 1 tablespoon.
- **Demonstrate how to measure the following ingredients.** *(Show each technique as you discuss it.)*
The first thing to remember is to avoid measuring over the mixing bowl so that excess ingredients do not spill into the other ingredients.

**Flour:** Stir flour in the storage container or bag. Using a large spoon, lightly spoon the flour into a measuring cup. Pile it higher than the top of the cup. Do not shake or tap the cup. Do not pack the flour in. Holding the cup over the flour container, level off the top using the straight edge of a knife or spatula.

**Sugar:** Spoon the sugar into a dry measuring cup higher than the top of the cup. Holding the cup over the sugar container, level off the top using the straight edge of a knife or spatula.

**Powdered sugar:** Sift the powdered sugar to break up small lumps. Spoon it into the dry measuring cup. Holding the cup over the powdered sugar container, level it off with the straight edge of a knife or spatula.

**Baking powder or baking soda:** Stir it lightly in the storage container before measuring. Using the measuring spoon, lightly scoop out of the container. Use the straight edge of a knife or spatula to level it off even with the top edge of the measuring spoon.

**Brown sugar:** Break up any lumps by squeezing or rolling. Spoon it into a dry measuring cup. Pack it down firmly with the back of a spoon so it keeps the shape of the cup when turned over. Level with the straight edge of a knife or spatula.

**Butter or margarine:** Cut it with a knife using the measurement marks on the wrapper as a guide. Or pack it firmly into a dry measuring cup with a rubber spatula, following recipe recommendations for temperature (example – softened or room temperature). Level the top with the straight edge of a knife or spatula. Remove it from the cup with a rubber spatula.

**Semi liquids:** Ingredients like sour cream, peanut butter, and yogurt are measured using dry measuring cups because they are too thick to be accurately measured in the liquid cups. Level them off with the straight edge of a knife or spatula.

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**Objective 4: Demonstrate how to measure liquid ingredients correctly.**

**Time:** 5 minutes

- Liquid measuring cups are usually 1 cup, 2 cup or 4 cup sizes. They should be clear glass or plastic with a pouring spout.
- **Demonstrate how to measure the following ingredients.** *Show each technique as you discuss it.*
  - **Liquid extracts and juices:** Pour the amount needed into the appropriate measuring spoon.
  - **Liquids:** Place the liquid measuring cup on a flat counter or table. Fill to the mark for the amount of liquid needed. Bend down and look at eye level to check that the top of the liquid is at the mark for the amount needed.
  - **Ask the class:** Why do you think it is important to check the measurement at eye level?
    - Looking down on the measuring cup does not give an accurate reading – you end up with less liquid than the recipe calls for.
    - In everyday cooking, not getting measurements just right will probably make little difference to the end result, but in baking, it can mean the difference between success and failure!
  - Use measuring spoons to measure less than ¼ cup. Remove sticky liquids like molasses, corn syrup, and oil with a rubber spatula.
- Demonstrate making oatmeal cookie recipe using proper measuring and mixing techniques. If class size is small enough, let participants help make the cookies. *Follow recipe for oatmeal cookies found on page 8 as you cover this segment.*
• Allow participants to taste cookies.
• Have participants look at handout with recipes for breadsticks and carrot cake.
• **Ask the class:** Are there any questions about how to measure any of the ingredients for these recipes or how to use the techniques call for in the recipes?
  o *Be prepared to answer any questions such as how to knead dough, etc.*

## Conclusion:
Time: 5 minutes

• Baking is a skill that anyone can learn. With a little practice and patience, you will be able to read and follow a recipe like a pro. When you carefully follow the instructions on the recipe and take care to measure your ingredients correctly, you will end up with beautiful and tasty baked goods, usually at a fraction of the cost of buying them.
• Ask the class: Are there any questions?

## References:


This material was funded by USDA’s Supplemental Nutrition Assistance Program – SNAP. The Supplemental Nutrition Assistance Program (SNAP) provides nutrition assistance to people with low income. It can help you buy nutritious foods for a better diet. To find out more, contact 1-800-221-5689 or visit online at http://www.fns.usda.gov/snap/. In accordance with Federal Law and U.S. Department of Agriculture policy, this institution is prohibited from discriminating on the basis of race, color, national origin, sex, age, religion, political beliefs or disability. To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800)795-3572.
~Baking – It’s a “piece of cake”!~

Anyone can produce beautiful baked products – all you have to do is take care to measure properly and follow recipe instructions.

Oatmeal Cookies

| 1 ¼ cup oats          | ½ cup brown sugar, firmly packed |
| 1 cup whole wheat flour | 1 egg                     |
| ½ teaspoon baking soda | ½ teaspoon vanilla        |
| ½ teaspoon salt        | ½ cup coconut (optional)   |
| ½ cup butter, softened | ¼ cup chopped nuts (optional) |

Preheat oven to 325˚. Spray baking sheet with cooking spray. In medium bowl, combine oats, flour, baking soda, and salt. Set aside. In large bowl, combine butter, sugar, brown sugar, egg, and vanilla. Beat until light and fluffy. Mix dry ingredients into butter/sugar mixture. Add coconut and chopped nuts if desired. Drop by spoonfuls onto greased baking sheet and bake 10-12 minutes. Cookies are better if slightly under-baked. Cool on wire rack and store in airtight container.

Yield: 2 dozen cookies.

Bread Sticks

| 1 tablespoon yeast       | 1 tablespoon malted milk powder (opt.) |
| 1 tablespoon sugar       | 1 teaspoon salt                      |
| 1 ½ cups warm water      | 2 ½ - 4 cups flour*                  |
| 4 tablespoons butter, melted and divided | Garlic salt                                |
| 1 tablespoon cornmeal    | ½ cup grated Parmesan cheese         |
| Course ground pepper    |                                         |

Preheat oven to 375˚. Dissolve yeast and sugar in warm water. Let rest 5 minutes. Spread baking sheet with 2 tablespoons melted butter. Sprinkle with corn meal and ground pepper. Add malted milk powder, salt, and 2 cups flour to yeast mixture. Mix well. Add enough flour to make soft dough. Pour dough onto floured surface and knead until smooth and elastic (about 7-10 minutes). Place dough on baking sheet and roll out to ½ inch thick. Cut into one-inch strips. Brush each strip with remaining butter. Sprinkle with garlic salt and Parmesan cheese. Let rise 15-30 minutes. Bake at 375˚ for 15-20 minutes or until top is golden brown.

Yield: Approximately 16 bread sticks

*For a more nutritious dish, try making this recipe with 100% whole wheat flour. It is a great tasting way to add whole grains to your meal.

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Banana Nut Snack Cake

2 cups whole wheat flour
½ cup brown sugar, packed
½ teaspoon cinnamon
1 ¼ teaspoons baking soda
4 ripe bananas, mashed well
¼ cup water
1 teaspoon vanilla
½ cup chopped walnuts
½ cup chocolate chips (optional)

Preheat oven to 350º. Combine flour, brown sugar, cinnamon, and soda in a large mixing bowl. In a medium bowl, combine bananas, water, and vanilla. Mix well then add to dry ingredients, stirring to combine. Stir in nuts and chocolate chips. Pour batter into greased 9 x 9 baking pan. Bake 40 – 45 minutes or until toothpick inserted into center of cake comes out clean.

Yield: 9 servings

Did you notice that there is no extra fat or eggs in this recipe? Bananas are a great substitute for the fat and the eggs!

Use the correct measuring tools.

- Use standard dry measures for dry ingredients such as flour, sugar, cocoa, brown sugar, cornmeal, etc.
- Use standard measuring spoons for amounts less than ¼ cup (4 tablespoons).
- Use a standard liquid measuring cup for liquids such as water, oil, milk, honey or corn syrup.

Did you know?

- You lose about 25° of heat every time you open the oven door. Use your oven light and keep the oven window clean so you can see what is happening without having to open the door.
- When you open the door you could cause some items, such as cakes, to fall or sink in the middle.

Baked goods are fun to make and even more fun to eat ... but remember ... they should be eaten in moderation! Even when they have good-for-you ingredients like whole grains they can still be high in fat, sugar, and calories.

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