Let’s Start COOKING

Name ________________________________

Age (as of January 1 of current year) __________________

County ________________________________

Club name ______________________________

Advisor ________________________________

FOR USE IN 2021

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Note to the Project Helper

Congratulations! A 4-H member has asked you to serve as a project helper. You may be a parent, relative, project leader, friend, club advisor, or another individual important in the 4-H member’s life. Your duties begin with helping the youth create and carry out a project plan, as outlined in the Member Project Guide. This is followed by helping the youth focus on each activity, providing support and feedback, and determining what was done well, what could have been done differently, and where to go next.

As a project helper, it is up to you to encourage, guide and assist the 4-H member. How you choose to be involved helps to shape the 4-H member’s life skills and knowledge of the importance of cooking skills.

Your Role as Project Helper

Your contributions are critical to delivery of the 4-H program, which is committed to providing experiences that strengthen a young person’s sense of belonging, generosity, independence, and mastery. It is essential that your interactions support positive youth development within the framework of these Eight Essential Elements:

1. Positive relationship with a caring adult
2. An inclusive environment
3. A safe emotional and physical environment
4. Opportunity for mastery
5. Engagement in learning
6. Opportunity to see oneself as an active participant in the future
7. Opportunity for self-determination
8. Opportunity to value and practice service to others

For more information on the Eight Essential Elements, please refer to the Volunteer Handbook available online at ohio4h.org. In addition, on a practical level, your role as a project helper means you will...

- guide the youth and provide support in setting goals and completing this project.
- encourage the youth to apply knowledge from this project book.
- serve as a resource person.
- encourage the youth to go beyond the scope of this 4-H project book to learn more about cooking.

What You Should Know About Experiential Learning

The information and activities in this book are arranged in a unique, experiential fashion (see model). In this way, youth are introduced to a particular practice, idea or piece of information through an opening (1) experience. The results of the activity are then recorded in the accompanying pages. Youth then take the opportunity to (2) share what they did with their project helper, (3) process the experience through a series of questions that allow the learner to (4) generalize and (5) apply the new knowledge and skill.

What You Can Do

- Review the learning outcomes (project skill, life skill, educational standard, and success indicator) for each activity to understand the learning taking place. See page 40 for a summary of the learning outcomes.
- Become familiar with each activity and the related background information. Stay ahead of the learner by trying out activities beforehand.
- Begin the project by helping the learner establish a plan for the project. This is accomplished by reviewing the Member Project Guide.
- After each activity, conduct a debriefing session that allows the learner to answer the review questions and share results. This important step improves understanding from an experiential learning perspective.
- Help the learner celebrate what was done well and to see what could be done differently. Allow the learner to become better at assessing his or her own work.
- In the Member Project Guide, date and initial the activities that have been completed.
Member Project Guide

Thank you for taking the Let’s Start Cooking project! This project book is designed for 4-H members of all ages with little or no cooking or baking experience. We hope you enjoy cooking and baking your way through this book as you learn about kitchen equipment and food prep, learn to read recipes correctly, and learn to cook with heat—all with safety in mind.

Check your county’s project guidelines (if any) for completion requirements in addition to the ones below, especially if you plan to prepare an exhibit for the fair.

Project Guidelines

Step 1: Complete all eight activities.

Step 2: Take part in at least two learning experiences.

Step 3: Become involved in at least two leadership/citizenship activities.

Step 4: Complete a project review.

Feel free to modify or replace recipes in this book to accommodate any food allergies you or your family may have. If you compete at a fair, please let your judge know about your substitutions.

Keeping It Clean

When you’re ready to prepare food be sure to . . .

- Wash your hands and cooking surfaces.
- Review the recipe and gather the ingredients and equipment needed.

When you finish . . .

- Clean the kitchen.
- Properly store all food items.
Step 1: Project Activities
Complete all eight activities. The More Challenges activities are optional. As you finish activities, review your work with your project helper. Then ask your project helper to initial and date your accomplishment.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Date Completed</th>
<th>Project Helper Initials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity 1: How Does Your Plate Rate?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activity 2: Safety First</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activity 3: Equipment Check</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Creamy Peanut Butter Dip</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activity 4: Decoding Recipes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strawberry Yogurt Pops</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activity 5: Measuring Mastery</td>
<td></td>
<td></td>
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<tr>
<td>Trail Mix</td>
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<tr>
<td>Activity 6: Slicing and Dicing Practice</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Veggie Pizza</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activity 7: Microwave Know-How</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Microwave Baked Apples</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activity 8: Stove Top and Oven Use 101</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eggs in a Nest OR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Butterscotch Squares</td>
<td></td>
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</tr>
</tbody>
</table>
**Step 2: Learning Experiences**

Learning experiences are meant to complement project activities, providing the opportunity for you to do more in subject areas that interest you. What are some learning experiences you could do to show the interesting things you are learning about? Here are some ideas:

- Attend a clinic, workshop, demonstration or speech related to cooking.
- Help organize a club meeting based on this project.
- Go on a related field trip or tour.
- Host a workshop to share tips about cooking.
- Prepare your own demonstration, illustrated talk or project exhibit.
- Participate in county judging.

Once you have a few ideas, record them here. Complete **at least two** learning experiences. Then, describe what you did in more detail. Ask your project helper to date and initial in the appropriate spaces below.

<table>
<thead>
<tr>
<th>Plan to Do</th>
<th>What I Did</th>
<th>Date Completed</th>
<th>Project Helper Initials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstration</td>
<td>Showed club members a set of basic cooking tools and described how they are used.</td>
<td>5/5/YR</td>
<td>B.H.</td>
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<td></td>
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</tbody>
</table>
Step 3: Leadership and Citizenship Activities

Choose at least two leadership/citizenship activities from the list below (or create your own) and write them in the table below. Record your progress by asking your project helper to initial next to the date each one is completed. You may add to or change these activities at any time. Here are some examples of leadership/citizenship activities:

- Teach someone about cooking.
- Help another member prepare for his or her project judging.
- Organize a bake sale in your area.
- Encourage someone to enroll in Let’s Start Cooking.
- Arrange for a chef to speak at your club meeting.
- Plan your own leadership/citizenship activity.

<table>
<thead>
<tr>
<th>Leadership/Citizenship Activity</th>
<th>Date Completed</th>
<th>Project Helper Initials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organized a bake sale to help the local animal shelter.</td>
<td>5/28/YR</td>
<td>B.H.</td>
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</table>
Step 4: Project Review

All finished? Congratulations! After you’ve completed the activities in this book you are ready for a project review. This process will help assess your personal growth and evaluate what you have learned.

Use this space to write a brief summary of your project experience. Be sure to include a statement about the skills you have learned and how they may be valuable to you in the future.

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The USDA’s myplate.gov website is a great way to learn about eating healthfully while including the foods you like to eat. Let’s see how it applies to your daily life.

What to Do

On the MyPlate graphics below, list all the foods you ate and drank for one day. Don’t forget to include your snacks. If you need a reminder about which food groups go in which section, check the inside back cover of this book.
Talking It Over

SHARE  Was it difficult to place the foods you ate in the correct spot on MyPlate?

REFLECT  What are the benefits of eating a variety of foods from each section of MyPlate?

GENERALIZE  Did you eat foods from each section of MyPlate at each meal? Which meal best represents the MyPlate model for suggested meal portions?

APPLY  What changes could you make to your eating habits so your plate looks more like the MyPlate recommendations?

More Challenges

Visit myplate.gov to calculate how many calories you need each day to stay healthy and maintain your weight.
**Background**

Think about what was on your dinner plate last night, then check the MyPlate diagram on the inside back cover. How similar are these two plates? Proteins should make up a quarter of your plate at each meal. How did your protein intake rate? Proteins are the building blocks of your body. They help us in many different ways including building muscle and fighting illnesses.

A quarter of your plate should contain grains. Do you choose whole grains over *refined grains* at least half of the time? Whole grains contain necessary dietary fiber, iron and B vitamins. These vital elements have been removed from refined grains.

Do fruits and vegetables fill half your plate? Fruits and vegetables provide us with potassium, dietary fiber, folic acid, and vitamins A and C. Why bother? Read on. Potassium helps maintain a healthy blood pressure. Dietary fiber can reduce blood cholesterol and may lower the risk of heart disease. Folic acid aids in forming red blood cells. You can depend on vitamin A to keep your eyes and skin healthy, and vitamin C protects our immune system.

When drinking and eating foods in the dairy group, consider choosing non-fat or low-fat dairy products. Dairy foods help us develop strong bones and teeth. Important *nutrients* in the dairy group include calcium, potassium, vitamin D and protein.

MyPlate suggests eating a variety of foods to get the nutrients you need for good health, and the right amount of *calories* to maintain a healthy weight. Eating a balanced diet and getting enough *exercise* helps you stay healthy and reduces your risk of chronic disease.

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**Glossary**

Words in **bold** throughout this book are defined in the glossary.

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**Did you know?**

Exercise increases your chances of living longer, helps keep you safe from disease and improves your sleep. That’s a pretty good payoff for staying active on most days!

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**Source**

myplate.gov

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**Resources**

Kick start your exercise plans at students.fueuptoplay60.com
**Some of the tools and equipment** in the kitchen may be sharp, hot, heavy or hard to handle. Practicing good safety habits prevents you from getting hurt. The safe handling of food is also critical. If you correctly wash your hands and food preparation surfaces, the amount of *bacteria* can be reduced so it doesn’t spread and make others sick. Let’s see how to practice food safety and handle kitchen tools and equipment properly.

**What to Do**

In a small bowl, mix 1 tablespoon of cooking oil and 2 teaspoons cinnamon. Since you cannot see bacteria, the cinnamon will act as the “bacteria” so that you can see how well you washed your hands.

1. Rub some of the oil/cinnamon mixture on your hands. Make sure you put some on the back of your hands and between your fingers. Ask someone to turn on the cold water, then rub your hands under the water for 5 seconds. Pat your hands dry with a paper towel. Is there any “bacteria” left on your hands?
   - [ ] Yes  [ ] No

2. Wash your hands thoroughly before beginning this step. Now rub some of the oil/cinnamon mixture on your hands and ask someone to turn on the cold water. Put soap on your hands and wash them under the water for 15 seconds. Make sure you rub the back of your hands and between your fingers as well as the palms of your hands. Pat your hands dry with a paper towel. Do you see “bacteria” left on your hands? Was it more or less than the amount that was left when you quickly washed your hands with cold water for 5 seconds?
   - [ ] Yes  [ ] No

3. Wash your hands thoroughly before beginning this step. Again, rub some of the oil/cinnamon mixture on your hands and this time ask someone to turn on the warm water. Put soap on your hands and wash them under the water for 20 seconds, making sure you wash the backs of your hands, between your fingers and the palms of your hands. Wipe your hands dry with a paper towel. Look at your hands. Was there any “bacteria” left on your hands?
   - [ ] Yes  [ ] No

Circle the step for when your hands were the cleanest.

**Step 1  Step 2  Step 3**

---

**Learning Outcomes**

**Project skill:** Identifying safe practices when working in the kitchen

**Life skill:** Making healthy lifestyle choices

**Educational standard:** NHES 7.5.3: Demonstrate a variety of behaviors to avoid or reduce health risks.

**Success indicator:** Washes hands and handles food safely
Talking It Over

**SHARE** When do you need to wash your hands?


**REFLECT** Why should you wash cooking surfaces and tools before and after you use them?


**GENERALIZE** Think of the times you practiced safety when you used the top of the stove, the oven and the microwave. Which safety habits did you practice?


**APPLY** What steps do you take in your daily life to keep yourself and others safe?


**More Challenges**

Search the news to find articles about how mishandled food made people sick. How could these illnesses have been prevented?
Background

Always make safety a priority in the kitchen. You never want to get burned from a pan, cut from a knife, or sick from food not handled properly.

Start practicing safe kitchen habits now and complete the following before you begin to work in the kitchen:

- Wash your hands and surfaces thoroughly.
- Use different spoons for stirring and tasting. Use a spoon for tasting, but only once.
- Pull back long hair with a ponytail holder.
- Wear shoes with non-skid soles; no sandals please. Hot food and sharp objects can fall on your feet!
- Turn handles of pans toward the center of the stove top so you don’t accidentally knock them over.
- Keep cabinet doors and drawers closed.
- Use hot pads and oven mitts. Have a parent help you take food out of the oven.
- Slowly take off the cover of a pan away from you so the steam doesn’t burn you.

Following food safety practices helps you prepare food that is safe to eat. Otherwise you can spread bacteria, get sick, or make others sick.

Follow these guidelines to keep your food safe to eat:

- **Clean**: Wash hands and surfaces often.
- **Cook**: Use a food thermometer to make sure the food is cooked to the proper temperature.
- **Chill**: Promptly refrigerate foods.
- **Separate**: Keep raw foods like raw meat, poultry and eggs separate from cooked foods.

Did you know?

According to the USDA’s Food Safety and Inspection Service, one out of every four hamburgers turns brown before it has been cooked to a safe internal temperature.

Resources

Visit nutrition.gov and put “food safety for kids and teens” in the search box for a cool Food Safety Game.

Sources

Home Baking Association, homebaking.org
Food Safety and Inspection Service, fsis.usda.gov
Alabama Cooperative Extension System, “How to Measure Ingredients for Recipes.”
aces.edu/pubs/docs/E/EFNEP-0113/EFNEP-0113.pdf
cdc.gov
Everyone enjoys good food. It always tastes better when you have made it yourself. Learning to cook is not difficult, but it takes practice. Cooking will become easier once you have learned the basic cooking terms and how to use cooking tools.

**What to Do**

Kitchen tools or **utensils** help us prepare food more easily and efficiently. Explore your kitchen to see how many of these tools you can find. Place a check mark next to those you found. If you found others, add them in the spaces provided.

- 2-quart pitcher
- baking pan
- cookie cutters
- cookie or baking sheets
- cutting board
- cutting knife
- electric mixer or blender
- graduated measuring spoons
- ice cream scoop
- large wooden or metal spoons
- measuring cup—liquid
- nest of measuring cups—dry
- pancake Turner
- potholders
- rubber scraper
- set of mixing bowls in different sizes
- skillet
- slotted spoon
- vegetable peeler
- wire cooling rack
- wire whisk

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Talking It Over

SHARE Was it easy or hard to identify cooking tools. Why?

REFLECT Why do you think it is important to know which tools to use in recipes?

GENERALIZE Which tools in your kitchen do you think would have been used in your great-grandparents’ kitchen?

APPLY What tools can you use in place of others when you don’t have the right one? Give at least two examples.

More Challenges

Look for the tools used in cookbooks or online recipes. Do you see any you would like to add to your kitchen?
Background

Cooking is fun! Many of the foods we enjoy every day and on special occasions are made using a recipe. Baking and cooking is much easier now than it was many years ago. Cooks experimented and developed tools out of necessity for the food being prepared. Before wire whisks were invented, a fork was used to beat an egg. And before forks were created, cooks used their fingers or hands to mix ingredients. Some common utensils were developed by royal orders. King Louis XIV of France didn’t want sharp knives at the dinner table. The table knife with a rounded edge, similar to what we use today, was developed for this reason.

The recipes in this project book call for basic tools and equipment. Always read the recipe before you begin. You may find kitchen tools you do not have or do not know how to use. As you take intermediate and advanced 4-H nutrition projects you may use specialized tools. Think about starting a list of specialized tools you want to purchase later as you look at recipes in magazines or cookbooks.

Did you know?

Some of the earliest kitchen utensils were discovered in Middle Eastern villages from around 500 AD.


Sources

Recipe

**Creamy Peanut Butter Dip**

1/4 cup peanut butter
1 tablespoon frozen concentrated orange juice (do not add water)
1/2 cup low-fat vanilla yogurt

**Equipment**
bowl
mixing spoon
toothpicks
measuring cups
measuring spoons

**Directions**
1. Mix peanut butter and orange juice.
2. Stir in yogurt. Mix until smooth.
3. Serve with fruit.

Makes 6 servings.

**Nutrition Facts**

<table>
<thead>
<tr>
<th>Amount Per Serving</th>
<th>% Daily Value*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calories</td>
<td>80</td>
</tr>
<tr>
<td>Col. from Fat</td>
<td>5g</td>
</tr>
<tr>
<td>Fat</td>
<td>6g</td>
</tr>
<tr>
<td>Saturated Fat</td>
<td>1.5g</td>
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<td>Trans Fats</td>
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<tr>
<td>Cholesterol</td>
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<tr>
<td>Sodium</td>
<td>65mg</td>
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<tr>
<td>Total Carbohydrate</td>
<td>6g</td>
</tr>
<tr>
<td>Dietary Fiber</td>
<td>less than 1g</td>
</tr>
<tr>
<td>Sugars</td>
<td>5g</td>
</tr>
<tr>
<td>Protein</td>
<td>4g</td>
</tr>
<tr>
<td>Vitamin A</td>
<td>0% - Vitamin C</td>
</tr>
<tr>
<td>Calcium</td>
<td>4% - Iron</td>
</tr>
</tbody>
</table>

*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

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**NOTES FOR NEXT TIME**

Did the recipe turn out the way you expected?  □ Yes  □ No

Be as specific as you can be when you answer these questions. Consider the food’s color, texture, taste, temperature, seasoning, appearance, and anything else that affects its overall appeal.

What do you like about this recipe?

________________________________________________________

________________________________________________________

What do you dislike about this recipe?

________________________________________________________

________________________________________________________

What, if anything, would you do differently the next time you make this recipe?

________________________________________________________

________________________________________________________
Decoding Recipes

Learning Outcomes

Project skill: Reading and following directions
Life skill: Processing information
Educational standard: NHES 7.5.2: Demonstrate a variety of healthy practices and behaviors to maintain or improve personal health.
Success indicator: Identifies common terms found in recipes

A recipe is a set of baking or cooking instructions that lists ingredients, includes the equipment needed, and outlines what to do. Always read the recipe first before you start to cook. That way you can be sure you have all of the necessary ingredients on hand.

What to Do

Many cooking terms are used in recipes. Getting to know these terms builds your cooking knowledge and helps you become a better cook. Read over the terms below that have definitions, then find and write definitions for the remaining terms.

Common Terms in Recipes

Bake: To cook in the oven
Beat: ________________________________________________
Blend: _______________________________________________
Chill: To place in a refrigerator to lower the temperature of food
Cream: ______________________________________________
Cut: ________________________________________________
Drain: To pour off the liquid from a food
Grease: ______________________________________________
Melt: ________________________________________________
Mix: ________________________________________________
Peel: To remove the outer skin from a fruit or vegetable
Preheat: ______________________________________________
Sift: ________________________________________________
Slice: ________________________________________________
Stir: To mix with a circular motion

List the recipes in which you found some of the cooking terms.
1. ________________________________________________
2. ________________________________________________
3. ________________________________________________
4. ________________________________________________
5. ________________________________________________

Other cooking terms you have found:
1. ________________________________________________
2. ________________________________________________
3. ________________________________________________
Talking It Over

SHARE Now that you have defined some cooking terms, is the meaning of any of them different from what you thought it meant?

________________________________________________________________________

REFLECT Name a cooking term that has puzzled you in the past.

________________________________________________________________________

GENERALIZE How would you find the meaning of a cooking term that is new to you?

________________________________________________________________________

APPLY If you do not have ingredients needed for a recipe, where can you go to find information on how to substitute ingredients?

________________________________________________________________________

More Challenges

Create a new healthful snack and write a recipe for it.
Background

Each recipe has a list of ingredients, usually given in the order they are added. The directions for mixing and cooking or baking are given. If the food is to be baked, the size and type of pan is listed, as well as the oven temperature and the baking time. Practice reading a recipe and ask for help if you don’t understand the directions. You may find letters to tell you how much of an ingredient to use. You may have seen these examples:

C for cup

t or tsp for teaspoon

T or tbsp for tablespoon

oz for ounce

Before you start, wash your hands, clean the counter, and make sure you have all the ingredients. Gather all the ingredients and kitchen tools before you begin your baking or cooking adventure!

Did you know?

The oldest known recipes for food originate from southern Mesopotamia in 200 BC.

Resources

Try some tasty recipes from around the world at pbskids.org/buster/recipes/index.html
Recipe

**Strawberry Yogurt Pops**

2 cups fresh or frozen strawberries
2 cups low-fat vanilla yogurt

**Equipment**
- 12 small paper cups
- 12 pop sticks
- foil
- mixing bowl
- cutting board
- knife

**Directions**
1. Chop strawberries into small pieces.
2. Combine strawberries and yogurt in mixing bowl. Mix well.
3. Spoon mixture into 12 cups. Cover each cup with foil.
4. Insert pop stick through foil.
5. Freeze pops until firm.
6. Gently tear away paper cup from frozen yogurt before eating.

Makes 12 pops.

**Nutrition Facts**

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<th>Amount Per Serving</th>
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*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

---

**NOTES FOR NEXT TIME**

Did the recipe turn out the way you expected?  □ Yes  □ No

Be as specific as you can be when you answer these questions. Consider the food’s color, texture, taste, temperature, seasoning, appearance, and anything else that affects its overall appeal.

What do you like about this recipe?

____________________________________________________________________________________

____________________________________________________________________________________

What do you dislike about this recipe?

____________________________________________________________________________________

____________________________________________________________________________________

What, if anything, would you do differently the next time you make this recipe?

____________________________________________________________________________________

____________________________________________________________________________________

---

**Sources**

foodtimeline.org/foodfaq3.html#firstrecipes

Learning Outcomes

Project skill: Measuring ingredients two different ways

Life skill: Using scientific methods

Educational standard: NHES 7.5.2: Demonstrate a variety of healthy practices and behaviors to maintain or improve personal health.

Success indicator: Measures dry ingredients and liquid ingredients accurately

You have probably measured how fast you can run, how high you can jump, or even measured the height and width of a box to see how much you could put inside. You used specific equipment or tools. The kitchen is full of specific tools too. We’re going to pull out some of these items and learn how to correctly measure ingredients.

What to Do

When you are ready to use a recipe that calls for flour, are you tempted to use your 1-cup dry measuring cup as a scoop to fill it with flour? Or, would you fill your measuring cup using a spoon to transfer the flour? Let’s see if the way you measure flour makes a difference.

Gather the following items:
1-cup dry measuring cup
All-purpose flour
Sieve or flour sifter
Tablespoon
Knife or spatula
Waxed paper

Step 1

Dip the measuring cup into the flour and fill heaping full. Scrape off the extra flour back into your flour bag or container with the edge of a butter knife. Hold the sieve over a piece of waxed paper and dump the measuring cup of flour into the sieve. After sifting, gently spoon the flour back into the measuring cup until the flour runs over the top. Level off. Measure the extra flour left on the waxed paper. Set aside. Empty the flour in the measuring cup into a bowl and set aside.

Step 2

Begin again with a new piece of wax paper. This time, use a soup spoon or mini scoop to fill the measuring cup with flour from your container. Fill the cup heaping full, then level it with the straight edge of a knife. Hold the sieve over a piece of waxed paper and dump the measured flour into it. After sifting the flour, gently spoon the flour back into the measuring cup until the flour runs over the top. Level off, and then measure the extra flour left on the waxed paper.

Which step ended with more flour on the waxed paper? □ Step 1 □ Step 2

Can you explain why?

Check your responses with the answer key on page 39.
**Talking It Over**

**SHARE** What are the different types of measuring tools used when making a recipe?

---

**REFLECT** Why do the directions tell you to level a dry ingredient with the straight edge of a knife?

---

**GENERALIZE** Why is it important to look at a liquid measuring cup at eye level when measuring?

---

**APPLY** What ingredients other than water or milk would you measure in a liquid measuring cup?

---

**More Challenges**

In some countries dry ingredients are weighed and liquids are measured by volume. See if you can find out how ingredients are measured in other countries.
Background

If you do not measure an ingredient correctly, a cake may not rise, cookies may be too sweet, or a veggie dip may look like milk instead of a dip.

For example, Step 1 of the measuring activity usually results in more leftover flour. This could make your bread or cake too dry. The solution is to not pack the flour into the measuring cup and to add air to the flour before using it, as you did by using a sieve.

Bakers used to sift flour for a few reasons—to fluff it up (flour packs down when it is shipped), to break-up clumps, and to remove insects. With modern flours, clumps and insects are no longer a problem, but the flour still needs a little air added back in just before measuring. Sifting, then measuring the flour is one way. You can also add air by whisking it gently in the bag or flour container with a whisk, fluffing it with a spoon, or stirring it with a butter knife before measuring.

Follow these tips for measuring other ingredients.

1. Put brown sugar into the measuring cup and use the back of a spoon to pack it. Then, level the top with the edge of a butter knife.

2. To measure peanut butter, pack it into the measuring cup with a spoon and level off with a knife.

3. When measuring liquids, place the liquid measuring cup on a flat surface and fill to the needed level. Bending down to see the amount of the liquid at eye level ensures greater accuracy.

4. When using measuring spoons or cups to measure dry ingredients, fill the spoon or cup and level off with a knife.

Always use standard measuring cups and spoons when baking and cooking. Use a standard liquid measuring cup to measure liquids. This cup has a handy pour spout and allows you to measure the correct amount of liquid without worrying about spilling it.

Did you know?

Fannie Farmer came up with the idea of standardizing measurements for recipes in the 1890s. We still use these standard measurements today.

Source: amazingwomeninhistory.com/fannie-farmer-mother-of-level-measurements/

Sources


americaslibrary.gov/jb/reform/jb_reform_farmer_2.html

princeton.edu/~achaney/tmve/wiki100k/docs/Cooking_weights_and_measures.html
Recipe

**Trail Mix**

Change the taste of this recipe every time by using different combinations of flavors such as corn, rice or any others.

- 2 cups crispy cereal squares
- 1 cup “O” shaped cereal
- 1 cup raisins
- 1 cup nuts or peanuts, unsalted
- 1 cup mini pretzels

**Equipment**
- large resealable bag or bowl
- measuring cups

**Directions**
1. Measure all foods and place into bag or bowl.
2. Mix well and enjoy!

To store extras, place in smaller resealable bags. You may add other dried fruit, chocolate chips or popcorn to add more flavor. Just keep in mind you are also adding calories.

Makes 6 servings.

---

**NOTES FOR NEXT TIME**

Did the recipe turn out the way you expected?  □ Yes  □ No

Be as specific as you can be when you answer these questions. Consider the food’s color, texture, taste, temperature, seasoning, appearance, and anything else that affects its overall appeal.

What do you like about this recipe?

________________________________________________________________________________________

________________________________________________________________________________________

What do you dislike about this recipe?

________________________________________________________________________________________

________________________________________________________________________________________

What, if anything, would you do differently the next time you make this recipe?

________________________________________________________________________________________

________________________________________________________________________________________
Learning Outcomes

Project skill: Experimenting with different food preparation skills
Life skill: Learning to prepare a variety of foods
Educational standard: NHES 7.5.3: Demonstrate a variety of behaviors to avoid or reduce health risks.
Success indicator: Slices and dices various vegetables properly

The preparation of food involves a lot of techniques that may be new to you. Measuring, cutting, preparation and cooking practices use different techniques to minimize food waste, keep food safe, and result in food that is prepared well. Some techniques are easier to master. Others may take more practice, but you can use these skills for the rest of your life!

What to Do

Before you start, don’t forget to wash your hands and work surfaces. Now, get a potato, a stalk of celery, a carrot, and an onion. Wash the vegetables under cool running water to remove dirt and dry lightly with a paper towel.

1. Peel the potato with a vegetable peeler. Using a cutting board and a medium-sized knife, cut the potato in half lengthwise. With a paring knife (a small knife with a short blade), cut the potato into 1-inch cubes for cubed potatoes.

2. Place the potato cubes on the cutting board and cut them in half again for smaller cubes. Now you have diced potatoes.

3. Place the celery stalk on the cutting board and cut across the stalk making 3-inch to 4-inch sections with a medium-sized knife. Slice each section lengthwise into thin sticks. Holding one group of thin sticks at a time, chop or cut across them to make smaller pieces. When a recipe calls for chopped celery, this is how you prepare it.

4. Peel the carrot if you have a whole one, or use baby carrots, which have been peeled. You need a grater to shred carrots. Carefully rub the carrot against the grater to make small shredded pieces. The grater has sharp edges, so be sure to hold your fingers away from the raised “grates.”

5. Remove the dry, outer, paper-like covering from the onion and discard. Place the onion on the cutting board. Using a knife with a six- or seven-inch blade, cut off both ends so you have a flat surface to place against the board. Cut a third of the onion off and place it cut-side down on board. Now cut across the onion a few times, then cut these strips in the opposite direction. These are chopped onions. Now, cut the pieces across in different directions until you have very small onion pieces and you will have minced onions.

When you finish this activity, be sure to save the cut-up vegetables. Use them in a salad, soup, or use some to top the Veggie Pizza recipe on page 29. You could also boil, drain and serve the vegetables as a side dish for a family meal.
Talking It Over

SHARE What was the easiest and most challenging tasks you completed in the slicing and dicing activity?

REFLECT Why would some foods be chopped while other foods would need to be minced, diced or prepared by another technique?

GENERALIZE How would you decide which cutting technique to use for a food?

APPLY Could you apply these cutting techniques on other foods?

More Challenges

Look online or in a cooking techniques book for the proper way to cut meat and poultry.
Background

Cutting vegetables, fruit, cheese and other foods using different cutting techniques adds variety to a recipe. Cutting some foods into smaller pieces can even help them cook more quickly. In some recipes the ingredients are of similar size so the food is easier to eat. The fruit in fruit salad is typically cut so it is all in bite-size pieces.

There are different sizes of knives for different types of cutting. Knives with a serrated or irregular edge work well for cutting breads and cakes. Large knives can cut meat and chicken. Small knives, called paring knives, are made for cutting vegetables such as carrots, celery and tomatoes. Use the right size and type of knife for the job. A sharp knife works best. A dull knife can cut fingers more easily. Have knives sharpened by a professional, and store knives separately and safely from other kitchen tools. Ask an adult for help when using knives.

The cutting techniques you learned in the activity work with other vegetables, fruit and even blocks of cheese. Here are a few examples:

- **Cube**: sweet potatoes, watermelon, cantaloupe
- **Dice**: tomatoes, apples, cheddar cheese
- **Chop**: carrot, broccoli, cucumber, green pepper
- **Mince**: garlic, herbs, jalapeño peppers

Did you know?

Knives or tools that were knife-like have been used since prehistoric times. They were originally made from rock or bone and cut by hand.

Resources

For quick and easy recipes for a school lunch, vegetarians, and kids with diabetes visit kidshealth.org/kid/recipes.

Source

thewiseedge.com/history-of-knives
Recipe

**Veggie Pizza**

Don't forget to use oven mitts and a hot pad when removing the pan from the oven. Ask an adult to help you.

1 can (8 oz.) reduced-fat crescent rolls
1/2 cup plain low-fat yogurt
8 oz. low-fat cream cheese, softened
1/2 package (2 tablespoons) dry ranch dressing mix
1/4 cup vegetables such as chopped tomatoes, cauliflower or broccoli; grated carrots; cucumber slices; or minced onion

Equipment
baking sheet or pizza pan
mixing spoon
butter knife
sharp knife
rolling pin, optional

Directions
1. **Preheat** the oven to 375°F.
2. Remove the crescent roll dough from the can. On a baking sheet, lay the long edge of two triangles together to form a rectangle.
3. Bake 7 to 9 minutes or until lightly browned. Let cool.
4. Blend softened cream cheese with yogurt and dressing mix until smooth. Refrigerate.
5. Wash and prepare vegetables.
7. Cut into 8 pieces and serve.

Makes 8 servings.
Adapted from food.com

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**Nutrition Facts**

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*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

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**NOTES FOR NEXT TIME**

Did the recipe turn out the way you expected?  ☐ Yes  ☐ No

Be as specific as you can be when you answer these questions. Consider the food's color, texture, taste, temperature, seasoning, appearance, and anything else that affects its overall appeal.

What do you like about this recipe?
____________________________________________________

What do you dislike about this recipe?
____________________________________________________

What, if anything, would you do differently the next time you make this recipe?
____________________________________________________
Learning Outcomes

Project skill: Preparing foods in microwave
Life skill: Processing information
Educational standard: NHES 7.5.3: Demonstrate a variety of behaviors to avoid or reduce health risks.
Success indicator: Uses microwave to prepare a snack safely

**Even though most people use the microwave oven** to reheat food or beverages, or prepare simple dishes, many would find it hard to live without one. Ninety percent of American households have a microwave. This appliance is handy and fun to use when you keep safety in mind.

**What to Do**

Jessie wants to reheat some leftover spaghetti and meatballs in the microwave. Read through the steps she takes. What would you do differently to make the process safer and improve how the food is prepared?

Jessie **washes her hands and puts a headband on her hair.** She removes the plastic carryout container of spaghetti from the refrigerator. She **takes the lid off, then reaches just over her head to put the container in the microwave.** Jessie checks to see if it’s ready by smelling it. She **thinks it should cook a little longer, so she puts it back in the microwave.** When she checks it again, her food **seems ready. She sits down at the kitchen table and starts eating right away.**

List some things that Jessie could have done better:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Check your responses with the answer key on page 39.
Talking It Over

SHARE What have you reheated or cooked in the microwave?

____________________________________________________________________

REFLECT What safety precautions did you take when you used the microwave?

____________________________________________________________________

GENERALIZE Name a food you could reheat in the microwave. ____________

Name a food you can cook in the microwave. ____________________________

APPLY In what other areas in your life do you take precautions?

____________________________________________________________________

More Challenges

Find a recipe for cooking a potato in the microwave and try it. Was it ready to eat at the end of that time? If not, what are some reasons why this would happen?
Background

Microwave ovens may look easy to use—just put your food in and heat it—but you need to be just as careful using a microwave as a conventional oven. Let’s see how Jessie could have improved on the way she heated up those leftovers by reviewing these tips on using a microwave and cooking in general.

- If you need to tie your hair back, take care of this before washing your hands.
- Use a microwave-safe container.
- Cover the container to prevent spills and food from popping onto the oven.
- If the microwave is over your head, ask an adult to place the food in the oven for you.
- Use pot holders when removing food from the oven and putting it back in.
- Foods prepared in the microwave contain steam. Open lids so the steam escapes away from your face.
- Stir the heated food before tasting. Food heats unevenly and stirring helps distribute the heat throughout the food and avoid hot spots.
- Use a food thermometer to see if food is ready. Heat leftovers to 165°F.
- Let food cool after removing from the microwave for a minute or two before eating it.

Also, never put metal in a microwave. It may burn the inside of the oven causing permanent damage and possibly start a fire.

Did you know?

The lower the wattage of your microwave oven, the longer it will take to cook your food. Check your microwave manual so you know the wattage of your oven.

Source: homefoodsafety.org

Source
homefoodsafety.org
Recipe

**Microwave Baked Apples**

2 large crisp apples (such as Braeburn, Gala or Fuji)
2 tablespoons raisins or sweetened dried cranberries
2 tablespoons packed brown sugar
1 teaspoon cinnamon
2 teaspoons butter

**Equipment**
- sharp knife
- microwave-safe plate
- small bowl

**Directions**
1. Peel and core apples, then chop them into bite-sized pieces. Place apples on a microwave-safe plate.
2. Mix together raisins, brown sugar, and cinnamon. Spread mixture evenly over the cut apples. Cut butter into tiny pieces and place on mixture.
3. Microwave on high 5 to 6 minutes or until apples are tender. Stir apples halfway through cooking time so they are evenly coated with topping.
4. Let cool for a few minutes before serving.

Makes 4 servings.

*Adapted from bettycrocker.com*
Learning Outcomes

Project skill: Using heat to prepare foods
Life skill: Making decisions
Educational standard: NHES 5.5.5: Choose a healthy option when making a decision.
Success indicator: Identifies heat’s effect on cooking a sandwich

Being able to use heat to prepare foods opens a whole world of new dishes to you! Stove tops (also called range tops) and ovens have different heat settings that affect the food you cook or bake. The following experiment demonstrates how these settings perform. Take extra care when working with heat in the kitchen.

What to Do

When heat is needed in a recipe, the terms low, medium and high are usually used. But what do these words really mean? Let’s find out by making three grilled cheese sandwiches—one on low heat, one on medium heat, and the third on high heat.

**Grilled Cheese Sandwiches**

Butter two slices of bread, putting butter on one side only of each slice. Put the cheese between the unbuttered sides of the two slices of bread. Place in a skillet on the stove. Do not preheat the skillet. Turn the burner to low heat and begin timing. Flip the sandwich when the bottom is browned. Continue cooking until the sandwich is done. Repeat the process for medium and high heat. Use a different skillet or allow your skillet to cool between sandwiches.

Record the time it takes to melt the cheese.

<table>
<thead>
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<td>Medium heat</td>
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</tr>
<tr>
<td>High heat</td>
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</tbody>
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![Grilled cheese sandwich in a skillet](image)
Talking It Over

SHARE How did the burner setting affect the grilled cheese melting?

REFLECT Why might you use different heat settings when cooking?

GENERALIZE When you are cooking on the stove or in the oven, how do you know what the best heat setting is for your recipe?

APPLY List three foods you can make on the stove. List three foods you can make in the oven.

Did you know?
When heated, sugar turns brown or caramelizes. Try heating some sugar in a pan and watch it turn brown. Pay close attention as it can burn quickly!

Sources
americastestkitchen.com
Background

The experiment of making three grilled cheese sandwiches showed you the effects of different heat settings, but a different stove top may give you different results. The low setting on an electric stove could brown a grilled cheese sandwich more quickly or more slowly than a gas range top. A good plan is to keep a close watch on what you are cooking to prevent you from either burning your food or taking too long to cook it.

Ovens have similar irregularities. For instance, there’s a good chance your oven’s actual temperature does not match the setting on the control dial. An oven thermometer can tell you exactly how hot it is in there. When you check the thermometer’s reading against what the control dial is set to, you can make a note of the difference so you know where to set the dial in the future.

Broilers are not always consistent either. If you want to know how your broiler distributes its heat, you can easily check it. Simply lay nine slices of bread flat in one layer on a cookie sheet. Once the broiler is ready, place it on the top rack. After the bread has had a chance to brown, take the pan out. The darker parts will have toasted the bread more where the heat is higher. The lighter areas show where the broiler’s heat does not reach as well.

You can take the guesswork out of your cooking and baking as you become more familiar with your kitchen equipment.

Recipe

Eggs in a Nest

1 large egg
1 slice whole wheat bread
non-stick cooking spray

Equipment

small bowl
whisk or fork
small cookie cutter
small frying pan
pancake turner

Directions

1. Break egg. Place in bowl and whisk egg until mixed well.
2. Place one piece of bread on cutting board. Use the cookie cutter to cut a shape out of the middle of the bread.
3. Spray pan lightly with non-stick cooking spray and bring to medium heat.
4. Put bread in skillet and pour egg into hole in bread.
5. As the egg begins to cook, slowly stir the egg mixture. When the egg mixture starts to thicken, use a pancake turner to flip the bread and egg together.
6. When the egg is firm, remove from the skillet. Season with salt and pepper if desired.

Makes 1 serving.
Recipe

Butterscotch Squares

Cookies can be made a few different ways. For drop cookies such as chocolate chip cookies, you use a teaspoon to pick up a small amount of dough, press it off the spoon with your finger, and let it drop onto the cookie sheet. Snickerdoodles are an example of shaped cookies because the dough is shaped by hand into small balls and placed on the cookie sheet. Bar cookies are made by baking the dough in a pan and cutting the finished product into bars.

¼ cup (½ stick) butter
1 cup packed brown sugar
1 egg
1 cup flour
1 teaspoon baking powder
1 teaspoon vanilla
½ cup chopped nuts, optional
Vegetable oil spray

Equipment
measuring cups
medium bowl
knife or spatula
measuring spoons
mixing spoons
saucepan
9" x 9" baking pan
wire rack

Directions
1. Preheat oven to 325°F.
2. Spray baking pan with vegetable spray and set aside.
3. Measure flour and baking powder into a medium bowl and set aside.
4. Melt butter in a medium saucepan over low heat. Watch carefully so it doesn’t burn.
5. When butter melts, remove pan from the stove and stir in brown sugar until mixture is blended. Let mixture cool.
6. Add vanilla and eggs to the cooled mixture and stir well.
7. Add dry ingredients (flour and baking powder) to the butter, sugar, and egg mixture, and stir well. The mixture will be stiff.
8. Add nuts, if desired.
9. Spread the mixture evenly in the prepared pan.
10. Place pan in oven on center rack and bake 20 to 25 minutes. The mixture will pull away from the sides when done, but will be soft.
11. To remove from the oven, hold rack with pot holder and pull rack out to the safety catch. Grasp pan with the pot holder and place on a wire rack to cool.
12. While still warm, cut into 16 squares.
13. Allow to cool, remove from pan, and place on a plate to serve.

Makes 16 squares.

Nutrition Facts
Serving size: 1 (43g)
Servings Per Recipe: 12

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*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.
More Challenges

Many different foods can be prepared on the stove top or in the oven. Look in your favorite cookbook (or borrow one from the library or go online) and see if you can find one stove-top recipe and one meant for the oven for a food from each group in MyPlate at myplate.gov.

NOTES FOR NEXT TIME

Did the recipe you chose turn out the way you expected? □ Yes □ No

Be as specific as you can be when you answer these questions. Consider the food's color, texture, taste, temperature, seasoning, appearance and anything else that affects its overall appeal.

What do you like about this recipe?

________________________________________________________________________________________

What do you dislike about this recipe?

________________________________________________________________________________________

What, if anything, would you do differently the next time you make this recipe?

________________________________________________________________________________________

Source

homefoodsafety.org
**Glossary**

*bacteria*. Single-celled microorganisms that typically live in soil, water, organic matter, or the bodies of plants or animals.

*boil*. To cook in liquid that is heated until bubbles rise to the surface and break.

*calorie*. The amount of energy supplied by food.

*chop*. To cut into smaller pieces with a sharp knife.

*cube*. To cut into evenly shaped, square pieces.

*dice*. To cut into tiny cubes.

*drain*. To pour off the liquid from a food.

*exercise*. Physical movement that allows the body, mind, or both to become stronger.

*mince*. To cut or chop into very small pieces.

*nutrient*. Ingredients in food that the body uses for growth and health.

*preheat*. To warm up the oven to the cooking temperature found in the recipe before you put the food in the oven.

*refined grains*. Grains that have been milled to remove the bran and germ.

*shred*. To rub a large food across a grater.

*utensil*. A tool or implement used in the kitchen.

**Answer Key**

**Activity 5: Measuring Mastery**

Step 1 will result in more flour on the waxed paper. The fine particles of the all-purpose flour pack easily. Sifting helps separate these packed particles and makes it easier to get approximately the same amount of flour each time you measure. One pound of sifted flour measures four cups, but if the measuring cup is dipped into the bag and the flour is not sifted or fluffed up, one pound measures three cups. Even presifted flour settles or compacts when stored, so it needs a little air added to it as well.

**Activity 7: Microwave Know-How**

- Put headband on first, then wash hands
- Use a microwave-safe container
- Cover the container
- Ask an adult to place food in oven to avoid reaching over head
- Use pot holders
- Stir the food
- Check food temperature with a food thermometer
## Summary of Learning Outcomes

<table>
<thead>
<tr>
<th>Activity</th>
<th>Project Skill</th>
<th>Life Skill</th>
<th>Educational Standard*</th>
<th>Success Indicator</th>
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<tbody>
<tr>
<td>2. Safety First</td>
<td>Identifying safe practices when working in the kitchen</td>
<td>Making healthy lifestyle choices</td>
<td>NHES 7.5.3: Demonstrate a variety of behaviors to avoid or reduce health risks.</td>
<td>Washes hands and handles food safely.</td>
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<tr>
<td>3. Equipment Check</td>
<td>Identifying cooking tools</td>
<td>Critical thinking</td>
<td>Not applicable</td>
<td>Uses proper equipment to prepare food.</td>
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<tr>
<td>4. Decoding Recipes</td>
<td>Reading and following directions</td>
<td>Processing information</td>
<td>NHES 7.5.2: Demonstrate a variety of healthy practices and behaviors to maintain or improve personal health.</td>
<td>Identifies common terms found in recipes.</td>
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<tr>
<td>5. Measuring Mastery</td>
<td>Measuring ingredients two different ways</td>
<td>Using scientific methods</td>
<td>NHES 7.5.2: Demonstrate a variety of healthy practices and behaviors to maintain or improve personal health.</td>
<td>Measures dry ingredients and liquid ingredients accurately.</td>
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<td>6. Slicing and Dicing Practice</td>
<td>Experimenting with different food preparation skills</td>
<td>Learning to prepare a variety of foods</td>
<td>NHES 7.5.3: Demonstrate a variety of behaviors to avoid or reduce health risks.</td>
<td>Slices and dices various vegetables properly.</td>
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<td>7. Microwave Know-How</td>
<td>Preparing foods in microwave</td>
<td>Processing information</td>
<td>NHES 7.5.3: Demonstrate a variety of behaviors to avoid or reduce health risks.</td>
<td>Uses microwave to prepare a snack safely.</td>
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<tr>
<td>8. Stove Top and Oven Use 101</td>
<td>Using heat to prepare foods</td>
<td>Making decisions</td>
<td>NHES 5.5.5: Choose a healthy option when making a decision.</td>
<td>Identifies heat’s effect on cooking a sandwich.</td>
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*The educational standards cited here are from the National Health Education Standards (NHES) from the Centers for Disease Control and Prevention’s School Health Education Resources (SHER). They are available in their entirety at [cdc.gov/HealthyYouth/SHER/Standards](https://www.cdc.gov/HealthyYouth/SHER/Standards).
What’s on your plate?

Before you eat, think about what and how much food goes on your plate or in your cup or bowl.

Over the day, include foods from all food groups: vegetables, fruits, whole grains, low-fat dairy products, and lean protein foods.

- **GRAINS**: Make at least half your grains whole.
- **VEGETABLES**: Eat more red, orange, and dark green vegetables.
- **FRUITS**: Make half your plate fruits and vegetables.
- **DAIRY**: Switch to skim or 1% milk.
- **PROTEIN**: Vary your protein food choices.

**EXERCISE**
Get 60 minutes or more of physical activity each day.

**Where is MyPyramid?**
The MyPlate symbol and food guide system, released by USDA in 2011, replaces MyPyramid, but is based on the same food groups and recommendations. Information about what and how much to eat has not changed.

For 10 Tips to a Great Plate, go to choosemyplate.gov/tipsresources/tentips.html and click on “Choose MyPlate.”
I pledge
My head to clearer thinking,
My heart to greater loyalty,
My hands to larger service, and
My health to better living,
For my club, my community,
my country, and my world.

Additional copies of this book and other Ohio State University Extension, 4-H Youth Development publications are available through local OSU Extension offices and online at estore.osu-extension.org. Ohio residents get the best price when they order and pick up their purchases through local Extension offices.