

GRADE 1 COOKING & FOOD

First edition

8 units

32 lessons • one school year

A video for every lesson

FIRST EDITION

COURSE GUIDE

This course follows eight strands of cooking and food through the first-grade year: a clean and safe kitchen, the food groups and a balanced plate, taste and smell, heat and cold, a little food chemistry, hunger and fullness and treats in their place, fire and spice, and planning for the family table. Each lesson begins with a short true story: Antonie van Leeuwenhoek peering at “little animals” through a lens he made himself, Thomas Jefferson planting his long vegetable garden, the iceman carrying blocks of ice into the kitchen, the angel who roused Elijah to a cake baked on the coals, and the boy whose five loaves and two fishes fed a hillside of hungry people.

Every lesson follows the same simple path, read aloud by a parent. First comes **the story**. Then **what happens to the food**, explained in a few short sentences a six- or seven-year-old can tell back. Last, **let’s cook!**: the child helps make a real snack or dish for the family. First graders wash, tear, rinse, measure, pour, stir, spread, mash, shake, assemble and taste. A grown-up does every hot step and every sharp step while the child watches from a safe spot. Then the child draws and dictates a page for the cook’s notebook.

Food is treated as God’s good gift, received with thanks and shared with others. We talk about food in terms of helping, safety, nourishment, thankfulness and kindness to guests, never in terms of body size or appearance. The year ends with a family feast: the child plans one dish, makes it with a parent, sets the table, and leads or joins in saying grace. The old Latin saying *Fabricando fit faber*, “by making, one becomes a maker,” fits the kitchen too: by helping to cook, a child becomes a cook.

Most videos come from trusted teaching sources: SciShow Kids, Peekaboo Kidz (Dr. Binocs), Sesame Street, Mystery Science, the FDA and USDA, the National Fire Protection Association and the U.S. Forest Service, university extension programs, state health departments, children’s museums, Thomas Jefferson’s Monticello, and short Bible-story films from church children’s ministries (Saddleback Kids and Crossroads Kids’ Club). Every video was

previewed for content, accuracy and modest dress. Most are short, between one and seven minutes, and are best watched together on the couch. In a few videos an older child or a grown-up uses a knife or the stove; in this course a grown-up does every hot and sharp step. Some channels end with an invitation to subscribe; you can stop the video when the teaching ends.

Start with Lesson 1.1 →

WHO IT IS FOR

Written for children in first grade (about ages 6–7). No reading is required: a parent reads each lesson aloud and writes down what the child says. A parent or responsible adult is in the kitchen for every project and does every step with heat or a sharp knife. Nothing needs to be bought beyond an ordinary kitchen and ordinary groceries; a sturdy step stool and a plastic or nylon “kid knife” are helpful.

HOW TO USE THIS COURSE

1. **The weekly rhythm.** The year has 32 lessons, one a week, in two short sessions. Session 1 (about 30–40 minutes) is the warm-up, the story, the video and the picture study. Session 2 (about 30–40 minutes) is the kitchen project: wash hands, make the recipe together, taste, clean up, and make a cook’s-notebook page. In the last week of each unit, add a third short session for the unit review and the unit challenge.
2. **A grown-up supervises all cooking.** A parent or responsible adult is in the kitchen for every kitchen project in this course. Before cooking, check every recipe and every taste test against your own family’s food allergies; each recipe card names the major allergens it contains and offers swaps where they are easy.
3. **The first-grade safety ladder.** First graders do not use sharp knives. They may use a butter knife or a plastic or nylon “kid knife” on soft foods only: bananas, strawberries, soft cheese slices, cooked potatoes, soft bread. They do not use the stove, oven, toaster, microwave, blender or grill. A grown-up does every hot or sharp step while the child watches from a safe spot, such as a step stool set back from the counter or a chair at the table. Children wash, tear, rinse, measure, pour, stir cold foods, spread, mash, shake, assemble and taste.
4. **Story, then food, then cooking.** Read the core ideas aloud. The paragraphs marked *Long ago* or *The story* tell what happened; *What happens to the food?*

explains it simply; *Let's cook!* names the recipe and the one job to do well. After each paragraph, ask your child to tell it back in his or her own words.

5. **Picture study.** Each lesson has one painting or old photograph of a kitchen, a garden, a market or a table. Look at it quietly together for one or two minutes. Then hide it and let your child tell everything he or she remembers. Bring it back and talk through the “look for” items and questions, which point to the food, the tools, the heat and the people.
6. **The cook's notebook.** Use one notebook or folder for the whole year. For every recipe your child draws the dish, and you write down a few words he or she says: what we made, what job I did, how it tasted, and a family rating (a smiley face, a straight face or a frowny face is fine). Then, when you can, make it again and try one small change. Cook it, record it, make it better.
7. **How we talk about food and bodies.** This course never discusses weight or how bodies look. We call foods “everyday foods” and “sometimes foods,” never “good” or “bad.” Treats and feasts are good gifts in their place. We praise effort, care, safety, cleanliness and helpfulness.
8. **Groceries.** The recipes use ordinary grocery-store ingredients and feed a family of four to six, or make a snack for everyone. Most weeks the kitchen project can be the family's snack, lunch or a side dish at supper, so the course adds little to the grocery bill beyond what you already buy. Read the recipe card a few days ahead and add its ingredients to your list.
9. **Optional books and tools.** Some units list free charts, guides and simple tools. They are extras. Every recipe can be made without them.
10. **Unit review and unit challenge.** Each unit ends with a friendly oral review: a parent asks five or six questions, and the child answers by telling, pointing, showing or drawing. There are no points. The unit challenge is something real made, served and recorded, such as a family handwashing chart, a balanced snack plate for each person, or a family taste test. Keep the challenge pages and photographs in a folder for the year.
11. **The family feast.** In the last week the child plans one dish for a family meal, helps shop for it, makes it with a grown-up, sets the table, welcomes everyone and joins in giving thanks.

SCOPE AND SEQUENCE

UNIT 1 • WEEKS 1–4

A Clean, Safe Kitchen

Germs too small to see, washing hands and counters, how the refrigerator keeps food safe, and how to be a safe kitchen helper while grown-ups do the hot and sharp jobs.

- 1.1 Antonie van Leeuwenhoek Sees Tiny Animals
- 1.2 Clean Counters, Clean Hands
- 1.3 The Refrigerator Keeps Germs Slow
- 1.4 A Safe Kitchen Helper

UNIT 3 • WEEKS 9–12

Taste, Smell & Your Taste Buds

Taste buds you can see in a mirror, how the nose helps you taste, why bitter foods taste stronger to children, and crunchy, smooth and chewy textures.

- 3.1 Your Tongue and Taste Buds
- 3.2 Your Nose Knows
- 3.3 Bitter Tastes and Growing Up
- 3.4 Texture: Crunchy, Smooth and Chewy

UNIT 2 • WEEKS 5–8

Food Groups & a Balanced Plate

God's good gifts of food, the five food groups on MyPlate, colorful fruits and vegetables, milk and cheese, and grains from the field to the loaf.

- 2.1 God Made Good Food: The Five Food Groups
- 2.2 Fruits and Vegetables Are Colorful
- 2.3 Milk and Cheese for Strong Bones
- 2.4 Grains Give Energy: From Field to Loaf

UNIT 4 • WEEKS 13–16

Heat & Cold

How heat changes food, steam from a pot, the iceman and the old icebox, freezing, and Elijah's cake baked on the coals.

- 4.1 Hot Makes Things Change
- 4.2 Steam
- 4.3 Ice and the Old Icebox
- 4.4 Elijah's Cake on the Coals

UNIT 5 • WEEKS 17–20

Food Chemistry

Starch that thickens pudding, cream shaken into butter, egg whites that turn white when cooked, and living yeast that puffs up dough.

- 5.1 Starch Makes Things Thick
- 5.2 Butter Is Fat
- 5.3 The Egg White Turns White
- 5.4 Yeast Is Alive

UNIT 7 • WEEKS 25–28

Fire, the Grill & Spice

Fire is hot and helpful but only grown-ups use it, herbs from the garden, cinnamon from tree bark, and sweet and salty flavors that go well together.

- 7.1 Fire Is Hot and Helpful
- 7.2 Herbs from the Garden
- 7.3 Cinnamon Comes from Bark
- 7.4 Sweet and Salty Friends

UNIT 6 • WEEKS 21–24

Hungry, Full & Treats in Their Place

Hungry, satisfied and too full, why sweet treats taste so good, water and sugary drinks, and Esau, who wanted his stew right now.

- 6.1 Hungry, Satisfied, Too Full
- 6.2 Why Treats Taste So Good
- 6.3 Water or a Sugary Drink?
- 6.4 Esau and the Bowl of Stew

UNIT 8 • WEEKS 29–32

Meal Planning & the Family Table

Reading a picture recipe, planning a picnic, gathering up leftovers so nothing is wasted, and a family feast the child helps plan and serve.

- 8.1 Reading a Picture Recipe
- 8.2 Planning a Picnic
- 8.3 Gather the Fragments: No Waste
- 8.4 The Family Feast

WEEKLY PACING CALENDAR

WEEK	PLAN
1	• Session 1: Lesson 1.1 Antonie van Leeuwenhoek Sees Tiny Animals: warm-up, video, teaching and picture study • Session 2: Lesson 1.1 kitchen project (cook the recipe) and cook's notebook <i>Two sessions a week is the usual rhythm: one to learn, one to cook. Younger children can split a long session in two. Cook the week's recipe again at home whenever you can.</i>
2	• Session 1: Lesson 1.2 Clean Counters, Clean Hands: warm-up, video, teaching and picture study • Session 2: Lesson 1.2 kitchen project (cook the recipe) and cook's notebook

WEEK	PLAN
3	- Session 1: Lesson 1.3 The Refrigerator Keeps Germs Slow: warm-up, video, teaching and picture study - Session 2: Lesson 1.3 kitchen project (cook the recipe) and cook's notebook
4	- Session 1: Lesson 1.4 A Safe Kitchen Helper: warm-up, video, teaching and picture study - Session 2: Lesson 1.4 kitchen project (cook the recipe) and cook's notebook - Session 3: Unit 1 review and unit challenge
5	- Session 1: Lesson 2.1 God Made Good Food: The Five Food Groups: warm-up, video, teaching and picture study - Session 2: Lesson 2.1 kitchen project (cook the recipe) and cook's notebook
6	- Session 1: Lesson 2.2 Fruits and Vegetables Are Colorful: warm-up, video, teaching and picture study - Session 2: Lesson 2.2 kitchen project (cook the recipe) and cook's notebook
7	- Session 1: Lesson 2.3 Milk and Cheese for Strong Bones: warm-up, video, teaching and picture study - Session 2: Lesson 2.3 kitchen project (cook the recipe) and cook's notebook
8	- Session 1: Lesson 2.4 Grains Give Energy: From Field to Loaf: warm-up, video, teaching and picture study - Session 2: Lesson 2.4 kitchen project (cook the recipe) and cook's notebook - Session 3: Unit 2 review and unit challenge
9	- Session 1: Lesson 3.1 Your Tongue and Taste Buds: warm-up, video, teaching and picture study - Session 2: Lesson 3.1 kitchen project (cook the recipe) and cook's notebook
10	- Session 1: Lesson 3.2 Your Nose Knows: warm-up, video, teaching and picture study - Session 2: Lesson 3.2 kitchen project (cook the recipe) and cook's notebook
11	- Session 1: Lesson 3.3 Bitter Tastes and Growing Up: warm-up, video, teaching and picture study - Session 2: Lesson 3.3 kitchen project (cook the recipe) and cook's notebook
12	Session 1: Lesson 3.4 Texture: Crunchy, Smooth and Chewy: warm-up, video, teaching and picture study

WEEK	PLAN
	• Session 2: Lesson 3.4 kitchen project (cook the recipe) and cook's notebook • Session 3: Unit 3 review and unit challenge
13	• Session 1: Lesson 4.1 Hot Makes Things Change: warm-up, video, teaching and picture study • Session 2: Lesson 4.1 kitchen project (cook the recipe) and cook's notebook
14	• Session 1: Lesson 4.2 Steam: warm-up, video, teaching and picture study • Session 2: Lesson 4.2 kitchen project (cook the recipe) and cook's notebook
15	• Session 1: Lesson 4.3 Ice and the Old Icebox: warm-up, video, teaching and picture study • Session 2: Lesson 4.3 kitchen project (cook the recipe) and cook's notebook
16	• Session 1: Lesson 4.4 Elijah's Cake on the Coals: warm-up, video, teaching and picture study • Session 2: Lesson 4.4 kitchen project (cook the recipe) and cook's notebook • Session 3: Unit 4 review and unit challenge
17	• Session 1: Lesson 5.1 Starch Makes Things Thick: warm-up, video, teaching and picture study • Session 2: Lesson 5.1 kitchen project (cook the recipe) and cook's notebook
18	• Session 1: Lesson 5.2 Butter Is Fat: warm-up, video, teaching and picture study • Session 2: Lesson 5.2 kitchen project (cook the recipe) and cook's notebook
19	• Session 1: Lesson 5.3 The Egg White Turns White: warm-up, video, teaching and picture study • Session 2: Lesson 5.3 kitchen project (cook the recipe) and cook's notebook
20	• Session 1: Lesson 5.4 Yeast Is Alive: warm-up, video, teaching and picture study • Session 2: Lesson 5.4 kitchen project (cook the recipe) and cook's notebook • Session 3: Unit 5 review and unit challenge
21	• Session 1: Lesson 6.1 Hungry, Satisfied, Too Full: warm-up, video, teaching and picture study • Session 2: Lesson 6.1 kitchen project (cook the recipe) and cook's notebook

WEEK	PLAN
22	• Session 1: Lesson 6.2 Why Treats Taste So Good: warm-up, video, teaching and picture study • Session 2: Lesson 6.2 kitchen project (cook the recipe) and cook's notebook
23	• Session 1: Lesson 6.3 Water or a Sugary Drink?: warm-up, video, teaching and picture study • Session 2: Lesson 6.3 kitchen project (cook the recipe) and cook's notebook
24	• Session 1: Lesson 6.4 Esau and the Bowl of Stew: warm-up, video, teaching and picture study • Session 2: Lesson 6.4 kitchen project (cook the recipe) and cook's notebook • Session 3: Unit 6 review and unit challenge
25	• Session 1: Lesson 7.1 Fire Is Hot and Helpful: warm-up, video, teaching and picture study • Session 2: Lesson 7.1 kitchen project (cook the recipe) and cook's notebook
26	• Session 1: Lesson 7.2 Herbs from the Garden: warm-up, video, teaching and picture study • Session 2: Lesson 7.2 kitchen project (cook the recipe) and cook's notebook
27	• Session 1: Lesson 7.3 Cinnamon Comes from Bark: warm-up, video, teaching and picture study • Session 2: Lesson 7.3 kitchen project (cook the recipe) and cook's notebook
28	• Session 1: Lesson 7.4 Sweet and Salty Friends: warm-up, video, teaching and picture study • Session 2: Lesson 7.4 kitchen project (cook the recipe) and cook's notebook • Session 3: Unit 7 review and unit challenge
29	• Session 1: Lesson 8.1 Reading a Picture Recipe: warm-up, video, teaching and picture study • Session 2: Lesson 8.1 kitchen project (cook the recipe) and cook's notebook
30	• Session 1: Lesson 8.2 Planning a Picnic: warm-up, video, teaching and picture study • Session 2: Lesson 8.2 kitchen project (cook the recipe) and cook's notebook

WEEK	PLAN
31	• Session 1: Lesson 8.3 Gather the Fragments: No Waste: warm-up, video, teaching and picture study • Session 2: Lesson 8.3 kitchen project (cook the recipe) and cook's notebook
32	• Session 1: Lesson 8.4 The Family Feast: warm-up, video, teaching and picture study • Session 2: Lesson 8.4 kitchen project (cook the recipe) and cook's notebook • Session 3: Unit 8 review and unit challenge <i>Last week. Hold a family feast: the student plans the menu, shops with a parent, cooks a balanced meal with a dish from several units, sets the table, says grace with the family and shows the cook's notebook.</i>

MATERIALS

Cook's notebook (any notebook or a folder of plain paper)

One for the whole year: the child's drawings of each dish, a few words a parent writes down, taste faces and family ratings.

A sturdy step stool

So the child can reach the counter and sink safely. Set it back from the stove and keep it away from hot pans.

A plastic or nylon "kid knife" and a butter knife

For soft foods only: bananas, strawberries, soft cheese, cooked potatoes and soft bread. A grown-up does all other cutting.

Measuring cups and spoons

Used in most recipes. Children love to scoop, level and pour.

Mixing bowls, a whisk, a wooden spoon, a rubber spatula and a clean jar with a tight lid

For stirring, mashing, shaking dressings and making butter.

A small apron and clean dish towels

Cleanup is part of every recipe. A child can wipe the table, rinse cups and put things away.

A refrigerator thermometer

Optional and inexpensive. Used in Lesson 1.3 to check that the refrigerator stays at or below 40 °F.

A camera or phone

For photographing finished dishes and unit challenges for the year's folder.

GRADING

There are no letter grades in first grade. Keep a folder of cook's-notebook pages and photographs, and give warm, specific words about how your child washed up, helped, followed safety rules, tasted and cleaned up.

- After each kitchen project, tell your child one thing done well (“You held the measuring cup level and poured so slowly, just like a real cook”) and one thing to try next time.
- Praise safe habits, careful helping and cheerful cleanup more than how the food turned out. A recipe that flopped and was then made again with one change is a success.
- Use each unit's mastery checklist as a guide. Check off each “I can” statement when your child can show it or tell it.
- Keep a recipe folder with the cook's-notebook drawings, photographs and each unit challenge. At the end of the year, look back through it together and see how much your young cook has learned.
- Never comment on anyone's body, size or how much they ate. Praise rests on effort, care, safety, cleanliness and helpfulness.

A NOTE TO PARENTS

You do not need to be a chef to teach this course. Read the story aloud, watch the short video together, and then invite your child into the kitchen as your helper. Let your child do every job the safety ladder allows: washing, tearing, measuring, pouring, stirring, spreading, mashing, shaking and setting out. You do the hot and sharp jobs, and talk about what you are doing while your child watches from a safe spot. Ask two questions as often as you can: “What do you think will happen?” and “What did you notice?”

Expect spills and wobbly measuring. Flour will land on the floor and yogurt will drip off the spoon. Little cooks learn by doing, tasting and trying again, and cleaning up together is part of the lesson. *Fabricando fit faber*: by making, one becomes a maker.

Food in this course is a good gift to be received with thanks and shared. We keep the conversation on helping, nourishment, thankfulness and kindness to guests, never on weight or appearance, and we name foods neutrally as “everyday foods” and “sometimes foods.” Food allergies and any special medical needs belong to your family and your doctor: please read each recipe card’s allergen note and make the swaps your family needs.

UNIT 1

A CLEAN, SAFE KITCHEN

Before a cook makes anything, a cook gets ready. In this unit you will meet a man who looked through a tiny lens and saw living things so small that no one had ever seen them before. You will learn that germs are everywhere, that soap and water wash them away, and that clean hands, clean counters and clean bowls are the first step in every recipe.

You will also learn how the cold refrigerator keeps food fresh and safe, and how to be a good kitchen helper: you wash, measure, stir and pour, and a grown-up does the hot jobs and the sharp jobs while you watch from a safe spot. By the end of the unit you will have made four snacks for your family and a chart to help everyone wash up.

PREREQUISITES

- Can wash and dry hands at the sink with a step stool
- Can listen to a short story and tell it back
- Knows to ask a grown-up before touching anything in the kitchen

MASTERY CHECKLIST

- ☐ I can tell the story of Antonie van Leeuwenhoek and the tiny living things he saw.
- ☐ I can wash my hands the right way: wet, soap, scrub for 20 seconds, rinse and dry.
- ☐ I can help keep counters, bowls and spoons clean while we cook.
- ☐ I can tell why we put cold foods back in the refrigerator quickly.
- ☐ I can name three kitchen jobs I do and three jobs only a grown-up does.

OPTIONAL BOOKS AND TOOLS FOR THIS UNIT

- **A refrigerator thermometer:** Inexpensive and found at most grocery and hardware stores. Hang it in the refrigerator for Lesson 1.3 and check that it reads 40 °F or colder.
- **NFPA’s Sparky the Fire Dog: Sparky.org:** Free fire-safety games, coloring pages and short videos for children from the National Fire Protection Association. Helpful with Lesson 1.4.
- **A plastic or nylon “kid knife”:** Made for young children. It cuts soft foods such as bananas, strawberries and cheese slices but not fingers. Used throughout the year.

Not required. Every recipe in this unit works in an ordinary home kitchen.

School Launch has no ties to these authors, publishers or companies.

LESSONS IN THIS UNIT

1.1	Antonie van Leeuwenhoek Sees Tiny Animals	2 sessions of 30–40 minutes
1.2	Clean Counters, Clean Hands	2 sessions of 30–40 minutes
1.3	The Refrigerator Keeps Germs Slow	2 sessions of 30–40 minutes
1.4	A Safe Kitchen Helper	2 sessions of 30–40 minutes

UNIT 1 REVIEW

A parent asks each question aloud. Your child may answer by telling, pointing, showing or drawing. There are no points; this is a friendly conversation to see what has been learned. Have soap, a towel and the refrigerator thermometer nearby.

1. Who was Antonie van Leeuwenhoek, and what did he see through his tiny lens?
2. Show me how to wash your hands the right way. How long do you scrub?
3. Why do we use a scoop instead of our hands when we share a snack?
4. Why do we keep milk, meat and cheese in the refrigerator? How cold should it be?
5. Show me the kid-free zone around our stove. How big is it?

6. Name three jobs you can do in the kitchen and three jobs only a grown-up does.

ANSWER KEY

1. He was a cloth seller in Delft who made tiny lenses. He saw tiny living things, “little animals,” in water and in the stuff from his teeth. We call many of them germs.
2. Wet, soap, scrub the fronts, backs, between the fingers and under the nails, rinse and dry. Scrub for 20 seconds, as long as singing “Happy Birthday” twice.
3. Our hands can carry germs. A scoop keeps the germs on our hands out of everyone’s food.
4. Cold slows germs down so the food stays fresh and safe. The refrigerator should be 40 degrees or colder.
5. About 3 feet, one big step, all the way around the stove and oven while they are on.
6. Child: washing, measuring, pouring, stirring cold food, spreading, cracking eggs, setting the table. Grown-up: using the stove, oven, toaster, microwave and sharp knives, lifting hot pans.

UNIT CHALLENGE: OUR FAMILY CLEAN-HANDS CHART AND KITCHEN RULES

Make a poster for the kitchen with five pictures that show the handwashing steps: wet, soap, scrub, rinse, dry. Hang it by the sink. For one week, put a sticker or check on the chart each time someone in the family washes up before cooking or eating.

Then, with a grown-up, check the refrigerator thermometer and write down the number, and make a second small poster of “Helper jobs” and “Grown-up jobs.” At the end of the week, make one of this unit’s snacks for your family and show everyone your charts.

LOOK FOR	WHAT IT MEANS
Handwashing poster	Shows all five steps in order, drawn by the child, and hangs where the family can use it.
One week of washing	The chart was kept for the whole week, and the child reminded others kindly.
Refrigerator check	The child read the thermometer with a grown-up and can tell whether it was cold enough.
Kitchen helper rules	The child can explain which jobs are his or hers and which belong to a grown-up, and follows the kid-free zone.
Snack and cleanup	Made the snack with clean hands and helped clean up afterward.

1.1 ANTONIE VAN LEEUWENHOEK SEES TINY ANIMALS

OBJECTIVES

- Tell the story of Antonie van Leeuwenhoek and the tiny living things he saw through his lens.
- Explain that germs are too small to see and that soap and water wash them away.
- Wash hands the right way for 20 seconds and make a cucumber-and-cheese cracker snack with clean hands.

Warm-up. Look closely at your hands. Do they look clean? Now sprinkle a pinch of ground cinnamon on a grown-up's hand and rub it around. Can you see it now? Germs are like that cinnamon, only so tiny that you cannot see them at all. Where do you think germs might be hiding in our kitchen?

WATCH

Microorganisms | The Dr. Binocs Show | Educational Videos For Kids

Peekaboo Kidz · 4:07

<https://www.youtube.com/watch?v=JZjzQhFG6Ec>

WHEN TO WATCH

After the story. Watch for the moment Dr. Binocs looks into the microscope and the tiny living things appear.

BACKUP VIDEO

Germ Smart Kids: How-To Handwashing

Saskatchewan Health Authority · 5:13

<https://www.youtube.com/watch?v=eNmte6Xe3R4>

Before the kitchen project. Wash your hands along with the video.

KEY TERMS

germ

A living thing so tiny you cannot see it without a microscope. Most germs do no harm, but some can make us sick.

microscope

A tool with a special glass lens that makes tiny things look big.

lens

A curved piece of clear glass that bends light and makes things look bigger.

soap

A cleaner that grabs dirt and germs on your skin so water can wash them away.

CORE IDEAS

Long ago. About 350 years ago, in a Dutch town called Delft, there lived a cloth seller named Antonie van Leeuwenhoek (say it “LAY-ven-hook”). He liked to look at things very closely. He learned to make tiny glass lenses, smaller than a pea, and set each one in a little metal holder. When he held a lens up to his eye, the world looked bigger than anyone had ever seen it.

What did he see? Antonie looked at a drop of rain water through his lens. It was full of tiny living things, swimming and wiggling! He called them “little animals.” Later he scraped a bit of white stuff from between his own teeth and looked at that, too. It was full of tiny moving creatures. In 1676 he wrote a long letter to a group of scientists in London to tell them about the little animals. At first they could hardly believe it. When they made their own lenses and looked, they saw them too.

What does it mean for cooks? Today we call many of Antonie’s little animals **germs**. Germs are on our hands, on doorknobs, on dirty dishes and on raw foods. Most of them do us no harm, but some can give us a tummy ache if they get into our food. We cannot see them, so we wash. **Soap** grabs hold of dirt and germs, and running water rinses them down the drain. Scrubbing for 20 seconds, about as long as singing “Happy Birthday” two times, gives the soap time to do its job.

Let’s cook! You will make cucumber-and-cheese crackers for your family. Your most important job comes first: wash your hands the right way. Then you will scrub the cucumber under running water, cut cheese shapes with a cookie cutter, and build your crackers. A grown-up slices the cucumber with a sharp knife while you watch.

PICTURE STUDY



Still Life with Quince, Cabbage, Melon and Cucumber, Juan Sánchez Cotán, about 1602 · Oil on canvas · San Diego Museum of Art, San Diego, California
Image: [Wikimedia Commons](#), public domain

Juan Sánchez Cotán was a Spanish painter who later became a monk. He painted plain foods from the garden set out on a stone window ledge, where it was cool. Some of them hang on strings so they stay fresh and the mice cannot reach them. He painted each one so carefully that you can almost feel the bumps on the cucumber.

Look closely

- Find the cucumber. Where is it? Is it bumpy or smooth?
- Find the two foods that hang on strings. Why might a cook hang food up off the shelf?
- Look at the melon. Has someone cut it? What would you do before cutting a melon or a cucumber?
- Count all the foods in the picture.

Talk about it

1. The cucumber has been in the garden dirt. What should we do before we eat it?
2. Could Juan Sánchez Cotán see the germs on his cucumber? How do we know they might be there?

3. Which food in the picture would you most like to taste?

Safety first. A parent or responsible adult supervises all cooking in this course, and every family should check each recipe against its own food allergies. A grown-up slices the cucumber with a sharp knife; you cut only the soft cheese with a cookie cutter or a plastic kid knife.

KITCHEN PROJECT

Clean Hands, Then Cucumber Crackers

First you will do a soap experiment to see how soap chases away dirt. Then you will wash your hands the right way and make a cracker snack for everyone. A clean cook makes clean food.

You will need

- A shallow bowl of water, ground black pepper and a drop of dish soap (for the soap experiment)
- A vegetable brush or clean hands for scrubbing
- A cutting board and sharp knife (grown-up only)
- Small cookie cutters or a plastic kid knife
- A serving plate

CUCUMBER-AND-CHEESE CRACKERS

Serves 4–6 (about 24 crackers) • Prep 15 min

Ingredients

- 1 medium cucumber
- 6 slices mild cheese, such as Colby, Monterey Jack or cheddar
- 24 round crackers
- A sprinkle of dried dill or a pinch of salt (optional)

Method

1. Wash your hands with soap and water for 20 seconds. Dry them on a clean towel.
2. Rub the cucumber under cool running water to wash off dirt and germs. Pat it dry.
3. A grown-up cuts the cucumber into thin round slices with a sharp knife while you watch from your step stool.
4. Lay the cheese slices on the cutting board. Press cookie cutters into them to make shapes, or cut them into squares with a plastic kid knife.

5. Build each cracker: a cracker on the bottom, a cucumber slice next, and a cheese shape on top. Add a tiny sprinkle of dill if you like.
6. Set the crackers on a plate and serve them right away. Put leftover cheese and cucumber back in the refrigerator.
7. Clean up: put away the food, wipe the cutting board and counter, and wash your hands again.

Allergy check: Contains milk (cheese) and wheat (crackers). Some crackers also contain soy or sesame; read the label. For a wheat-free snack, use rice crackers. For a milk-free snack, use a dairy-free cheese or a spoonful of hummus (hummus contains sesame).

Steps

1. **Pepper and soap test.** Fill a shallow bowl with water and shake black pepper over the top. Pretend the pepper is germs. Touch the water with a clean finger. What happens? Now put a drop of dish soap on your fingertip and touch the water again. Where did the pepper go?
2. **Wash the right way.** Wet your hands, rub on soap, and scrub the fronts, the backs, between your fingers and under your nails while you sing “Happy Birthday” two times. Rinse and dry.
3. Make the cucumber-and-cheese crackers with your grown-up.
4. **Taste test.** Taste one cracker. Is the cucumber crunchy or soft? Is the cheese salty? Ask each person in the family to give it a smiley face, a straight face or a frowny face.
5. **Make it better.** Talk about one change for next time, such as a different cheese shape or a sprinkle of dill.
6. Clean up: wipe the counter, put the cheese and cucumber back in the refrigerator, and wash your hands.

Tips

- Pepper floats on top of water. Soap spreads out fast across the water’s skin and pushes the pepper away to the sides.
- Soft cheese slices cut more easily if they are cold from the refrigerator.
- Build the crackers just before eating so they stay crisp.

Check your work

- ☐ I can wash my hands the right way for 20 seconds.

- ☐ I can tell who Antonie van Leeuwenhoek was and what he saw.
- ☐ I washed the cucumber and made crackers with clean hands.

COOK'S NOTEBOOK

1. Draw Antonie van Leeuwenhoek looking through his tiny lens, and draw the “little animals” he saw.
2. Draw your hands with soap bubbles. A grown-up writes the five handwashing steps you tell: wet, soap, scrub, rinse, dry.
3. Draw your cucumber-and-cheese cracker and the family’s faces: how many smiles?

From history. Antonie van Leeuwenhoek made more than 500 lenses in his long life, and he never told anyone exactly how he made the best ones. Some of his tiny microscopes still exist today in museums.

COMMON MISTAKES

- Washing hands too fast. A quick splash does not give soap time to work. Scrub while you sing “Happy Birthday” twice.
- Forgetting to wash fruits and vegetables. Rinse them under running water, even ones with a peel.
- Thinking that hands are clean because they look clean. Germs are too small to see.

Make it a game • Teach the Tiny Animals. Hold a paper towel tube up to your eye like Leeuwenhoek's lens. Now be the teacher. Tell your grown-up the story of the tiny living things he saw and why germs are too small to see. Your grown-up sneaks in one wrong fact, such as he used a telescope. Catch it and call, Not true!

Scripture. “The works of the LORD are great, sought out of all them that have pleasure therein.” (Psalm 111:2, KJV)

Antonie van Leeuwenhoek loved to look closely at the world God made. Even the tiniest living things are part of God’s great works.

1.2 CLEAN COUNTERS, CLEAN HANDS

OBJECTIVES

- Tell how Alexis Soyer, a famous cook, cleaned up the kitchens of a big hospital long ago.
- Show how germs can spread from hands to counters to food, and how washing stops them.
- Measure and mix a trail mix in clean bowls using scoops instead of hands.

Warm-up. Play “Where have my hands been?” Name everything your hands have touched today: a doorknob, a pet, a toy, your shoes. Should those hands go straight into the snack bowl? What should happen first?

WATCH

Food Safety in Seconds

U.S. Food and Drug Administration • 1:17

https://www.youtube.com/watch?v=iguM_pqetzo

WHEN TO WATCH

After the story. Look for each place the cooks wash: hands, cutting boards and counters.

KEY TERMS

counter

The flat top in the kitchen where we get food ready.

spread

To move from one place to another. Germs spread from hands to anything they touch.

scoop

A cup or big spoon for lifting food, so hands do not touch the food everyone shares.

CORE IDEAS

Long ago. About 170 years ago, a famous French cook named Alexis Soyer lived in London. In 1855 he heard that the kitchens at a big army hospital far away, at a place called Scutari, were dirty and the sick soldiers were not getting good food. He went

there himself. He worked beside the nurse Florence Nightingale. Together they made sure the kitchens were scrubbed, the pots were clean, and the soldiers were given good soup and fresh bread. Soyer even invented a new kind of stove for cooking that the British army used for many years.

What happens to the food? Germs ride along on hands, sponges, towels and spoons. If you touch a dirty doorknob and then grab a handful of snack, the germs go into the snack bowl and onto everyone's food. That is called **spreading** germs. Raw meat and uncooked eggs can carry germs, too, so grown-ups wash the cutting board, the counter and their hands right after touching them.

How do we stop germs? We wash our hands before we cook and before we eat. We wipe the **counter** with hot, soapy water. We start with clean bowls and spoons. And when food is for everyone to share, we use a **scoop** instead of our fingers. A clean kitchen is a kind gift to everyone who eats there.

Let's cook! You will make a trail mix for the whole family. You will wipe the counter, wash your hands, and then measure each part with a measuring cup and pour it into a big clean bowl. Your job is to keep your hands out of the food and use the scoop.

PICTURE STUDY



The Scullery Maid, Jean-Siméon Chardin, 1738 · Oil on canvas · Hunterian Art Gallery, University of Glasgow, Scotland

Image: [Wikimedia Commons](#), public domain

A scullery is the room in a big house where pots and dishes are washed. The French painter Jean-Siméon Chardin loved to paint quiet kitchen work. Here a young maid stops for a moment while she scrubs a big pot. Washing up was hard work long ago, with no faucets and no dishwashers.

Look closely

- Find the big pot. What is the maid doing to it?
- Look at the barrel. What do you think is inside it?
- Look at her apron and cap. Why would a kitchen worker wear them?
- Is anything in the picture hot? How can you tell?

Talk about it

1. Why does a cook need clean pots before cooking a new meal?
2. How do we wash pots and dishes in our house today? How is it different from long ago?
3. Who washes the dishes in your family? How could you help?

Safety first. Wash your hands before you start and after you touch anything dirty. Whole nuts and seeds can make little children under four choke, so keep the trail mix away from babies and toddlers, and check for nut and seed allergies before you choose the mix-ins.

KITCHEN PROJECT

Germes on the Move, Then Clean-Bowl Trail Mix

You will do a glitter test to see how easily “germs” spread from hand to hand and onto the counter. Then you will clean up, wash your hands, and mix a trail mix with clean cups, a clean bowl and a scoop.

You will need

- A spoonful of cooking oil or hand lotion and a pinch of glitter or ground cinnamon (for the germ test)
- A sponge or dishcloth, warm soapy water and a clean towel
- A large clean mixing bowl and a big spoon
- Measuring cups
- Six small cups, jars or bags for serving

CLEAN-BOWL TRAIL MIX

Serves 6 (about ½ cup each) · Prep 10 min

Ingredients

- 1 cup toasted oat cereal rings
- 1 cup small pretzel twists
- ½ cup raisins or dried cranberries
- ½ cup roasted sunflower seeds or pumpkin seeds
- ¼ cup chocolate chips (optional)

Method

1. Wipe the counter with warm, soapy water and dry it. Wash your hands for 20 seconds.
2. Set out a large clean bowl and a clean measuring cup.
3. Scoop the cereal with the measuring cup, level it with your hand flat over the top (not in the food), and pour it into the bowl.
4. Measure and pour in the pretzels, raisins, seeds and chocolate chips the same way.

5. Stir gently with a big spoon until everything is mixed.
6. Scoop $\frac{1}{2}$ cup into each small cup, jar or bag. No fingers in the big bowl!
7. Clean up: put away the bags and boxes, wash the bowl and cups, and wipe the counter again.

Allergy check: Contains wheat (pretzels; many cereals). Chocolate chips may contain milk and soy. Read every label for peanuts and tree nuts, which are often processed in the same factories. Sunflower and pumpkin seeds are not among the nine major allergens, but some children are allergic to them; leave them out or use more cereal. For wheat-free mix, use gluten-free pretzels and a gluten-free cereal.

Steps

1. **Glitter germ test.** A grown-up rubs a little oil or lotion on your hands and sprinkles on glitter or cinnamon. These are your pretend germs. Shake hands with someone, touch a cup and touch the counter. Where did the “germs” go?
2. Try to wipe your hands on a dry towel. Then wash them with water only. Then wash them with soap for 20 seconds. Which one took the “germs” away best?
3. Wipe the counter and the cup with warm, soapy water until the “germs” are gone.
4. Make the trail mix with clean hands and a scoop.
5. **Taste test.** Find something crunchy, something chewy and something sweet in your trail mix. Which part do you like best?
6. **Make it better.** Choose one mix-in to change next time, such as dried apple or a different cereal.
7. Clean up and wash your hands.

Tips

- Glitter is very hard to wash off. That is the point! Real germs cling to oily, dirty skin, too.
- Store leftover trail mix in a jar with a tight lid so it stays crunchy.

Check your work

- ☐ I can show how germs spread from hands to counters and food.
- ☐ I can wipe the counter and wash my hands before cooking.

- ☐ I measured and mixed a trail mix using a scoop instead of my hands.

COOK'S NOTEBOOK

1. Draw your hands covered with glitter “germs,” and then draw them clean after soap and water.
2. Draw the trail mix in its bowl. A grown-up writes down the five things you put in it.
3. Draw Alexis Soyer and the big clean pot of soup.

From history. Alexis Soyer also opened soup kitchens in Ireland in 1847, when many families there had no food because the potato crop had failed. He believed that good cooking should help everyone, not only rich people.

COMMON MISTAKES

- Reaching into a shared snack bowl with your fingers. Use a scoop or pour some into your own cup.
- Using the same dirty towel over and over. Use a clean towel or a fresh paper towel.
- Forgetting that raw meat and uncooked eggs carry germs. A grown-up washes hands, boards and counters right after touching them.

Make it a game • Follow the Flour. Your grown-up puts a pinch of flour on your hands. This is pretend germs. Touch a counter, a bowl and a spoon, then look for the white marks. Count the places the germs traveled. Now wash and dry. Where did the germs go? Tell how clean hands and clean counters stop germs from spreading.

1.3 THE REFRIGERATOR KEEPS GERMS SLOW

OBJECTIVES

- Tell how the electric refrigerator came into American kitchens about 100 years ago.
- Explain that cold slows germs down and that cold foods go back in the refrigerator within 2 hours.
- Read a refrigerator thermometer with a grown-up and make turkey-and-cheese roll-ups.

Warm-up. Open the refrigerator with a grown-up and feel the cold air. Then name five foods that live in the refrigerator and five foods that live in the pantry. Why do you think some foods need to stay cold?

WATCH

Food Safety & Hygiene for Kids! | Food Safety for Kids

Twinkl Educational Publishing · 4:15

<https://www.youtube.com/watch?v=mZIUTUBPnnw>

WHEN TO WATCH

After the story. Watch for the open refrigerator and the leftovers in covered boxes, and point to our refrigerator when you see it.

Note: From Twinkl, a British teaching-resources publisher. It covers clean hands, keeping raw meat apart, cooking, chilling and allergies. Grown-ups in our course do every hot step shown.

BACKUP VIDEO

StorageTemperature

USDA · 0:58

<https://www.youtube.com/watch?v=hvkhOHJyp38>

Before the fridge inspection, for a quick look at which foods like the cold.

KEY TERMS

refrigerator

A cold box that keeps food cool so it stays fresh and safe longer.

thermometer

A tool that tells how hot or cold something is.

degrees

The numbers on a thermometer. A refrigerator should be 40 degrees or colder.

perishable

Food that spoils quickly if it is not kept cold, such as milk, meat, cheese and eggs.

CORE IDEAS

Long ago. When your great-great-grandparents were children, most homes had no electric refrigerator. Families kept milk and butter in a cool cellar, a spring house or an icebox. Then, about 100 years ago, companies began to sell refrigerators that ran on electricity. In 1927 the General Electric company made one called the Monitor-Top. It had a round metal machine sitting on top like a hat. Families loved it, and more than a million were sold. Some of them still work today!

What happens to the food? Germs are living things, and they like to be warm. In warm food they grow and multiply very fast. In the cold, they slow way down. A refrigerator does not kill germs, but it keeps them slow and sleepy, so food stays fresh and safe longer. The refrigerator should be 40 **degrees** or colder, and the freezer should be 0 degrees.

The two-hour rule. Foods like milk, cheese, meat and eggs are **perishable**. That means they spoil if they sit out. Cooks put them back in the refrigerator within 2 hours. On a very hot day, over 90 degrees, cooks put them back within 1 hour.

Let's cook! You will make turkey-and-cheese roll-ups. First you will check the refrigerator thermometer with a grown-up. Then you will spread, layer and roll. When you are done, you will put the turkey and cheese back in the refrigerator right away.

PICTURE STUDY



Mrs. E. R. Kunz and Her Daughter at the Electric Refrigerator, Russell Lee, 1946 · Photograph · National Archives, Washington, D.C.

Image: [Wikimedia Commons](#), public domain

This photograph was taken in 1946 by Russell Lee, a photographer who traveled across America taking pictures of how families lived. The Kunz family lived in a coal-mining town. Their house did not even have running water yet, but they had an electric refrigerator, and they were proud of it. A refrigerator meant fresh milk, cold butter and safe meat every day.

Look closely

- Find the refrigerator. What shape is it? How is it different from ours?
- Find the mother and the daughter. What are they doing?
- Look at the kitchen. What else can you see?
- Find the door handle. How would you open it?

Talk about it

1. This house had no running water, but it had a refrigerator. Why do you think the family wanted a refrigerator so much?
2. What foods do you think they kept inside it?
3. Why is it important to close the refrigerator door quickly?

Safety first. A grown-up does any cutting with a sharp knife. Turkey and cheese are perishable: put them back in the refrigerator as soon as you finish, and always within 2 hours.

KITCHEN PROJECT

Check the Cold, Then Roll It Up

You will be a refrigerator inspector. With a grown-up you will check the thermometer, and you will test how fast cold milk warms up on the counter. Then you will make roll-ups and put the cold foods away quickly.

You will need

- A refrigerator thermometer or a kitchen thermometer
- Two small glasses or cups and a timer
- A cutting board, a butter knife and a sharp knife (grown-up only)
- A plate and a sheet of plastic wrap

TURKEY-AND-CHEESE ROLL-UPS

Serves 4–6 (about 24 pinwheels) · Prep 15 min · Chill 15 min (optional)

Ingredients

- 4 large soft flour tortillas (8–10 inch)
- 4 ounces ($\frac{1}{2}$ cup) cream cheese, softened
- 8 thin slices deli turkey
- 4 slices mild cheese, such as Swiss, provolone or Colby
- 1 cup baby spinach or 4 lettuce leaves, washed and dried

Method

1. Wash your hands. Lay one tortilla flat on the cutting board.
2. With a butter knife, spread 2 tablespoons of cream cheese all over the tortilla, right to the edges. The cream cheese is the glue.
3. Lay 2 slices of turkey on top, then 1 slice of cheese, then a few spinach leaves.
4. Starting at one edge, roll the tortilla up tightly, like a sleeping bag. Set it seam side down.
5. Make the other three roll-ups the same way. Put the turkey, cheese and cream cheese back in the refrigerator right now.

6. A grown-up slices each roll into 6 pinwheels with a sharp knife. (For neater slices, wrap the rolls in plastic and chill them 15 minutes first.)
7. Serve, then put any leftovers in the refrigerator. Clean up: wipe the board and counter and wash your hands.

Allergy check: Contains wheat (tortillas) and milk (cream cheese and cheese). Some deli meats contain soy; read the label. For wheat-free roll-ups, roll the turkey and cheese in a large lettuce leaf. For milk-free roll-ups, use hummus as the glue (hummus contains sesame) and leave out the cheese.

Steps

1. **Be a fridge inspector.** With a grown-up, read the thermometer in the refrigerator. Is it 40 degrees or colder? Write the number in your notebook.
2. **Warm-up test.** Pour a little cold milk into a cup and set it on the counter. Pour a little into another cup and put it in the refrigerator. After 30 minutes, touch both cups. Which is warmer? Which one would germs like better?
3. Make the roll-ups with your grown-up. Set a timer as soon as the turkey comes out, and see how quickly you can put it back.
4. **Taste test.** Taste one pinwheel. Can you taste the turkey, the cheese and the cream cheese? Give it a family rating.
5. **Make it better.** Think of one change for next time, such as ham instead of turkey or a thin slice of cucumber inside.
6. Clean up: pour the counter milk down the drain, wash the cups, wipe the counter and wash your hands.

Tips

- Cream cheese spreads much more easily if it sits out for about 15 minutes first.
- Rolling tightly keeps the pinwheels from falling apart.

Check your work

- ☐ I can tell why we keep milk, meat and cheese cold.
- ☐ I can say the two-hour rule.
- ☐ I checked the refrigerator thermometer and put the cold foods away quickly.

COOK'S NOTEBOOK

1. Draw our refrigerator and the old Monitor-Top refrigerator side by side.

2. Draw the thermometer and write the number it showed (a grown-up can help).
3. Draw a pinwheel roll-up from the end, so you can see the swirl inside.

COMMON MISTAKES

- Leaving the milk or meat on the counter during a long meal. Put it back within 2 hours.
- Holding the refrigerator door open while you decide. Decide first, then open and close quickly.
- Thinking the refrigerator kills germs. It only slows them down, so old leftovers still need to be thrown out.

Make it a game • Cold Truths. Play two truths and a tall tale about the refrigerator. Tell your grown-up three sentences: two true, one silly. Use what you learned, like cold slows germs down, the electric refrigerator came about 100 years ago, and cold foods go back fast. Your grown-up guesses the tall tale. Then switch.

1.4 A SAFE KITCHEN HELPER

OBJECTIVES

- Name the kitchen jobs a first grader does and the jobs only a grown-up does.
- Show the safe way to stand, the kid-free zone around the stove, and why pot handles are turned in.
- Crack and whisk eggs for scrambled eggs while a grown-up does the cooking.

Warm-up. Make two piles of pictures or two lists with a grown-up: “My jobs” and “Grown-up jobs.” Where do these go: washing lettuce, using a sharp knife, stirring cold batter, lifting a hot pan, setting the table, turning on the stove?

WATCH

I Spy Cooking Safety

NFPA Kids • 2:41

<https://www.youtube.com/watch?v=2UBYautmHgk>

WHEN TO WATCH

After the story. Play “I spy” along with the video, and point to each kitchen danger before the video names it.

KEY TERMS

kid-free zone

A space of about 3 feet (one big step) around the stove where children do not go while it is on.

pot handle

The long handle on a pot or pan. Cooks turn it in toward the back of the stove so no one bumps it.

whisk

To stir quickly to mix and add air. Also the name of the wire tool you use.

helper

Someone who does his or her own job well and listens to the leader.

CORE IDEAS

The story. Firefighters know a lot about kitchens. The National Fire Protection Association, a group that has worked for more than 100 years to keep people safe from fires, says that cooking is the number one cause of fires in homes. So firefighters teach children a simple rule: stay at least 3 feet away from the stove and oven while they are on. That space is called the **kid-free zone**.

Grown-up jobs and helper jobs. In a good kitchen, everyone has a job. Grown-ups use the stove, the oven, the toaster, the microwave and sharp knives. A first grade **helper** washes, tears, measures, pours, stirs cold food, spreads, mashes, shakes, cracks eggs and sets the table. A good helper listens to the leader, keeps hands clean, stands on a steady step stool away from the stove, and asks before touching anything.

What happens to the food? Today you will watch eggs change. Uncooked eggs are runny and clear and yellow. When a grown-up cooks them in a hot pan, the heat makes them turn solid and fluffy. Eggs must be cooked until no runny egg is left, because uncooked eggs can carry germs. That is also why we never taste uncooked egg, and why we wash our hands after cracking eggs.

Let's cook! You will crack the eggs, fish out any bits of shell, add the milk and whisk. Then you will step back to your safe spot and watch while a grown-up cooks the eggs and turns the pot handle in.

PICTURE STUDY



Kitchen Scene with Christ in the House of Martha and Mary, Diego Velázquez, 1618 · Oil on canvas ·
National Gallery, London

Image: [Wikimedia Commons](#), public domain

The Spanish painter Diego Velázquez painted this when he was only about nineteen years old. In front, a young kitchen helper is pounding garlic in a mortar, a heavy bowl for crushing. An older woman behind her is pointing and telling her something. Through an opening at the back you can see Jesus visiting the house of Martha and Mary, from a story in the Gospel of Luke.

Look closely

- Find the four fish and the two eggs on the table. What could the cook make with them?
- Find the mortar and the tool the girl uses to pound the garlic.
- Look at the older woman's finger. What do you think she is telling the girl?
- Find Jesus in the little picture at the back. Who is sitting near Him?

Talk about it

1. The young helper does not look happy. How can a kitchen helper keep a cheerful heart?
2. Why is it wise for a young cook to listen to an older cook?
3. What jobs do you do when you help in our kitchen?

Safety first. Only a grown-up uses the stove. Stay in your safe spot, at least 3 feet from the stove, while the eggs cook. Never taste uncooked egg, and wash your hands with soap after cracking eggs.

KITCHEN PROJECT

Crack, Whisk and Watch: Scrambled Eggs

You will practice being a safe helper. First you will set up your safe spot and mark the kid-free zone. Then you will crack and whisk the eggs, and watch from your spot as a grown-up turns them into fluffy scrambled eggs.

You will need

- A step stool, set at the counter away from the stove
- Painter's tape or a dish towel to mark the kid-free zone on the floor
- A medium bowl, a fork or whisk, and a small spoon for fishing out shells
- A nonstick skillet and a heat-proof spatula (grown-up only)

FLUFFY SCRAMBLED EGGS

Serves 4 · Prep 5 min · Cook 5 min

Ingredients

- 8 large eggs
- ¼ cup milk
- ¼ teaspoon salt
- 1 tablespoon butter
- ½ cup grated cheddar cheese (optional)

Method

1. Wash your hands. Tap one egg on the flat counter until it cracks. Hold it over the bowl, put your thumbs in the crack, and pull the shell apart. Crack all 8 eggs this way.
2. Look for bits of shell. Scoop them out with a spoon (not your fingers).
3. Wash your hands with soap, because uncooked egg can carry germs.
4. Add the milk and salt. Whisk with a fork or whisk until the yellow and the white are all mixed and a little foamy.
5. Go to your safe spot. A grown-up melts the butter in the skillet over medium-low heat, pours in the eggs, turns the handle in, and gently pushes the eggs across the pan with the spatula.

6. The grown-up cooks the eggs until they are set and no runny egg is left, about 3–5 minutes (egg dishes should reach 160 °F). If you like, the grown-up stirs in the cheese at the end.
7. When the eggs are on the plates, you may come and sprinkle on a little more cheese. Clean up: put away the milk and eggs, throw the shells in the trash, and wipe the counter.

Allergy check: Contains eggs and milk. For a milk-free version, leave out the milk and cheese and use olive oil instead of butter. There is no easy swap for the eggs; a family with an egg allergy can make a toast-and-fruit breakfast instead and practice the helper rules.

Steps

1. **Mark the zone.** With a grown-up, take one big step (about 3 feet) away from the stove and mark the floor with tape or a towel. This is the kid-free zone line.
2. **Helper check.** Before you start, tie back long hair, push up your sleeves, wash your hands and set your step stool in its safe spot.
3. Crack and whisk the eggs for the recipe. Then watch from your safe spot while a grown-up cooks.
4. **Watch closely.** Tell what the eggs look like at the start (runny and shiny), in the middle, and at the end (fluffy and solid). Why did they change?
5. **Taste test.** Are the eggs soft or firm? Do they need a pinch of salt? Give them a family rating.
6. **Make it better.** Talk about one change for next time, such as cheese, chopped chives or a different shape on the plate.
7. Clean up together: wash the bowl and whisk, wipe the counter, and wash your hands.

Tips

- Cracking an egg on the flat counter, not the edge of the bowl, makes fewer shell pieces.
- A bit of shell is easier to catch with a larger piece of eggshell than with a spoon.

Check your work

- ☐ I can name my kitchen jobs and the grown-up jobs.

- ☐ I can show the kid-free zone and tell why pot handles are turned in.
- ☐ I cracked and whisked eggs and washed my hands afterward.

COOK'S NOTEBOOK

1. Draw our kitchen from above, with the stove and the kid-free zone around it, and your safe spot.
2. Draw the eggs three times: raw and runny, starting to cook, and fluffy on the plate.
3. A grown-up writes down your three favorite helper jobs.

COMMON MISTAKES

- Standing too close to the stove to see better. Watch from your safe spot; a grown-up can tip the pan to show you.
- Tasting the uncooked egg mixture. Uncooked eggs can carry germs; wait for the cooked eggs.
- Leaving a pot handle sticking out over the edge of the stove, where someone can bump it.

Make it a game • Helper or Grown-Up? Act out a kitchen job without talking, such as stirring, pouring milk, or lifting a hot pot. Your grown-up guesses the job and calls out, Helper job or Grown-up job. Then place a cold empty pot on the stove and turn the handle in. Stand on your step stool and show your safe helper stance.

Scripture. “My son, hear the instruction of thy father, and forsake not the law of thy mother:” (Proverbs 1:8, KJV)

A good kitchen helper listens. When we follow the safety rules our parents teach, we honor them and keep everyone safe.

UNIT 1

A CLEAN, SAFE KITCHEN

Before a cook makes anything, a cook gets ready. In this unit you will meet a man who looked through a tiny lens and saw living things so small that no one had ever seen them before. You will learn that germs are everywhere, that soap and water wash them away, and that clean hands, clean counters and clean bowls are the first step in every recipe.

You will also learn how the cold refrigerator keeps food fresh and safe, and how to be a good kitchen helper: you wash, measure, stir and pour, and a grown-up does the hot jobs and the sharp jobs while you watch from a safe spot. By the end of the unit you will have made four snacks for your family and a chart to help everyone wash up.

PREREQUISITES

- Can wash and dry hands at the sink with a step stool
- Can listen to a short story and tell it back
- Knows to ask a grown-up before touching anything in the kitchen

MASTERY CHECKLIST

- ☐ I can tell the story of Antonie van Leeuwenhoek and the tiny living things he saw.
- ☐ I can wash my hands the right way: wet, soap, scrub for 20 seconds, rinse and dry.
- ☐ I can help keep counters, bowls and spoons clean while we cook.
- ☐ I can tell why we put cold foods back in the refrigerator quickly.
- ☐ I can name three kitchen jobs I do and three jobs only a grown-up does.

OPTIONAL BOOKS AND TOOLS FOR THIS UNIT

- **A refrigerator thermometer:** Inexpensive and found at most grocery and hardware stores. Hang it in the refrigerator for Lesson 1.3 and check that it reads 40 °F or colder.
- **NFPA’s Sparky the Fire Dog: Sparky.org:** Free fire-safety games, coloring pages and short videos for children from the National Fire Protection Association. Helpful with Lesson 1.4.
- **A plastic or nylon “kid knife”:** Made for young children. It cuts soft foods such as bananas, strawberries and cheese slices but not fingers. Used throughout the year.

Not required. Every recipe in this unit works in an ordinary home kitchen.

School Launch has no ties to these authors, publishers or companies.

LESSONS IN THIS UNIT

1.1	Antonie van Leeuwenhoek Sees Tiny Animals	2 sessions of 30–40 minutes
1.2	Clean Counters, Clean Hands	2 sessions of 30–40 minutes
1.3	The Refrigerator Keeps Germs Slow	2 sessions of 30–40 minutes
1.4	A Safe Kitchen Helper	2 sessions of 30–40 minutes

UNIT 1 REVIEW

A parent asks each question aloud. Your child may answer by telling, pointing, showing or drawing. There are no points; this is a friendly conversation to see what has been learned. Have soap, a towel and the refrigerator thermometer nearby.

1. Who was Antonie van Leeuwenhoek, and what did he see through his tiny lens?
2. Show me how to wash your hands the right way. How long do you scrub?
3. Why do we use a scoop instead of our hands when we share a snack?
4. Why do we keep milk, meat and cheese in the refrigerator? How cold should it be?
5. Show me the kid-free zone around our stove. How big is it?

6. Name three jobs you can do in the kitchen and three jobs only a grown-up does.

ANSWER KEY

1. He was a cloth seller in Delft who made tiny lenses. He saw tiny living things, “little animals,” in water and in the stuff from his teeth. We call many of them germs.
2. Wet, soap, scrub the fronts, backs, between the fingers and under the nails, rinse and dry. Scrub for 20 seconds, as long as singing “Happy Birthday” twice.
3. Our hands can carry germs. A scoop keeps the germs on our hands out of everyone’s food.
4. Cold slows germs down so the food stays fresh and safe. The refrigerator should be 40 degrees or colder.
5. About 3 feet, one big step, all the way around the stove and oven while they are on.
6. Child: washing, measuring, pouring, stirring cold food, spreading, cracking eggs, setting the table. Grown-up: using the stove, oven, toaster, microwave and sharp knives, lifting hot pans.

UNIT CHALLENGE: OUR FAMILY CLEAN-HANDS CHART AND KITCHEN RULES

Make a poster for the kitchen with five pictures that show the handwashing steps: wet, soap, scrub, rinse, dry. Hang it by the sink. For one week, put a sticker or check on the chart each time someone in the family washes up before cooking or eating.

Then, with a grown-up, check the refrigerator thermometer and write down the number, and make a second small poster of “Helper jobs” and “Grown-up jobs.” At the end of the week, make one of this unit’s snacks for your family and show everyone your charts.

LOOK FOR	WHAT IT MEANS
Handwashing poster	Shows all five steps in order, drawn by the child, and hangs where the family can use it.
One week of washing	The chart was kept for the whole week, and the child reminded others kindly.
Refrigerator check	The child read the thermometer with a grown-up and can tell whether it was cold enough.
Kitchen helper rules	The child can explain which jobs are his or hers and which belong to a grown-up, and follows the kid-free zone.
Snack and cleanup	Made the snack with clean hands and helped clean up afterward.

UNIT 2

FOOD GROUPS & A BALANCED PLATE

God made a world full of good things to eat: crunchy carrots, red strawberries, golden wheat, creamy milk and much more. In this unit you will learn the five food groups on MyPlate: fruits, vegetables, grains, protein and dairy. Each group gives your body something different it needs to grow, run, think and play.

You will visit Thomas Jefferson's long vegetable garden, meet the milkman who once brought fresh milk to the door each morning, and follow wheat from the field to the loaf, just like the Little Red Hen. Along the way you will build a balanced snack plate, rainbow wraps, a fruit smoothie and sandwiches cut into shapes, and you will learn to look at a plate and ask, "Is every group here?"

PREREQUISITES

- Washes hands the right way before cooking (Unit 1)
- Knows the kid-free zone and the helper jobs (Unit 1)
- Puts cold foods back in the refrigerator (Unit 1)

MASTERY CHECKLIST

- ☐ I can name the five food groups and point to each one on a MyPlate picture.
- ☐ I can name two foods from each food group.
- ☐ I can tell why it is good to eat fruits and vegetables of many colors.
- ☐ I can tell how wheat becomes flour and bread.
- ☐ I can build a balanced plate with foods from all five groups.

OPTIONAL BOOKS AND TOOLS FOR THIS UNIT

- **MyPlate for Kids (USDA, at MyPlate.gov):** Free from the U.S. Department of Agriculture: search MyPlate.gov for the kids' pages with MyPlate coloring sheets, activity pages and a printable plate. Helpful for Lesson 2.1 and the unit challenge.
- **A divided plate or a paper plate marked into sections:** Draw lines on a paper plate to make five spaces, one for each food group, for Lesson 2.1 and the unit challenge.
- ***The Little Red Hen*, any traditional retelling:** The old folk tale, found at most libraries in many picture-book versions (Paul Galdone's is a classic). Read it before Lesson 2.4.

Not required. Every recipe in this unit works in an ordinary home kitchen.

School Launch has no ties to these authors, publishers or companies.

LESSONS IN THIS UNIT

2.1	God Made Good Food: The Five Food Groups	2 sessions of 30–40 minutes
2.2	Fruits and Vegetables Are Colorful	2 sessions of 30–40 minutes
2.3	Milk and Cheese for Strong Bones	2 sessions of 30–40 minutes
2.4	Grains Give Energy: From Field to Loaf	2 sessions of 30–40 minutes

UNIT 2 REVIEW

A parent asks each question aloud. Your child may answer by telling, pointing, showing or drawing. There are no points; this is a friendly conversation to see what has been learned. Have a MyPlate picture or a paper plate and a few foods from the kitchen ready.

1. Point to the five food groups on MyPlate and name them.
2. Here are some foods from our kitchen. Put each one in its food group.
3. Why is it good to eat fruits and vegetables of many colors?
4. Tell me about Thomas Jefferson's garden.

5. What does calcium do, and where can we get it?
6. Tell me how wheat becomes bread.

ANSWER KEY

1. Fruits, vegetables, grains, protein and dairy (the cup on the side).
2. For example: apple in fruits, carrot in vegetables, bread in grains, egg or beans in protein, cheese in dairy.
3. Each color brings different vitamins and helpers, so many colors give the body many kinds of help.
4. At Monticello in Virginia he had a garden about 1,000 feet long and grew about 330 kinds of vegetables. He wrote everything in a garden book.
5. It helps build strong bones and teeth. Milk, cheese, yogurt and some other foods, such as fortified soy milk and leafy greens, have calcium.
6. A farmer plants and harvests the wheat, the grains are ground into flour at a mill, and a baker mixes and bakes the flour into bread.

UNIT CHALLENGE: A BALANCED PLATE FOR EVERYONE

Plan and make a balanced lunch for your family. With a grown-up, choose one food from each of the five food groups, help write the shopping list, and make the lunch together: wash the fruits and vegetables, spread, assemble and set out the plates.

Before everyone eats, check each plate with your MyPlate drawing and point to all five groups. Take a photo or draw the plate in your notebook, and ask each person to give it a smiley-face rating. Say thank you to God for the food together.

LOOK FOR	WHAT IT MEANS
Five groups	Every plate had a fruit, a vegetable, a grain, a protein and a dairy food (or a safe swap).
Helping and safety	The child washed hands and produce, used only safe tools, and let a grown-up do any hot or sharp jobs.
Notebook page	A drawing or photo of the plate with the five groups named (a grown-up may write).
Thanks and cleanup	The family gave thanks, and the child helped put food away and clean up.

2.1 GOD MADE GOOD FOOD: THE FIVE FOOD GROUPS

OBJECTIVES

- Tell that food is God’s good gift and name the five food groups on MyPlate.
- Sort foods from the kitchen into the five groups.
- Build a balanced snack plate with a food from every group.

Warm-up. Bring five foods from the kitchen to the table with a grown-up, such as an apple, a carrot, a slice of bread, an egg and a cup of yogurt. How are they different? Can you sort them into families?

WATCH

The 5 Fabulous Food Groups

SciShow Kids · 4:31

<https://www.youtube.com/watch?v=L9ymkJK2QCU>

WHEN TO WATCH

After the story. Each time Jessi names a food group, hold up the food from the table that belongs to it.

KEY TERMS

food group

A family of foods that give our bodies the same kinds of help.

MyPlate

A picture of a plate made by the U.S. Department of Agriculture in 2011 to show the five food groups in a balanced meal.

balanced

Having some of each kind. A balanced plate has foods from all five groups.

nourish

To feed the body what it needs to grow and stay strong.

CORE IDEAS

In the beginning. On the third day of creation, God made plants that grow seeds and trees that bear fruit. Then He told the first people, “Behold, I have given you every herb bearing seed ... and every tree.” Food is God’s good gift. Every apple, every grain of wheat and every drop of milk comes from the world He made.

The story. For a long time, people in America have tried to show children how to eat a good mix of foods. In 1943 the government made a chart with seven food groups. Later came a pyramid. In 2011 the U.S. Department of Agriculture made a simpler picture called **MyPlate**. It shows a plate cut into four parts, fruits, vegetables, grains and protein, with a cup of dairy on the side.

What does each group do? **Fruits** and **vegetables** give vitamins that help you stay well and see well, and fiber that keeps your tummy working. **Grains**, such as bread, oatmeal and rice, give you energy to run and play. **Protein**, such as eggs, beans, meat, fish and nuts, helps build strong muscles. **Dairy**, such as milk, cheese and yogurt, helps build strong bones and teeth. Half the plate is fruits and vegetables.

Let's cook! You will build a balanced snack plate for each person in your family. You will wash the fruits and vegetables, arrange one food from each group in its own space, and check: is every group here?

PICTURE STUDY



Market Woman at a Vegetable Stall, Pieter Aertsen, 1567 · Oil on wood · Gemäldegalerie, Berlin

Image: [Wikimedia Commons](#), public domain

Pieter Aertsen lived in the Netherlands more than 450 years ago. He painted busy markets where farmers sold what they had grown. This market woman reaches out over her piles of vegetables and fruit, as if she is inviting us to buy. The foods look so real that you could almost pick one up.

Look closely

- Find as many vegetables as you can. Can you name them?
- Find something round and green, something long and orange, and something white.
- Find a basket of fruit. Which food group is it in?
- Look at the woman's hands. What might she be doing?

Talk about it

1. Which food groups can you find in this market? Which ones are missing?
2. If you were shopping at her stall, what would you buy for a balanced supper?
3. Who grew all this food? Who made it grow?

Safety first. A grown-up cuts any foods that need a sharp knife, such as apples. Check the plate for your family's food allergies before you serve it. Cut grapes in half for any children under four.

KITCHEN PROJECT

Sort It, Then Build a Balanced Snack Plate

First you will play a sorting game with real foods from your kitchen. Then you will use what you learned to build a balanced snack plate for each person, with one food from each group.

You will need

- Five sheets of paper labeled Fruits, Vegetables, Grains, Protein and Dairy
- Paper plates, divided plates or small plates (one for each person)
- A colander for washing fruits and vegetables
- A cutting board and sharp knife (grown-up only)

FIVE-GROUP SNACK PLATES

Serves 4 • Prep 15 min

Ingredients

- Fruit: 1 cup strawberries or blueberries, or 1 apple (sliced by a grown-up)
- Vegetables: 1 cup baby carrots, sugar snap peas or cucumber rounds
- Grains: 16 whole-grain crackers
- Protein: 2 hard-cooked eggs (cooked and peeled by a grown-up and cut in half), or ½ cup hummus, or 4 slices of turkey
- Dairy: 4 ounces mild cheese, cut into cubes, or four small cups of yogurt

Method

1. Wash your hands. Put the fruits and vegetables in a colander and rinse them under cool running water, rubbing each one gently. Pat them dry.
2. A grown-up slices the apple or cucumber, if you are using them, and cuts the eggs.
3. Set out one plate for each person. Put the fruit in one space on each plate.
4. Add the vegetables, then the crackers, then the protein, then the dairy, each in its own space.

5. Check each plate: point to all five groups and say their names.
6. Serve the plates. Put the cheese, eggs and turkey back in the refrigerator.
7. Clean up: rinse the colander, wipe the counter and wash your hands.

Allergy check: May contain wheat (crackers), eggs, milk (cheese, yogurt) and sesame (hummus). Read cracker labels for soy, sesame and nuts. Choose the foods in each group that are safe for your family: rice crackers for wheat, turkey or beans for eggs, and a fortified soy or oat yogurt for milk (soy is a major allergen).

Steps

1. **Sorting game.** Gather ten foods from the kitchen. Put each one on the right paper: Fruits, Vegetables, Grains, Protein or Dairy. A grown-up can help with tricky ones (Beans go in protein! Cheese goes in dairy!).
2. Build the snack plates with your grown-up.
3. **Count the colors.** How many colors are on your plate? Which group has the most color?
4. **Taste test.** Take one bite from each group. Which group was crunchiest? Which was the creamiest? Ask your family to rate the plates.
5. **Make it better.** Choose one food to trade next time, such as pear slices for the apple or yogurt for the cheese.
6. Clean up together and wash your hands.

Tips

- If you do not have a divided plate, draw lines on a paper plate with a marker.
- Hard-cooked eggs can be made the day before by a grown-up and kept in the refrigerator.

Check your work

- ☐ I can name the five food groups.
- ☐ I sorted foods into the right groups.
- ☐ I built a snack plate with all five groups.

COOK'S NOTEBOOK

1. Draw a big MyPlate: a plate with four parts and a cup on the side. Draw a food you like in each part.

2. Draw your snack plate. A grown-up writes the name of each food group next to it.
3. Draw one food you would like to try from a group you do not eat very often.

COMMON MISTAKES

- Thinking beans and eggs are vegetables. On MyPlate they are in the protein group (beans can count as vegetables too).
- Filling a plate with only one or two groups. Look for all five.
- Calling foods “good” or “bad.” Every group has a job, and some foods are everyday foods while others are sometimes foods.

Make it a game • Five Group Plate Dash. Draw a big circle on paper and divide it into five parts, one for each food group. Your grown-up counts sixty seconds while you draw or write foods in the right part: fruits, vegetables, grains, protein, dairy. Count your foods. Next time, try to beat your score. Say that God made them all.

Scripture. “And God said, Behold, I have given you every herb bearing seed, which is upon the face of all the earth, and every tree, in the which is the fruit of a tree yielding seed; to you it shall be for meat.” (Genesis 1:29, KJV)

In the King James Bible, “meat” means food of any kind. From the very beginning, God gave people good food to eat.

2.2 FRUITS AND VEGETABLES ARE COLORFUL

OBJECTIVES

- Tell how Thomas Jefferson grew many kinds of vegetables in his long garden at Monticello.
- Explain that fruits and vegetables of different colors help the body in different ways.
- Wash, tear, spread and roll colorful vegetable wraps.

Warm-up. Go on a color hunt in the refrigerator and the fruit bowl with a grown-up. Can you find a red food, an orange food, a yellow food, a green food and a purple or blue food?

WATCH

The Vegetable Garden at Monticello

Thomas Jefferson's Monticello • 2:04

<https://www.youtube.com/watch?v=hdUlevoomYk>

WHEN TO WATCH

After the story. Look for the long garden on the hillside and count how many different plants you can see.

KEY TERMS

vegetable

A part of a plant we eat, such as a leaf (lettuce), a root (carrot) or a stem (celery).

fruit

The part of a plant that holds the seeds, such as an apple, a berry or a tomato.

variety

One kind of plant. There are many varieties of beans, from green beans to black beans.

vitamins

Tiny helpers in food that keep your eyes, skin, blood and whole body working well.

CORE IDEAS

Long ago. Thomas Jefferson wrote the Declaration of Independence and became the third President of the United States. But he also loved his garden. At his home on a

Virginia hilltop, called Monticello, he had a vegetable garden about 1,000 feet long, as long as three football fields. He grew about 330 different **varieties** of vegetables there, from peas and beans to tomatoes, cabbages and peppers.

How did he learn? Jefferson kept a garden book for nearly 60 years. In it he wrote down when he planted each seed, when the first peas were ready to eat, and which plants grew best. He traded seeds with friends near and far and tried new vegetables to see what would grow. When he was an old man, he wrote that he was still “but a young gardener,” because there was always more to learn.

What happens in the food? God made fruits and vegetables in every color of the rainbow. The colors come from different natural helpers inside the plants. Orange carrots and sweet potatoes help your eyes. Red tomatoes and strawberries, green spinach and broccoli, and purple cabbage and blueberries each bring their own **vitamins** and helpers. When you eat many colors, your body gets many kinds of help.

Let's cook! You will make rainbow vegetable wraps. You will wash the vegetables, tear the spinach, mash an avocado, spread it on a soft tortilla, lay on stripes of color, and roll it up. A grown-up slices the pepper and cucumber with a sharp knife.

PICTURE STUDY



The Kitchen Maid, Jean-Siméon Chardin, 1738 · Oil on canvas · National Gallery of Art, Washington, D.C.

Image: [Wikimedia Commons](#), public domain

A kitchen maid has been peeling turnips, a white root vegetable. She has stopped for a moment and is looking off into space. Maybe she is resting, or thinking. Chardin painted the turnips, the pot and the cutting block very simply, so we notice how quiet and peaceful ordinary kitchen work can be.

Look closely

- Find the turnips. Which ones are peeled and which are not?
- Find the copper pot. What might she cook the turnips in?
- Look at her big white apron. Why does a cook wear one?
- What is she holding in her hands? Who uses a sharp knife in our kitchen?

Talk about it

1. A turnip is a root. Which other vegetables are roots?
2. What colors do you see in this picture? Is it a rainbow of colors, or a few quiet ones?
3. What do you think she is thinking about?

Safety first. A grown-up slices the bell pepper and cucumber with a sharp knife. You may cut a soft avocado half with a butter knife after a grown-up has taken out the pit. Wash all the vegetables before you use them.

KITCHEN PROJECT

Eat a Rainbow: Rainbow Vegetable Wraps

You will lay out vegetables in rainbow order and count your colors. Then you will build wraps with stripes of red, orange, yellow, green and purple.

You will need

- A colander and clean towel
- A small bowl and a fork for mashing
- A butter knife or kid knife
- A cutting board and sharp knife (grown-up only)

RAINBOW VEGGIE WRAPS

Serves 4 · Prep 20 min

Ingredients

- 4 large soft flour or whole-wheat tortillas
- 1 ripe avocado (or ½ cup hummus or cream cheese)
- 1 red bell pepper
- 1 cup grated carrots (from a bag)
- 1 small yellow bell pepper or ½ cup canned corn, drained
- 1 cup baby spinach leaves
- 1 cup thinly sliced purple cabbage (from a bag of coleslaw mix)
- ½ small cucumber
- A pinch of salt and a squeeze of lemon or lime juice

Method

1. Wash your hands. Rinse the peppers, cucumber and spinach under cool running water. Pat them dry.
2. A grown-up cuts the peppers into thin strips and the cucumber into thin sticks, and cuts the avocado in half and takes out the pit.
3. Scoop the avocado into a bowl with a spoon. Add the salt and lemon juice and mash it with a fork until smooth.

4. Lay a tortilla on the board. Spread one-quarter of the avocado over it with a butter knife.
5. Lay stripes of color across the middle: red pepper, orange carrots, yellow pepper or corn, green spinach and cucumber, and purple cabbage.
6. Fold in the sides, then roll the tortilla up tightly from the bottom. A grown-up can cut it in half on a slant so the rainbow shows.
7. Clean up: put the leftover vegetables away, wipe the board and counter, and wash your hands.

Allergy check: Contains wheat (tortillas). Cream cheese contains milk, and hummus contains sesame. For a wheat-free wrap, use a large lettuce leaf or a gluten-free tortilla. Avocado alone is free of the nine major allergens.

Steps

1. **Rainbow line-up.** Before you cook, set the washed vegetables on the counter in rainbow order: red, orange, yellow, green, purple. Count them.
2. Make the wraps with your grown-up.
3. **Look inside.** After the grown-up cuts the wrap in half, count the colors you can see in the cut end.
4. **Taste test.** Taste each color by itself first. Which is crunchiest? Which is sweetest? Then taste the whole wrap. Give it a family rating.
5. **Make it better.** Choose one color to change next time, such as tomato for red or blueberries on the side for blue.
6. Clean up together and wash your hands.

Tips

- An avocado is ripe when it gives a little when you press it gently.
- Warm tortillas roll more easily. A grown-up can warm them for 10 seconds in the microwave.

Check your work

- ☐ I can tell about Thomas Jefferson's long vegetable garden.
- ☐ I can name a fruit or vegetable for each color of the rainbow.
- ☐ I built a rainbow wrap with my grown-up.

COOK'S NOTEBOOK

1. Draw a rainbow, and in each stripe draw a fruit or vegetable of that color.
2. Draw your wrap cut in half, with all the colors showing.
3. Draw Thomas Jefferson's long garden and a row of your favorite vegetable.

From history. Monticello's gardeners still grow many of the same vegetables Thomas Jefferson grew, using his garden book as a guide, and visitors can walk along the long garden today.

COMMON MISTAKES

- Skipping the washing step because the vegetables came in a bag. Rinse loose produce; bagged greens marked "pre-washed" are ready to use.
- Overfilling the wrap so it will not roll. A thin stripe of each color is plenty.
- Thinking that a tomato is only a vegetable. It holds seeds, so it is a fruit too, though cooks use it like a vegetable.

Make it a game • Jefferson's Long Garden. Tape paper sheets end to end to make a long garden bed. Plant it by drawing one fruit or vegetable on each sheet. No color or kind can repeat, because variety is the rule. Your grown-up picks a plant and asks its color. Count your colors, and tell what colorful foods do for your body.

2.3 MILK AND CHEESE FOR STRONG BONES

OBJECTIVES

- Tell how the milkman delivered fresh milk to homes long ago.
- Explain that dairy foods give calcium, which helps build strong bones and teeth.
- Measure, pour and help make a fruit smoothie while a grown-up runs the blender.

Warm-up. Feel your arm, your knee and your teeth. These hard parts are your bones and teeth. What do you think helps them grow strong? Now look in the refrigerator for every food that was made from milk.

WATCH

Milk's Journey From Farm to Table

Nevada Dairy Farmers • 2:46

<https://www.youtube.com/watch?v=Qt8SqUB386k>

WHEN TO WATCH

After the story. Watch the milk travel from the farm to the store, and count the steps.

KEY TERMS

dairy

Milk and foods made from milk, such as cheese and yogurt.

calcium

A mineral in milk, cheese, yogurt and some green vegetables that helps build strong bones and teeth.

yogurt

Milk that has been thickened by good, helpful tiny living things. It tastes a little sour.

smoothie

A thick, cold drink made by blending fruit with milk or yogurt.

CORE IDEAS

Long ago. About 100 years ago, many American families did not buy milk at the store. Early every morning, the milkman came down the street with a wagon pulled by a horse. He carried glass bottles of fresh milk to each door and took away the

empty bottles to be washed and filled again. Some milk horses learned the route so well that they walked to the next house and stopped all by themselves!

Where does milk come from? Milk comes from cows, goats and sheep. On a dairy farm, the cows are milked every day. The milk is kept very cold and carried to a dairy, where it is heated just enough to kill harmful germs, cooled again, and put into bottles and cartons. Cooks turn milk into butter, cheese and **yogurt**.

What does dairy do for you? Milk, cheese and yogurt give your body **calcium**. Your body uses calcium to build strong bones and teeth, and your bones are growing every year. Dairy foods also have protein. Families who do not drink cow's milk can get calcium from fortified soy milk, some leafy greens, beans and other foods.

Let's cook! You will make a strawberry-banana smoothie. You will peel and break the banana, measure the yogurt, pour the milk and add the frozen berries. A grown-up puts the lid on and runs the blender while you watch.

PICTURE STUDY



The Milkmaid, Johannes Vermeer, about 1657–1658 · Oil on canvas · Rijksmuseum, Amsterdam

Image: [Wikimedia Commons](#), public domain

This is one of the most famous kitchen paintings in the world. A Dutch kitchen maid stands by a sunny window and pours milk from a jug into a bowl, slowly and carefully. Bread waits on the table. Johannes Vermeer painted the light so that the bread and the milk almost seem to glow.

Look closely

- Find the stream of milk. How fast is she pouring it?
- Find the bread. Is it in a basket, on the table, or both?
- Where is the light coming from?
- Look at her sleeves. Why has she pushed them up?

Talk about it

1. Why does a good cook pour slowly and carefully?
2. What do you think she will make with the milk and the bread?
3. Where did her milk come from? Where does ours come from?

Safety first. Only a grown-up uses the blender, and the lid stays on until the blades stop. Keep your hands out of the blender jar. Check for milk allergies before serving.

KITCHEN PROJECT

Dairy Detective and a Strawberry-Banana Smoothie

You will be a dairy detective and find every food made from milk in your kitchen. Then you will measure and pour the parts of a smoothie and watch how blending turns solid fruit into a smooth drink.

You will need

- A blender with a lid (grown-up only)
- Measuring cups
- Four small glasses

STRAWBERRY-BANANA SMOOTHIE

Serves 4 (about 1 cup each) · Prep 10 min

Ingredients

- 1 ripe banana
- 1 cup plain or vanilla yogurt
- 1 cup milk
- 1½ cups frozen strawberries
- 1 teaspoon honey (optional; never give honey to a baby under one year old)

Method

1. Wash your hands. Peel the banana and break it into 4 pieces. Drop them into the blender jar.
2. Measure the yogurt and spoon it in. Measure the milk and pour it in slowly.
3. Measure the frozen strawberries and add them. Add the honey if you like.
4. A grown-up puts the lid on tight and blends until smooth, about 1 minute. Watch from your spot and listen to the sound change as the berries get chopped.
5. The grown-up pours the smoothie into the glasses.

6. Serve right away. Put the yogurt and milk back in the refrigerator.
7. Clean up: a grown-up rinses the blender jar (the blades are sharp). You rinse the measuring cups and wipe the counter.

Allergy check: Contains milk. For a milk-free smoothie, use a fortified soy milk and soy yogurt (soy is a major allergen) or oat milk and a dairy-free yogurt. Honey should never be given to babies under one year old.

Steps

1. **Dairy detective.** Search the refrigerator with a grown-up and find every food made from milk. Lay them out (then put them right back). How many did you find?
2. **Before and after.** Feel a frozen strawberry and look at a piece of banana. What do you think they will be like after blending?
3. Make the smoothie with your grown-up.
4. **Taste test.** Is it thick or thin? Cold or warm? Sweet or a little sour? Give it a family rating.
5. **Make it better.** Choose one change for next time, such as blueberries instead of strawberries or a handful of spinach (it turns the smoothie green but you can hardly taste it!).
6. Clean up together and wash your hands.

Tips

- Frozen fruit makes a smoothie thick and cold without ice.
- Spotty brown bananas are the sweetest.

Check your work

- ☐ I can tell how the milkman brought milk long ago.
- ☐ I can name three dairy foods and tell what calcium does.
- ☐ I measured and poured a smoothie and stayed safe while the grown-up blended.

COOK'S NOTEBOOK

1. Draw the milkman's horse and wagon and a glass bottle of milk.
2. Draw the smoothie in a glass. A grown-up writes down the four things you put in it.
3. Draw a cow, a goat or a sheep and three foods made from its milk.

COMMON MISTAKES

- Taking the lid off the blender before it stops. Wait until the blades stop spinning.
- Leaving the milk and yogurt out on the counter. Put them back right away.
- Thinking only milk has calcium. Cheese, yogurt, fortified soy milk and some green vegetables have it too.

Make it a game • The Milkman's Route. You are the milkman. Your grown-up is the house. Carry a pretend milk bottle, a cup, to the door and knock. To hand it over, name a dairy food, like cheese, yogurt or butter, with no repeats. Say, Dairy gives calcium for strong bones. How many deliveries can you make before you run out of dairy foods?

Scripture. “And thou shalt have goats’ milk enough for thy food, for the food of thy household,” (Proverbs 27:27, KJV)

In Bible times many families kept goats for their milk. God provided milk to nourish whole households, just as He provides for ours.

2.4 GRAINS GIVE ENERGY: FROM FIELD TO LOAF

OBJECTIVES

- Retell the tale of the Little Red Hen and tell the real steps from wheat to bread.
- Explain that grains give the body energy, and name four grain foods.
- Spread and cut sandwiches with cookie cutters, and save the crusts so nothing is wasted.

Warm-up. Look at a slice of bread with a grown-up. What is it made from? Where did that come from? If you can, look at a handful of wheat berries, oats or rice. These are seeds. How could seeds become bread?

WATCH

Ever Wonder How Bread Is Made? | Highlights Kids

Highlights Kids • 2:17

<https://www.youtube.com/watch?v=yzqsdUJbDOk>

WHEN TO WATCH

After the story of the Little Red Hen. Watch for each job she did: planting, cutting, grinding and baking.

BACKUP VIDEO

The Little Red Hen (US English accent) - TheFableCottage.com

The Fable Cottage • 5:48

<https://www.youtube.com/watch?v=VjTJvwgJnGc>

Before the lesson, if you do not have a book of the story.

KEY TERMS

grain

The seed of a grass plant, such as wheat, oats, rice or corn.

wheat

A tall grass whose seeds are ground into flour for bread.

mill

A machine or building that grinds grain into flour.

whole grain

Grain with all its parts kept, including the brown outside, which has extra fiber and vitamins.

CORE IDEAS

The story. In the old tale, the Little Red Hen finds some grains of wheat. “Who will help me plant the wheat?” she asks. “Not I,” say the cat, the dog and the duck. So she plants it herself. She cuts the wheat, takes it to the mill, and bakes the bread all alone. But when the warm bread comes out of the oven, everyone wants to help eat it!

How bread really comes to us. The tale is make-believe, but the steps are real. A farmer plants wheat seeds in the fall or spring. The wheat grows tall and turns golden. At harvest time, it is cut, and the seeds, called **grains**, are shaken out. Long ago people ground grain between heavy stones; today big **mills** grind it into flour. A baker mixes the flour with water, yeast and salt, and bakes it into bread.

What does it do for you? Grains, such as bread, oatmeal, rice, pasta and corn tortillas, give your body **energy** to run, play and think. **Whole grains** keep the brown outside part of the seed, which has extra fiber and vitamins. Try to make at least half your grains whole grains, like whole-wheat bread and oatmeal.

Let’s cook! You will make sandwiches and cut them into shapes with cookie cutters. Then you will save the crusts and scraps, because bread is a gift and we do not waste it: they can become bread crumbs or a treat for the birds.

PICTURE STUDY



The Gleaners, Jean-François Millet, 1857 · Oil on canvas · Musée d'Orsay, Paris

Image: [Wikimedia Commons](#), public domain

After the wheat harvest, poor families were allowed to walk through the field and pick up the stalks of grain that were left behind. This is called gleaning. The French painter Jean-François Millet painted three women gleaning, bending low in the warm evening light. In the Bible, Ruth gleaned in the fields of Boaz in the same way.

Look closely

- Find the three women. What are they doing with their hands?
- Find the grain they are holding. Where will they take it?
- Look far away in the back. What are the big piles?
- Is this field before the harvest or after? How can you tell?

Talk about it

1. What will the women do with the grain they gather?
2. Why is it good that nothing in the field was wasted?
3. How is this picture like the story of the Little Red Hen?

Safety first. Use a butter knife to spread and cookie cutters to cut; a grown-up does any cutting with a sharp knife. Check for peanut, wheat and sesame allergies before choosing your sandwich filling.

Bread Detective and Cookie-Cutter Sandwiches

You will look closely at flour and bread, and compare whole-wheat bread with white bread. Then you will make sandwiches, cut them into shapes, and save every scrap.

You will need

- A spoonful each of whole-wheat flour and white flour on two saucers (for looking and touching, not tasting)
- A magnifying glass (optional)
- A cutting board, a butter knife and two or three large cookie cutters
- A plate and a small bag for crusts

COOKIE-CUTTER SANDWICHES

Serves 4 • Prep 15 min

Ingredients

- 8 slices whole-wheat bread
- ½ cup sunflower-seed butter or peanut butter (or 4 ounces cream cheese)
- ¼ cup fruit jam or 1 ripe banana, sliced with a butter knife
- Or, for a savory sandwich: 4 slices turkey and 4 slices mild cheese

Method

1. Wash your hands. Lay 4 slices of bread on the board.
2. With a butter knife, spread 2 tablespoons of seed butter or peanut butter on each slice, right to the edges.
3. Spread a thin layer of jam, or lay on banana slices, on top. (Or lay on 1 slice of turkey and 1 of cheese.)
4. Put the other 4 slices of bread on top and press gently.
5. Press a cookie cutter firmly into the middle of each sandwich, wiggle it, and lift out the shape.

6. Put the shapes on a plate. Save the crusts and scraps in a bag for bread crumbs or for the birds.
7. Clean up: wash the knife and cutters, wipe the counter, and wash your hands.

Allergy check: Contains wheat. Peanut butter contains peanuts; sunflower-seed butter is peanut-free but some children are allergic to sunflower seeds. Cream cheese and cheese contain milk. Many breads contain milk, soy or sesame; read the label. For a wheat-free sandwich, use gluten-free bread.

Steps

1. **Flour detective.** Look at the whole-wheat flour and the white flour. Rub a pinch of each between your fingers (no tasting raw flour). Which one has brown flecks? Those flecks are the outside of the wheat seed.
2. **Bread detective.** Look at a slice of whole-wheat bread and a slice of white bread. How are they different?
3. Make the cookie-cutter sandwiches with your grown-up.
4. **Taste test.** If you have both breads, taste a small piece of each plain. Which is softer? Which tastes nuttier? Give your sandwich a family rating.
5. **Make it better.** Choose one change for next time, such as a new cookie-cutter shape or a different filling.
6. Use the crusts: a grown-up can toast and crush them into bread crumbs, or you can scatter a few for the birds.
7. Clean up together and wash your hands.

Tips

- Bread from the refrigerator or freezer is easier to cut with cookie cutters than very soft fresh bread.
- Spread all the way to the edges so every shape gets filling.

Check your work

- ☐ I can tell how wheat becomes bread.
- ☐ I can name four grain foods and tell what grains do for my body.
- ☐ I made sandwiches and saved the crusts so nothing was wasted.

COOK'S NOTEBOOK

1. Draw the steps from wheat to bread: a seed, a tall wheat plant, a mill, flour and a loaf.
2. Draw your sandwich shapes. A grown-up writes what was inside.
3. Draw the Little Red Hen and write (or tell) what you would have said when she asked for help.

From history. For thousands of years, people ground grain by hand between two stones. Later, mills were turned by water wheels, windmills or animals. Today giant mills grind tons of wheat into flour every day.

COMMON MISTAKES

- Tasting raw flour. Raw flour can carry germs; it is safe only after it is baked or cooked.
- Throwing away crusts and scraps. Turn them into bread crumbs or croutons.
- Thinking all brown bread is whole wheat. Look for the word “whole” first on the ingredient list.

Make it a game • Little Red Hen Charades. Act out the steps from wheat to bread without talking: plant the seeds, cut the wheat, carry it to the mill, mix the dough, bake the loaf. Your grown-up guesses each step. Then name four foods made from grain. Which step did the Little Red Hen do all by herself?

Scripture. “Give us this day our daily bread.” (Matthew 6:11, KJV)

When Jesus taught His disciples to pray, He taught them to ask God for their daily bread. Every loaf, from the farmer’s field to our table, is a gift from God.

UNIT 2

FOOD GROUPS & A BALANCED PLATE

God made a world full of good things to eat: crunchy carrots, red strawberries, golden wheat, creamy milk and much more. In this unit you will learn the five food groups on MyPlate: fruits, vegetables, grains, protein and dairy. Each group gives your body something different it needs to grow, run, think and play.

You will visit Thomas Jefferson's long vegetable garden, meet the milkman who once brought fresh milk to the door each morning, and follow wheat from the field to the loaf, just like the Little Red Hen. Along the way you will build a balanced snack plate, rainbow wraps, a fruit smoothie and sandwiches cut into shapes, and you will learn to look at a plate and ask, "Is every group here?"

PREREQUISITES

- Washes hands the right way before cooking (Unit 1)
- Knows the kid-free zone and the helper jobs (Unit 1)
- Puts cold foods back in the refrigerator (Unit 1)

MASTERY CHECKLIST

- ☐ I can name the five food groups and point to each one on a MyPlate picture.
- ☐ I can name two foods from each food group.
- ☐ I can tell why it is good to eat fruits and vegetables of many colors.
- ☐ I can tell how wheat becomes flour and bread.
- ☐ I can build a balanced plate with foods from all five groups.

OPTIONAL BOOKS AND TOOLS FOR THIS UNIT

- **MyPlate for Kids (USDA, at MyPlate.gov):** Free from the U.S. Department of Agriculture: search MyPlate.gov for the kids' pages with MyPlate coloring sheets, activity pages and a printable plate. Helpful for Lesson 2.1 and the unit challenge.
- **A divided plate or a paper plate marked into sections:** Draw lines on a paper plate to make five spaces, one for each food group, for Lesson 2.1 and the unit challenge.
- ***The Little Red Hen*, any traditional retelling:** The old folk tale, found at most libraries in many picture-book versions (Paul Galdone's is a classic). Read it before Lesson 2.4.

Not required. Every recipe in this unit works in an ordinary home kitchen.

School Launch has no ties to these authors, publishers or companies.

LESSONS IN THIS UNIT

2.1 God Made Good Food: The Five Food Groups	2 sessions of 30–40 minutes
2.2 Fruits and Vegetables Are Colorful	2 sessions of 30–40 minutes
2.3 Milk and Cheese for Strong Bones	2 sessions of 30–40 minutes
2.4 Grains Give Energy: From Field to Loaf	2 sessions of 30–40 minutes

UNIT 2 REVIEW

A parent asks each question aloud. Your child may answer by telling, pointing, showing or drawing. There are no points; this is a friendly conversation to see what has been learned. Have a MyPlate picture or a paper plate and a few foods from the kitchen ready.

1. Point to the five food groups on MyPlate and name them.
2. Here are some foods from our kitchen. Put each one in its food group.
3. Why is it good to eat fruits and vegetables of many colors?
4. Tell me about Thomas Jefferson's garden.

5. What does calcium do, and where can we get it?
6. Tell me how wheat becomes bread.

ANSWER KEY

1. Fruits, vegetables, grains, protein and dairy (the cup on the side).
2. For example: apple in fruits, carrot in vegetables, bread in grains, egg or beans in protein, cheese in dairy.
3. Each color brings different vitamins and helpers, so many colors give the body many kinds of help.
4. At Monticello in Virginia he had a garden about 1,000 feet long and grew about 330 kinds of vegetables. He wrote everything in a garden book.
5. It helps build strong bones and teeth. Milk, cheese, yogurt and some other foods, such as fortified soy milk and leafy greens, have calcium.
6. A farmer plants and harvests the wheat, the grains are ground into flour at a mill, and a baker mixes and bakes the flour into bread.

UNIT CHALLENGE: A BALANCED PLATE FOR EVERYONE

Plan and make a balanced lunch for your family. With a grown-up, choose one food from each of the five food groups, help write the shopping list, and make the lunch together: wash the fruits and vegetables, spread, assemble and set out the plates.

Before everyone eats, check each plate with your MyPlate drawing and point to all five groups. Take a photo or draw the plate in your notebook, and ask each person to give it a smiley-face rating. Say thank you to God for the food together.

LOOK FOR	WHAT IT MEANS
Five groups	Every plate had a fruit, a vegetable, a grain, a protein and a dairy food (or a safe swap).
Helping and safety	The child washed hands and produce, used only safe tools, and let a grown-up do any hot or sharp jobs.
Notebook page	A drawing or photo of the plate with the five groups named (a grown-up may write).
Thanks and cleanup	The family gave thanks, and the child helped put food away and clean up.

UNIT 3

TASTE, SMELL & YOUR TASTE BUDS

How do you know a lemon is sour and a strawberry is sweet? In this unit you will look at your own tongue in a mirror and find the bumps where taste buds live. You will learn the five tastes, sweet, salty, sour, bitter and savory, and you will discover that your nose does much of the work when you taste.

You will also learn why some green vegetables taste stronger to children than to grown-ups, and why it is worth trying a new food again and again. Then you will feel the difference between crunchy, smooth and chewy foods by making applesauce. All along, we will remember that every taste is a gift: “O taste and see that the LORD is good.”

PREREQUISITES

- Washes hands and produce before cooking (Unit 1)
- Names the five food groups (Unit 2)
- Knows to check with a grown-up about allergies before tasting (Units 1–2)

MASTERY CHECKLIST

- ☐ I can find my taste-bud bumps in a mirror and name the five tastes.
- ☐ I can tell that every part of my tongue can taste every taste.
- ☐ I can show how holding my nose changes the way food tastes.
- ☐ I can tell why bitter foods may taste stronger to children and why we try new foods many times.
- ☐ I can describe foods as crunchy, smooth, chewy or soft.

OPTIONAL BOOKS AND TOOLS FOR THIS UNIT

- **A hand mirror and a flashlight:** For looking at your tongue and its bumps in Lesson 3.1.
- **A clean scarf or sleep mask for blindfold tests:** Used in Lessons 3.2 and 3.4 and the unit challenge. Taste tests work just as well with eyes closed.
- **A potato masher:** Helpful for mashing the cooled applesauce in Lesson 3.4. A large fork works too.

Not required. Every recipe in this unit works in an ordinary home kitchen.
School Launch has no ties to these authors, publishers or companies.

LESSONS IN THIS UNIT

3.1 Your Tongue and Taste Buds	2 sessions of 30–40 minutes
3.2 Your Nose Knows	2 sessions of 30–40 minutes
3.3 Bitter Tastes and Growing Up	2 sessions of 30–40 minutes
3.4 Texture: Crunchy, Smooth and Chewy	2 sessions of 30–40 minutes

UNIT 3 REVIEW

A parent asks each question aloud. Your child may answer by telling, pointing, showing or drawing. There are no points; this is a friendly conversation to see what has been learned. Have a hand mirror, an apple slice and a jelly bean or small piece of fruit ready.

1. Look at your tongue in the mirror. Show me where your taste buds live. What are the five tastes?
2. Is it true that you can taste sweet only on the tip of your tongue?
3. Hold your nose and eat this piece of fruit. Now let go. What happened? Why?
4. Why might a green vegetable taste stronger to you than to a grown-up? What should we do with a food that is “not my favorite yet”?
5. Who was Johnny Appleseed?
6. Tell me three texture words. Which word fits a raw apple, and which fits applesauce?

ANSWER KEY

1. In and around the little bumps all over the tongue. Sweet, salty, sour, bitter and savory.
2. No. That tongue map is wrong. Every part of the tongue can taste every taste.
3. It tasted flat with the nose held and full of flavor after letting go, because smell is a big part of flavor.
4. Children taste bitter more strongly. Keep taking small, thankful tastes; it can take 8 to 15 tries to like a new food.
5. John Chapman, who walked through Pennsylvania, Ohio and Indiana planting apple seeds in nurseries so settlers could plant orchards.
6. Crunchy, smooth, chewy, soft, juicy. A raw apple is crunchy; applesauce is smooth.

UNIT CHALLENGE: OUR FAMILY BLIND TASTE TEST

Hold a family taste test. With a grown-up, choose one food and serve it three ways, such as an apple raw, as applesauce and baked (a grown-up does the cooking), or carrots raw, cooked and grated. Each taster wears a blindfold or closes his or her eyes.

Ask each person to guess which one is which, to name the texture, and to choose a favorite. Make a chart with a face for each taster and each way. Then pick one vegetable your family does not love yet and make a plan to try it again three more times this month.

LOOK FOR	WHAT IT MEANS
Fair taste test	All three ways were served to every taster, with eyes closed, and the child helped set it up safely.
Taste words	The child used taste and texture words, such as sweet, sour, crunchy and smooth.
Results chart	A chart with every taster's faces or votes (a grown-up may write).
Try-again plan	The family chose a vegetable to try again and marked three dates on the calendar.

3.1 YOUR TONGUE AND TASTE BUDS

OBJECTIVES

- Find the bumps on the tongue in a mirror and tell that taste buds live there.
- Name the five tastes: sweet, salty, sour, bitter and savory.
- Set up a tasting tray and tell that every part of the tongue can taste every taste.

Warm-up. Take a hand mirror and a flashlight. Stick out your tongue and look closely. What do you see? Is your tongue smooth or bumpy? Are the bumps all the same size? Now look at a grown-up's tongue.

WATCH

Your Tongue: The Taste-Maker!

SciShow Kids · 3:52

<https://www.youtube.com/watch?v=C4rdqXXzPGU>

WHEN TO WATCH

After you look at your tongue in the mirror. Listen for the names of the tastes and count them on your fingers.

KEY TERMS

taste buds

Tiny groups of cells on your tongue that send messages about taste to your brain.

sour

The puckery taste of lemons and pickles.

bitter

A strong, sharp taste, like grapefruit peel, dark chocolate or some green vegetables.

sweet

The taste of sugar, honey and ripe fruit.

salty

The taste of salt, crackers and pretzels.

savory

The rich, mouth-filling taste of cheese, tomatoes, broth and meat. Scientists call it umami (say “oo-MAH-mee”).

CORE IDEAS

Look closely. Your tongue is covered with little bumps. Hidden in and around those bumps are your **taste buds**, thousands of them. They are too small to see, but they work every time you eat. When food mixes with the water in your mouth, your taste buds feel it and send a quick message to your brain: “Sweet!” or “Salty!” Your taste buds wear out and are replaced with new ones every week or two.

Long ago. More than 100 years ago, in 1901, a German scientist named Dr. Hänig wanted to know where on the tongue we taste. He dabbed sweet, salty, sour and bitter drops on different spots of people’s tongues. He found that every part of the tongue could taste every taste. Later, some books showed a “tongue map” with the sweet taste only on the tip and the bitter taste only at the back. That map was wrong! Every part of your tongue tastes all five tastes.

The five tastes. Your taste buds can tell five tastes: **sweet** (a ripe strawberry), **salty** (a pretzel), **sour** (a lemon), **bitter** (grapefruit or a dark leafy green) and **savory** (a bite of cheese or a warm cup of broth). Good cooks taste their food while they cook and ask: does it need a little salt, a squeeze of lemon, a touch of sweetness?

Let’s cook! You will set up a five-tastes tasting tray for your family. You will measure and arrange a sweet, salty, sour, bitter and savory food in five little cups. Then everyone will taste and sort them.

PICTURE STUDY



Still Life with Lemons, Oranges and a Rose, Francisco de Zurbarán, 1633 · Oil on canvas · Norton Simon Museum, Pasadena, California

Image: [Wikimedia Commons](#), public domain

The Spanish painter Francisco de Zurbarán set three things in a row on a plain table: sour lemons, sweet oranges, and a cup of water with a rose. Everything is lit by a soft light against a dark background, so we look very closely at each one, the way a taster looks closely at each food on a tasting tray.

Look closely

- Find the lemons. What taste do lemons have?
- Find the oranges. Are they sweeter or more sour than lemons?
- Find the cup. What do you think is in it? Why would a taster want it nearby?
- Find the white flowers among the orange leaves. They are orange blossoms.

Talk about it

1. If you tasted a lemon and then an orange, how would your face change?
2. The painter put the foods in a neat row. How is that like our tasting tray?
3. Which taste would you like to try first?

Safety first. Check every food on the tray against your family's food allergies before you taste. Use clean spoons or toothpicks for each taste, and do not double-dip. A grown-up cuts the lemon with a sharp knife.

KITCHEN PROJECT

A Five-Tastes Tasting Tray

You will be a taste scientist. You will set up five tastes in little cups, taste each one, and test the tongue-map idea yourself with cotton swabs.

You will need

- Five small cups or a muffin tin, and five labels
- Clean spoons or toothpicks for each person
- Cotton swabs, a little sugar water and a little salt water (for the tongue test)
- A glass of water for each person, to rinse between tastes
- A cutting board and sharp knife (grown-up only)

FIVE-TASTES TASTING TRAY

Serves 4–6 (small tastes) • Prep 15 min

Ingredients

- Sweet: $\frac{1}{2}$ cup grapes or a sliced banana (sliced with a butter knife)
- Salty: $\frac{1}{2}$ cup small pretzels or saltine crackers
- Sour: 1 lemon, cut into thin wedges by a grown-up, or 6 small dill pickle slices
- Bitter: $\frac{1}{2}$ grapefruit, cut into small pieces by a grown-up, or a few leaves of arugula or radicchio
- Savory: $\frac{1}{2}$ cup cubes of cheddar or Parmesan cheese, or 6 cherry tomatoes

Method

1. Wash your hands and wash all the fruits and vegetables.
2. A grown-up cuts the lemon, grapefruit and any cheese that needs a sharp knife.
3. Write the five labels: Sweet, Salty, Sour, Bitter and Savory.
4. Put each food into its own small cup and set its label in front of it.

5. Give each person a glass of water and a clean spoon or toothpick.
6. Taste one food at a time, and take a sip of water between tastes.
7. Clean up: put leftovers in the refrigerator, wash the cups, and wipe the counter.

Allergy check: Pretzels and crackers contain wheat; cheese contains milk. Choose safe foods for your family in each taste group: rice crackers or salted popcorn for salty, and tomatoes or a little warm broth for savory.

Steps

1. **Mirror look.** Look at your tongue in the mirror with a flashlight. Draw the bumps you see.
2. **Tongue test.** Dip a cotton swab in sugar water and touch it to the tip of your tongue, then the side, then near the middle. Can you taste sweet in every spot? Try the salt water with a fresh swab. Was the old tongue map right?
3. Set up and taste the five-tastes tray with your family.
4. **Taste chart.** For each food, make a face: a happy face if you liked it, a straight face if it was all right, or a scrunched face if it was too strong. A grown-up writes down everyone's faces.
5. **Make it better.** Choose one new food to try in each taste next time.
6. Clean up together and wash your hands.

Tips

- A sip of water between tastes washes the last taste away so the next one is clearer.
- If a bitter or sour taste is too strong, that is all right. Just a tiny lick counts as a taste.

Check your work

- ☐ I can find my taste-bud bumps and name the five tastes.
- ☐ I tested my tongue and found that every part can taste.
- ☐ I set up a tasting tray and recorded my family's faces.

COOK'S NOTEBOOK

1. Draw a big tongue with lots of bumps. Write or tell the five tastes around it.
2. Draw your tasting tray with the five cups and a face for each taste.

3. Draw your favorite food from the tray and tell which taste it is.

COMMON MISTAKES

- Believing the tongue map. Every part of the tongue can taste every taste.
- Double-dipping a spoon into the shared cups. Use a clean spoon for each taste.
- Saying “yuck” about a food someone made. Say “It is not my favorite yet,” and say thank you.

Make it a game • Five Finger Tastes. Hold up one hand. Name the five tastes, one on each finger: sweet, sour, salty, bitter and savory. Then your grown-up sets a thirty-second timer while you name one food for each finger, with no repeats. Next, your grown-up names a food and you say the taste. Find the bumps on your tongue in a mirror.

Scripture. “O taste and see that the LORD is good:” (Psalm 34:8, KJV)

God gave us taste buds so that we could enjoy His good gifts. Every good taste reminds us that the One who made it is good.

3.2 YOUR NOSE KNOWS

OBJECTIVES

- Tell how Helen Keller used her sense of smell to know people and places.
- Show that holding the nose makes food taste flat, because smell is a big part of flavor.
- Make a strawberry and yogurt dip and do a nose-pinch taste test.

Warm-up. Close your eyes. A grown-up holds up a few things for you to sniff: an orange peel, a cinnamon stick, a slice of onion, a sprig of mint or a jar of peanut butter. Can you name each one by smell alone?

WATCH

How Your Nose Works? - The Dr. Binocs Show | Best Learning Videos For Kids | Peekaboo Kidz

Peekaboo Kidz • 5:34

<https://www.youtube.com/watch?v=V9CpmgTPhu8>

WHEN TO WATCH

After the story. Watch for the part where the smell travels up inside the nose.

BACKUP VIDEO

How does the sense of smell work? - Senses for Kids

Smile and Learn - English • 1:52

<https://www.youtube.com/watch?v=zajxTUsbiQ8>

After the nose-pinch test, to see how a smell travels from the air to your brain.

KEY TERMS

smell

The sense that lets your nose notice tiny bits of a food or flower floating in the air.

flavor

The whole way a food seems to you when you eat it: its taste, its smell, and how it feels.

aroma

A pleasant smell, such as the smell of baking bread.

CORE IDEAS

The story. Helen Keller lived more than 100 years ago. When she was a baby, an illness left her unable to see or hear. But she learned to read, to write and to speak, and she wrote books about her life. Helen used her nose to learn about the world. She wrote that she could tell her friends by their smell, and she could smell a storm coming before it arrived. To her, smell was full of pictures and memories.

What happens when you eat? Your tongue can only tell five tastes. But you can smell thousands of different smells! When you chew food, tiny bits of its **aroma** float up the back of your mouth into your nose. Your brain puts the taste and the smell together, and that is the **flavor**. A strawberry tastes sweet on your tongue, but its strawberry-ness comes from your nose.

Try it. If you hold your nose while you eat a jelly bean or a piece of apple, it tastes only sweet. When you let go, whoosh, the flavor comes rushing in! That is why food tastes flat when you have a stuffy nose from a cold.

Let's cook! You will make a honey-vanilla yogurt dip for strawberries. You will measure, stir and taste. Then you will do the nose-pinch test with your family to see how much your nose helps you taste.

PICTURE STUDY



Basket of Wild Strawberries, Jean-Siméon Chardin, about 1761 · Oil on canvas · Private collection

Image: [Wikimedia Commons](#), public domain

Wild strawberries are tiny, smaller than your fingertip, but they have a strong, sweet aroma. Here Chardin has painted a whole basketful, piled up high like a little red mountain. The painting is so soft and glowing that you can almost smell the berries.

Look closely

- Find the pile of strawberries. What shape does it make?
- Find the glass. What is in it?
- Find the white flowers. Flowers have a smell too. What might they smell like?
- Find one peach and two cherries.

Talk about it

1. If you were standing in front of this table, what would you smell?
2. Why do you think the painter put the basket on a plain, quiet table?
3. How are wild strawberries different from the big strawberries at the store?

Safety first. Check for milk and fruit allergies before tasting. Jelly beans can be a choking risk for small children; use small apple pieces for any child under four. Honey is never given to babies under one year old.

KITCHEN PROJECT

Nose-Pinch Test and Strawberry Dip

You will test how much your nose helps you taste. Then you will make a sweet yogurt dip and smell and taste the strawberries with and without your nose.

You will need

- A blindfold or scarf (optional)
- A few jelly beans of different flavors, or small pieces of apple and pear
- A small bowl, a spoon and measuring spoons
- A colander and a serving plate

STRAWBERRIES WITH HONEY-VANILLA YOGURT DIP

Serves 4 · Prep 10 min

Ingredients

- 1 pound fresh strawberries
- 1 cup plain or vanilla Greek yogurt
- 1 tablespoon honey or maple syrup
- ½ teaspoon vanilla extract
- A pinch of ground cinnamon (optional)

Method

1. Wash your hands. Put the strawberries in a colander and rinse them gently under cool running water. Pat them dry.
2. Leave the green tops on as little handles, or pull them off with your fingers.
3. Measure the yogurt into a bowl.
4. Measure and add the honey and vanilla. Stir until smooth and swirled.
5. Sniff the dip. Add a pinch of cinnamon if you like, stir, and sniff again. What changed?
6. Set the bowl of dip on a plate and arrange the strawberries around it.

7. Clean up: put the yogurt back in the refrigerator, rinse the colander, and wipe the counter.

Allergy check: Contains milk. For a milk-free dip, use a coconut or soy yogurt (soy is a major allergen). Never give honey to a baby under one year old; use maple syrup instead.

Steps

1. **Nose-pinch test.** Close your eyes and pinch your nose. A grown-up gives you a jelly bean or a piece of apple. Chew it. What flavor is it? Now let go of your nose and keep chewing. Did the flavor change?
2. Try it with a strawberry, too: first with your nose pinched, then with your nose open.
3. Make the strawberry dip with your grown-up.
4. **Sniff and taste.** Sniff the strawberries and the dip. Then taste a strawberry with dip. Give it a family rating.
5. **Make it better.** Choose one change for next time, such as a different fruit for dipping or a spoonful of orange zest in the dip (grated by a grown-up).
6. Clean up together and wash your hands.

Tips

- The test works best with foods that have a strong aroma, like flavored jelly beans, strawberries or apples.
- Smell the vanilla extract bottle. Then taste a drop of it on your fingertip. It smells sweet, but it tastes bitter by itself!

Check your work

- ☐ I can tell who Helen Keller was and how she used her sense of smell.
- ☐ I showed that holding my nose makes food taste flat.
- ☐ I made a strawberry dip and tasted with and without my nose.

COOK'S NOTEBOOK

1. Draw a face with a big nose and arrows showing the smell going from the mouth up into the nose.
2. Draw your strawberries and dip. A grown-up writes what you noticed when you pinched your nose.
3. Draw three foods that you love the smell of.

From history. Helen Keller’s teacher, Anne Sullivan, taught her words by spelling them into her hand. The first word Helen understood was “water,” spelled into one hand while cool water ran over the other.

COMMON MISTAKES

- Thinking the tongue does all the tasting. Most of what we call flavor comes from smell.
- Eating with a stuffy nose and thinking a food has no flavor. Try it again when your nose is clear.
- Washing strawberries long before eating them. Wash them just before serving so they stay firm.

Make it a game • Sniff, Pinch, Guess. Close your eyes. Your grown-up holds up a spice jar or herb leaf. First pinch your nose and guess. Then let go and sniff, and guess again. Keep score on paper. Which round got more right? Say what Helen Keller learned from smells, and why food tastes flat when your nose is blocked.

3.3 BITTER TASTES AND GROWING UP

OBJECTIVES

- Tell that children taste bitter flavors more strongly than most grown-ups, and that tastes change as you grow.
- Explain why it helps to taste a new food many times.
- Make a creamy yogurt dip and try three green vegetables with thankfulness.

Warm-up. Ask a grown-up: “What food did you dislike when you were little that you like now?” Then think of a food you did not like at first but like now. What changed?

WATCH

Trying New Foods with Cookie Monster | Parenting

Sesame Workshop · 1:39

<https://www.youtube.com/watch?v=xJ2TkGV20-U>

WHEN TO WATCH

After the story. Watch how Cookie Monster helps his choosy little niece try carrots in a new way.

Note: A short clip from Sesame Workshop’s parenting series, made for parents and children to watch together. It shows the same food served two ways, raw and cooked, just like our try-it chart.

KEY TERMS

bitter

A strong, sharp taste found in some green vegetables, grapefruit and dark chocolate.

try

One small taste of a food. It can take many tries before a new food becomes a favorite.

dip

A thick sauce for dipping raw vegetables, crackers or fruit.

CORE IDEAS

The story. At a science center in Philadelphia called the Monell Chemical Senses Center, scientists study taste and smell. They have learned something that may

surprise you: children taste bitter foods more strongly than most grown-ups do, and they like sweet tastes more. So a bite of broccoli or spinach that tastes mild to your mom may taste much stronger to you. You are not being picky. Your taste buds are just very good at noticing bitter!

Tastes change. As you grow older, your sense of taste slowly changes. Many foods that taste too strong to a child taste milder and more pleasant to a teenager or a grown-up. That is why your parents may love foods that you are not sure about yet.

Try, try again. Scientists have also found that it often takes many small tastes, sometimes 8 to 15 tries, before a new food starts to taste good to us. Each time you take a small bite, your mouth and brain get to know the food a little better. So a food that is “not my favorite yet” may become a favorite later. We take a thankful bite, because someone grew it and someone made it, and God gave it.

Let’s cook! You will make a creamy dill yogurt dip, then wash and break broccoli into little trees and set out three green vegetables. Everyone in the family will try each one with dip and rate it. You will save your chart and try again in a week.

PICTURE STUDY



Still Life with Cabbage and Clogs, Vincent van Gogh, 1881 · Oil on paper on panel · Van Gogh Museum, Amsterdam

Image: [Wikimedia Commons](#), public domain

This is one of the very first oil paintings Vincent van Gogh ever made, when he was just learning to paint. He chose plain things from a Dutch farmhouse: a cabbage, some potatoes and a pair of wooden shoes called clogs. Cabbage is a green vegetable with a strong, slightly bitter taste, a cousin of broccoli.

Look closely

- Find the cabbage. What color is it? How many leaves can you see?
- Find the wooden clogs. Who might wear them?
- Find the potatoes. How many are there?
- Look at the brushstrokes. Are they smooth or thick and bumpy?

Talk about it

1. Van Gogh was just starting to learn to paint. Do you think his paintings got better as he practiced? How is that like learning to like a new food?
2. Cabbage, broccoli and Brussels sprouts are cousins. Which one have you tried?
3. What could a farm family cook with a cabbage and potatoes?

Safety first. Check for milk allergies before making the dip. A grown-up cuts the cucumber and any vegetables that need a sharp knife; you can break broccoli into small trees with your hands.

KITCHEN PROJECT

The Green Vegetable Try-It Chart

You will make a dip, set out three green vegetables, and keep a “try-it” chart. Then you will try them again next week and see if anything changed.

You will need

- A colander and clean towel
- A small bowl, a spoon and measuring spoons
- A cutting board and sharp knife (grown-up only)
- A sheet of paper for the try-it chart

THREE GREENS WITH CREAMY DILL DIP

Serves 4–6 • Prep 15 min • Chill 15 min (optional)

Ingredients

- 1 cup plain Greek yogurt
- 2 tablespoons mayonnaise (store-bought) or more yogurt
- ½ teaspoon dried dill
- ¼ teaspoon garlic powder
- ¼ teaspoon onion powder
- ¼ teaspoon salt
- 1 teaspoon lemon juice
- 1 small head of broccoli
- 1 cup sugar snap peas or green beans
- 1 small cucumber

Method

1. Wash your hands. Measure the yogurt and mayonnaise into a bowl.
2. Measure and add the dill, garlic powder, onion powder, salt and lemon juice. Stir until smooth. Chill it while you get the vegetables ready, if you have time.
3. Rinse the broccoli, snap peas and cucumber under cool running water.

4. Break the broccoli into small “trees” with your hands. A grown-up cuts any big stems with a sharp knife.
5. A grown-up slices the cucumber into sticks. Snap the ends off the peas or beans with your fingers.
6. Arrange the three greens in rows on a plate with the dip in the middle.
7. Clean up: put away the yogurt and mayonnaise, wipe the counter, and wash your hands.

Allergy check: Contains milk (yogurt). Store-bought mayonnaise contains eggs; leave it out and use all yogurt for an egg-free dip. For a milk-free dip, use hummus (contains sesame) or a dairy-free yogurt.

Steps

1. **Make a try-it chart.** Write each family member’s name down the side and the three vegetables across the top.
2. Make the dip and set out the vegetables with your grown-up.
3. **Thankful bite.** Everyone takes one small bite of each vegetable, first plain and then with dip. Draw a face in each box: happy, straight or scrunched.
4. Compare: did the children and the grown-ups give the same faces? Which vegetable tasted most bitter?
5. **Try again.** Put the chart on the refrigerator. Next week, try the same three vegetables again (raw or cooked by a grown-up) and add new faces. Did any change?
6. Clean up together and wash your hands.

Tips

- A little salt, a little fat (like the dip) or a little lemon can make bitter vegetables taste milder.
- Cooked vegetables often taste sweeter and milder than raw ones. A grown-up can steam the broccoli for a second try.

Check your work

- ☐ I can tell why bitter foods may taste stronger to children.
- ☐ I can tell why we try a new food many times.
- ☐ I tried three green vegetables and started a try-it chart.

COOK'S NOTEBOOK

1. Draw your try-it chart with everyone's faces.
2. Draw a broccoli "tree" and a grown-up's face and a child's face tasting it.
3. Draw a food you did not like before but like now.

COMMON MISTAKES

- Deciding you do not like a food after one bite. It can take 8 to 15 tries.
- Making a big fuss at the table. A kind "not my favorite yet" and a thank-you are good manners.
- Forcing big bites. A small, thankful taste is enough each time.

Make it a game • Picky Bear Coach. Your grown-up puts on a pouty voice and plays a stuffed animal who says, I will never eat green vegetables! You are the coach. Tell the animal why children taste bitter more strongly, why tastes change as you grow, and why one more try is smart. Use the words bitter, try and dip.

3.4 TEXTURE: CRUNCHY, SMOOTH AND CHEWY

OBJECTIVES

- Tell the story of John Chapman, called Johnny Appleseed, who planted apple trees for settlers.
- Describe foods by their texture: crunchy, smooth, chewy, soft and juicy.
- Help make homemade applesauce, with a grown-up doing the cooking, and compare it with a crunchy raw apple.

Warm-up. Close your eyes. A grown-up hands you a cracker, a marshmallow, a slice of bread and a spoonful of yogurt, one at a time. Touch and taste each one. Which is crunchy? Smooth? Chewy? Soft?

WATCH

[Make Your Own Applesauce | Recipe for Kids | Cooking Class for Kids](#)

[Miami Children's Museum](#) • 3:47

<https://www.youtube.com/watch?v=rsOG81-NW00>

WHEN TO WATCH

After the story, before you make your own applesauce. Watch how the apples change from hard pieces to a smooth sauce.

Note: From the Miami Children's Museum. The host, a museum staff member, peels and cuts the apples herself; in our kitchen a grown-up does every peeling, cutting and stove step.

BACKUP VIDEO

[How to make Apple Sauce by If Kids Can Do It](#)

[IF KIDS CAN DO IT](#) • 2:32

<https://www.youtube.com/watch?v=xbwzXMqIE8Q>

Another day, to see two children make applesauce in a slow cooker.

KEY TERMS

texture

How a food feels in your mouth:
crunchy, smooth, chewy, soft or juicy.

crunchy

Hard and crisp, making a sound when
you bite it, like a raw apple.

smooth

Soft and even with no lumps, like applesauce or pudding.

orchard

A field of fruit trees.

CORE IDEAS

Long ago. About 200 years ago, a man named John Chapman walked across Pennsylvania, Ohio and Indiana carrying bags of apple seeds. Families were moving west to build new farms there. John planted seeds in little fenced nurseries along the way. When the families came, they could get young apple trees to plant their own **orchards**. People called him Johnny Appleseed. He was known as a kind, gentle man who read his Bible and shared what he had.

What happens to the food? A raw apple is **crunchy**. It is made of millions of tiny cells, like little water balloons, stuck tightly together. When you bite, they burst with a crunch and a squirt of juice. When an apple is cooked, heat softens the glue between the cells and lets the water out. The apple pieces get soft, and when you mash them, they turn into **smooth** applesauce.

Texture matters. The way a food feels is called its **texture**. Some people love crunchy foods, and some love smooth ones. A good meal often has both: crunchy carrots beside smooth mashed potatoes, or crisp crackers with soft cheese.

Let's cook! You will wash the apples and measure the water, cinnamon and lemon juice. A grown-up peels, cuts and cooks the apples on the stove while you watch from your safe spot. When the apples have cooled, you will mash them into applesauce and compare it with a crunchy slice of raw apple.

PICTURE STUDY



Still Life with Apples and a Pomegranate, Gustave Courbet, 1871–1872 · Oil on canvas · National Gallery, London

Image: [Wikimedia Commons](#), public domain

The French painter Gustave Courbet painted these apples while he was away from home. He painted them with thick, heavy paint so that they look solid and round, as if you could reach in and pick one up. Look at the shine on their skins.

Look closely

- Count the apples. What colors are they?
- Find the one fruit that is not an apple. It is a pomegranate, full of juicy red seeds.
- Find the jug and the bowl. What might be in them?
- Look at the light on the apples. Which side is the light coming from?

Talk about it

1. If you bit into one of these apples, what sound would it make?
2. How would these apples change if a cook made them into applesauce?
3. Johnny Appleseed planted trees so families could have apples. Who do you think will eat these apples?

Safety first. Only a grown-up peels, cuts and cooks the apples. Stay in your safe spot while the pot is on the stove; hot applesauce can bubble and spatter. Wait until it has cooled before you mash it.

KITCHEN PROJECT

Crunchy and Smooth: Homemade Applesauce

You will make a texture chart, then help make applesauce. You will compare a crunchy raw apple slice with the smooth sauce made from the same kind of apple.

You will need

- A vegetable peeler, a cutting board and a sharp knife (grown-up only)
- A medium saucepan with a lid (grown-up only)
- Measuring cups and spoons
- A potato masher or a large fork
- A blindfold (optional) and a sheet of paper for a texture chart

HOMEMADE CINNAMON APPLESAUCE

Serves 6 (about ½ cup each) · Prep 15 min · Cook 20 min · Cool 20 min

Ingredients

- 6 medium apples, such as Gala, Fuji or McIntosh (about 2½ pounds)
- ½ cup water
- 1 tablespoon lemon juice
- ½ teaspoon ground cinnamon
- 1–2 tablespoons sugar or maple syrup (optional; taste first)

Method

1. Wash your hands. Rinse the apples under cool running water and rub them clean.
2. A grown-up peels, cores and cuts the apples into chunks. Save one whole apple slice for the taste test.
3. Measure the water and lemon juice and pour them into the saucepan. Add the apple chunks and the cinnamon.
4. Go to your safe spot. A grown-up covers the pot, brings it to a simmer over medium heat, and cooks it, stirring now and then, for 15–20 minutes, until the apples are very soft.

5. The grown-up takes the pot off the heat and lets the apples cool for about 20 minutes, until just warm.
6. Now you mash the apples with a potato masher or fork until they are as smooth or chunky as you like. Taste, and add a little sugar or maple syrup only if it needs it.
7. Serve warm or cold. Store leftovers in a covered jar in the refrigerator for up to a week. Clean up: wash the masher and wipe the counter.

Allergy check: Free of the nine major allergens. Check with your family about any fruit allergies.

Steps

1. **Texture hunt.** Before cooking, find five foods in the kitchen and sort them into crunchy, smooth, chewy and soft. A grown-up writes them on your texture chart.
2. Help make the applesauce with your grown-up.
3. **Same apple, two textures.** Taste a slice of raw apple. Then taste the applesauce. Use texture words to tell how they are different. Do they taste the same?
4. **Blind test.** With your eyes closed, can someone in the family tell which is the raw apple and which is the sauce just by how it feels?
5. **Make it better.** Talk about one change for next time, such as chunky instead of smooth, or a pear cooked in with the apples.
6. Clean up together and wash your hands.

Tips

- Soft apples like McIntosh cook into a smooth sauce quickly. Firm apples like Gala or Fuji make chunkier sauce.
- Many apples are sweet enough that you will not need any sugar at all.

Check your work

- ☐ I can tell the story of Johnny Appleseed.
- ☐ I can describe foods as crunchy, smooth, chewy or soft.
- ☐ I helped make applesauce and compared it with a raw apple.

COOK'S NOTEBOOK

1. Draw Johnny Appleseed planting seeds, and an apple tree growing.
2. Draw a raw apple slice and a bowl of applesauce. Write or tell one texture word for each.
3. Draw your texture chart with a food in each box: crunchy, smooth, chewy and soft.

From history. John Chapman was born in Massachusetts in 1774 and died in Indiana in 1845. Today some towns in Ohio and Indiana hold Johnny Appleseed festivals every fall.

COMMON MISTAKES

- Mashing the apples while they are still very hot. Let them cool so they cannot burn you.
- Adding sugar before tasting. Ripe apples are often sweet enough.
- Standing close to the stove to watch the bubbles. Watch from your safe spot.

Make it a game • The Texture Mystery Bag. Put four foods in a bag, such as dry cereal, a cracker, a raisin and a lump of cooked rice. Reach in without peeking and describe only how it feels: crunchy, smooth or chewy. Your grown-up guesses the food. Then switch. Why did Johnny Appleseed plant so many apple trees?

UNIT 3

TASTE, SMELL & YOUR TASTE BUDS

How do you know a lemon is sour and a strawberry is sweet? In this unit you will look at your own tongue in a mirror and find the bumps where taste buds live. You will learn the five tastes, sweet, salty, sour, bitter and savory, and you will discover that your nose does much of the work when you taste.

You will also learn why some green vegetables taste stronger to children than to grown-ups, and why it is worth trying a new food again and again. Then you will feel the difference between crunchy, smooth and chewy foods by making applesauce. All along, we will remember that every taste is a gift: “O taste and see that the LORD is good.”

PREREQUISITES

- Washes hands and produce before cooking (Unit 1)
- Names the five food groups (Unit 2)
- Knows to check with a grown-up about allergies before tasting (Units 1–2)

MASTERY CHECKLIST

- ☐ I can find my taste-bud bumps in a mirror and name the five tastes.
- ☐ I can tell that every part of my tongue can taste every taste.
- ☐ I can show how holding my nose changes the way food tastes.
- ☐ I can tell why bitter foods may taste stronger to children and why we try new foods many times.
- ☐ I can describe foods as crunchy, smooth, chewy or soft.

OPTIONAL BOOKS AND TOOLS FOR THIS UNIT

- **A hand mirror and a flashlight:** For looking at your tongue and its bumps in Lesson 3.1.
- **A clean scarf or sleep mask for blindfold tests:** Used in Lessons 3.2 and 3.4 and the unit challenge. Taste tests work just as well with eyes closed.
- **A potato masher:** Helpful for mashing the cooled applesauce in Lesson 3.4. A large fork works too.

Not required. Every recipe in this unit works in an ordinary home kitchen.
School Launch has no ties to these authors, publishers or companies.

LESSONS IN THIS UNIT

3.1 Your Tongue and Taste Buds	2 sessions of 30–40 minutes
3.2 Your Nose Knows	2 sessions of 30–40 minutes
3.3 Bitter Tastes and Growing Up	2 sessions of 30–40 minutes
3.4 Texture: Crunchy, Smooth and Chewy	2 sessions of 30–40 minutes

UNIT 3 REVIEW

A parent asks each question aloud. Your child may answer by telling, pointing, showing or drawing. There are no points; this is a friendly conversation to see what has been learned. Have a hand mirror, an apple slice and a jelly bean or small piece of fruit ready.

1. Look at your tongue in the mirror. Show me where your taste buds live. What are the five tastes?
2. Is it true that you can taste sweet only on the tip of your tongue?
3. Hold your nose and eat this piece of fruit. Now let go. What happened? Why?
4. Why might a green vegetable taste stronger to you than to a grown-up? What should we do with a food that is “not my favorite yet”?
5. Who was Johnny Appleseed?
6. Tell me three texture words. Which word fits a raw apple, and which fits applesauce?

ANSWER KEY

1. In and around the little bumps all over the tongue. Sweet, salty, sour, bitter and savory.
2. No. That tongue map is wrong. Every part of the tongue can taste every taste.
3. It tasted flat with the nose held and full of flavor after letting go, because smell is a big part of flavor.
4. Children taste bitter more strongly. Keep taking small, thankful tastes; it can take 8 to 15 tries to like a new food.
5. John Chapman, who walked through Pennsylvania, Ohio and Indiana planting apple seeds in nurseries so settlers could plant orchards.
6. Crunchy, smooth, chewy, soft, juicy. A raw apple is crunchy; applesauce is smooth.

UNIT CHALLENGE: OUR FAMILY BLIND TASTE TEST

Hold a family taste test. With a grown-up, choose one food and serve it three ways, such as an apple raw, as applesauce and baked (a grown-up does the cooking), or carrots raw, cooked and grated. Each taster wears a blindfold or closes his or her eyes.

Ask each person to guess which one is which, to name the texture, and to choose a favorite. Make a chart with a face for each taster and each way. Then pick one vegetable your family does not love yet and make a plan to try it again three more times this month.

LOOK FOR	WHAT IT MEANS
Fair taste test	All three ways were served to every taster, with eyes closed, and the child helped set it up safely.
Taste words	The child used taste and texture words, such as sweet, sour, crunchy and smooth.
Results chart	A chart with every taster's faces or votes (a grown-up may write).
Try-again plan	The family chose a vegetable to try again and marked three dates on the calendar.

UNIT 4

HEAT & COLD

Heat and cold are a cook's two great helpers. Heat melts butter, turns runny eggs solid, makes bread golden and turns water into steam. Cold keeps food fresh and turns juice into ice. In this unit you will watch these changes happen, always from your safe spot while a grown-up handles anything hot.

You will hear about the bread-slicing machine that made sandwiches easy, the iceman who carried big blocks of ice into kitchens long ago, and the prophet Elijah, who opened his eyes to find a cake baked on hot coals beside him. You will make a grilled cheese sandwich, steamed broccoli, frozen banana pops and drop biscuits.

PREREQUISITES

- Knows the kid-free zone and stays in a safe spot while the stove or oven is on (Unit 1)
- Measures and pours with cups and spoons (Units 1–3)
- Knows to wash hands and never taste unbaked dough or uncooked egg (Units 1–2)

MASTERY CHECKLIST

- ☐ I can tell how heat changes food: butter and cheese melt, eggs set, bread turns golden.
- ☐ I can tell what steam is and why I stay back from it.
- ☐ I can tell how families kept food cold with ice long ago, and how water turns to ice.
- ☐ I can retell the story of Elijah and the cake baked on the coals.
- ☐ I can help make a recipe while a grown-up does every hot step.

OPTIONAL BOOKS AND TOOLS FOR THIS UNIT

- **A pot with a clear glass lid:** Lets you watch water heat, bubble and steam from a safe distance in Lesson 4.2. Any pot works; a grown-up can lift a metal lid to show you.
- **Wooden craft sticks:** For the frozen banana pops in Lesson 4.3 and the freezing tests in the unit challenge.
- **An oven light and window:** Most ovens have a light and a window. Watching biscuits rise through the glass in Lesson 4.4 is safe and fun.

Not required. Every recipe in this unit works in an ordinary home kitchen.

School Launch has no ties to these authors, publishers or companies.

LESSONS IN THIS UNIT

4.1 Hot Makes Things Change	2 sessions of 30–40 minutes
4.2 Steam	2 sessions of 30–40 minutes
4.3 Ice and the Old Icebox	2 sessions of 30–40 minutes
4.4 Elijah’s Cake on the Coals	2 sessions of 30–40 minutes

UNIT 4 REVIEW

A parent asks each question aloud. Your child may answer by telling, pointing, showing or drawing. There are no points; this is a friendly conversation to see what has been learned. Have an ice cube, a pat of butter and a slice of bread ready.

1. Hold the ice cube and the butter in your hand. What does warmth do to them?
What else does heat do to food?
2. What is steam? Why do you stay in your safe spot when a pot is steaming?
3. Predict: what will happen to a cup of water if we leave it in the freezer for a few hours?
4. Tell me about the iceman. How did families keep food cold long ago?
5. Tell me the story of Elijah and the cake on the coals.

6. Why do we never taste raw biscuit or cookie dough?

ANSWER KEY

1. Warmth makes them melt. Heat also cooks food, turns bread golden and crispy, and turns runny eggs solid.
2. Steam is water that got so hot it turned into a gas. It is very hot and can burn your skin.
3. It will freeze into ice, because the freezer is colder than 32 degrees.
4. Workers cut ice from frozen ponds in winter and stored it in icehouses in sawdust. The iceman delivered blocks of ice for the icebox, which kept the food cold.
5. Elijah was tired and sad and slept under a tree. An angel touched him and gave him a cake baked on the coals and a jar of water. He ate twice and had strength to walk forty days.
6. Raw flour (and uncooked egg) can carry germs. Dough is safe only after it is baked.

UNIT CHALLENGE: SAME FOOD, HOT AND COLD

Choose one food and see how heat and cold change it. Try a banana three ways: fresh, frozen on a stick, and warmed by a grown-up (sliced and baked or cooked in a pan). Or try an apple fresh, frozen and cooked into applesauce. A grown-up does all of the cooking while you watch from your safe spot.

Taste each one. For each, draw a picture and tell how it looks, how it feels (hard, soft, crunchy, mushy) and how it tastes. Choose a family favorite and serve it at a meal.

LOOK FOR	WHAT IT MEANS
Three ways	The same food was tried fresh, cold and hot, with a grown-up doing every hot step.
Safe spot	The child stayed in the safe spot while anything was cooking.
Words and pictures	Each way has a drawing and a few words about look, feel and taste (a grown-up may write).
Served with thanks	The family favorite was served at a meal, and the child helped clean up.

4.1 HOT MAKES THINGS CHANGE

OBJECTIVES

- Tell how Otto Rohwedder's bread-slicing machine changed sandwiches.
- Explain that heat makes butter and cheese melt and makes bread turn golden.
- Butter the bread and build a grilled cheese sandwich while a grown-up cooks it.

Warm-up. Put an ice cube, a small pat of butter, a cube of cheese and a chocolate chip on a plate. Set the plate in a sunny window, or hold each one in your warm hand for a minute. Which one changes first? Which one changes last?

WATCH

"Our World: Melting and Freezing" by Adventure Academy

Adventure Academy • 3:39

<https://www.youtube.com/watch?v=zwCUqG7GA3Y>

WHEN TO WATCH

After the melting test in the warm-up. Watch what happens to the tiny bits inside when something warms up.

BACKUP VIDEO

The Science of the Perfect Grilled Cheese Sandwich

Reactions • 3:15

<https://www.youtube.com/watch?v=rttkpPFNkmY>

For parents and older siblings, after the kitchen project.

KEY TERMS

heat

Warmth. Heat can make food melt, cook, brown or boil.

solid

Something that keeps its own shape, like a block of cheese.

melt

To change from a solid to a liquid when warmed, like butter in a pan or ice in the sun.

liquid

Something that flows and takes the shape of its cup, like milk or melted butter.

CORE IDEAS

Long ago. Not so long ago, every loaf of bread came whole, and families cut it themselves with a bread knife. A man named Otto Rohwedder spent many years building a machine that could slice a whole loaf into even slices. In 1928, a bakery in the little town of Chillicothe, Missouri, began selling the first machine-sliced bread. Shoppers loved it. Even slices made it easy to make toast and sandwiches, like the grilled cheese sandwich you will make today.

What happens to the food? Butter and cheese are **solid** when they are cold. When they get warm, they **melt** and become soft or **liquid**. When the bread touches the hot pan, it changes too: the outside dries out and turns golden brown and crispy, and it smells wonderful. Heat changes food in many ways. It melts, it softens, it browns, and it cooks.

Some changes go back, and some do not. If you put melted butter back in the refrigerator, it turns solid again. But toasted bread can never turn back into soft white bread, and a cooked egg can never turn back into a raw one. Cooking makes new foods!

Let's cook! You will spread soft butter on the bread and build the sandwich with cheese. Then you will go to your safe spot and watch while a grown-up cooks it in a pan until the bread is golden and the cheese is melted.

PICTURE STUDY



A Woman Preparing Bread and Butter for a Boy, Pieter de Hooch, about 1660–1663 · Oil on canvas · J. Paul Getty Museum, Los Angeles

Image: [Wikimedia Commons](#), public domain

In this painting from the Netherlands, a mother sits by the window and butters a slice of bread for her boy. He holds his hat and waits patiently, maybe because he is about to leave for school with his snack. Pieter de Hooch loved to paint the quiet rooms and sunny doorways of Dutch homes.

Look closely

- Find the slice of bread and the knife. What is the mother spreading on the bread?
- Look at the boy. How does he hold his hands while he waits?
- Look through the doorway. What can you see outside?
- Where is the sunlight coming in? Find the window and the open door.

Talk about it

1. Is the butter soft or hard? How can you make butter easier to spread?
2. What would happen to this bread and butter in a hot pan?
3. Who makes snacks for you? How can you say thank you?

Safety first. Only a grown-up uses the stove and lifts the hot pan. Stay in your safe spot while the sandwich cooks, and let it cool for a minute before you bite; melted cheese is very hot.

KITCHEN PROJECT

Melt Test and a Golden Grilled Cheese

You will do a melting race and then help make grilled cheese sandwiches. You will see heat melt the cheese and turn the bread golden.

You will need

- A small plate, an ice cube, a pat of butter, a cheese cube and a chocolate chip (for the melt test)
- A butter knife and a cutting board
- A large skillet or griddle and a wide spatula (grown-up only)

GOLDEN GRILLED CHEESE SANDWICHES

Serves 4 · Prep 5 min · Cook 8 min

Ingredients

- 8 slices sandwich bread
- 3 tablespoons butter, softened
- 8 slices mild cheese, such as American, cheddar or Monterey Jack

Method

1. Wash your hands. Lay the 8 slices of bread on the board.
2. With a butter knife, spread a thin layer of soft butter on one side of each slice, all the way to the edges.
3. Turn 4 slices butter side down. Put 2 slices of cheese on each.
4. Put the other 4 slices on top, butter side up.
5. Go to your safe spot. A grown-up heats the skillet over medium-low heat and cooks the sandwiches for 3–4 minutes, until the bottom is golden.
6. The grown-up flips each sandwich with a wide spatula and cooks it 2–3 minutes more, until both sides are golden and the cheese is melted.
7. The grown-up cuts the sandwiches and lets them cool for a minute.

Clean up: put away the butter and cheese and wipe the board.

Allergy check: Contains wheat and milk. For a wheat-free sandwich, use gluten-free bread. For a milk-free sandwich, use olive oil or a plant-based butter and a dairy-free cheese. Some breads contain soy or sesame;

Steps

1. **Melt race.** Do the warm-up test: which melted first, the ice, the butter, the cheese or the chocolate? A grown-up writes down the order.
2. **Before and after.** Touch a slice of plain bread and look at it closely. Then look at a cooked sandwich. How did the bread change? How did the cheese change?
3. Make the grilled cheese sandwiches with your grown-up.
4. **Taste test.** Is the outside crunchy? Is the inside soft and stretchy? Give it a family rating.
5. **Make it better.** Choose one change for next time, such as a different cheese or a thin apple slice inside.
6. Clean up together and wash your hands.

Tips

- Leave the butter on the counter for 20 minutes so it spreads without tearing the bread.
- Low heat gives the cheese time to melt before the bread gets too dark.

Check your work

- ☐ I can tell how sliced bread began.
- ☐ I can tell how heat changes butter, cheese and bread.
- ☐ I built grilled cheese sandwiches and stayed in my safe spot while they cooked.

COOK'S NOTEBOOK

1. Draw the melt race: the ice cube, the butter, the cheese and the chocolate chip, and number them in the order they melted.
2. Draw a plain slice of bread and a golden grilled cheese side by side.
3. Draw Otto Rohwedder's bread-slicing machine the way you imagine it.

From history. Otto Rohwedder's first bread slicer was made in 1917, but it burned in a factory fire, and he had to start again. He finally sold his first working machine to the Chillicothe Baking Company, which sold sliced bread beginning in July 1928.

COMMON MISTAKES

- Spreading cold, hard butter. It tears the bread; let it soften first.
- Biting the sandwich right away. Melted cheese stays hot inside; wait a minute.
- Cooking on high heat. The bread burns before the cheese melts.

Make it a game · Quiz the Parent. You are the teacher. Ask your grown-up three questions: What does heat do to butter? What happens to cheese when it gets hot? Who invented the bread slicing machine? Your grown-up secretly gets one answer wrong. Catch the mistake, give the right answer, and say melt, solid and liquid.

4.2 STEAM

OBJECTIVES

- Tell the old story of young James Watt watching the lid of a kettle jiggle.
- Explain that boiling water turns into steam and that steam is very hot.
- Wash and break broccoli for a grown-up to steam, and season it with lemon.

Warm-up. Breathe on a cold mirror or a cold window. What appears? Where did the water come from? Now think: what happens to a pot of water on the stove when it gets very hot?

WATCH

The Water Cycle | The Dr. Binocs Show | Learn Videos For Kids

Peekaboo Kidz • 3:08

<https://www.youtube.com/watch?v=ncORPosDrjI>

WHEN TO WATCH

After the story. Watch for the words evaporation and condensation; they happen in your kitchen too, every time water boils.

KEY TERMS

boil

When water gets so hot that big bubbles rise and burst. Water boils at 212 degrees at sea level.

steam

Water that has become so hot it turns into a gas and floats into the air.

steamer basket

A metal or bamboo basket with holes that holds food above boiling water, so the steam can cook it.

CORE IDEAS

The story. There is an old story about a Scottish boy named James Watt. One day, it is said, he sat by the fire and watched his aunt's kettle. When the water boiled, the steam pushed the lid up and down, rattle, rattle, rattle. Jamie wondered: how could steam be so strong? We cannot be sure the kettle story really happened. But we know James Watt grew up to build steam engines that were much better than any before,

in the 1760s and 1770s, and steam engines soon pumped water, ran factories and pulled trains.

What happens to the water? When a grown-up heats a pot of water, tiny bubbles form on the bottom. Then big bubbles rise and burst: the water is **boiling**. Some of the water turns into **steam**, an invisible gas that floats up out of the pot. When the steam meets cooler air, it turns back into tiny drops of water, and we see a little white cloud.

Steam cooks food, and steam burns. Steam is as hot as boiling water, and it can burn skin in a moment. That is why a grown-up lifts a lid by tipping it away from his or her face, and why you stay in your safe spot. Cooks use steam to cook vegetables gently. In a **steamer basket**, broccoli sits above the boiling water, and the hot steam cooks it until it turns bright green and tender.

Let's cook! You will wash the broccoli and break it into little trees. A grown-up will steam it while you watch the steam rise from a safe distance. Then you will squeeze on lemon and sprinkle on a little cheese.

PICTURE STUDY



Girl Eating Soup, Albert Anker, 1898 · Oil on canvas · Private collection

Image: [Wikimedia Commons](#), public domain

Albert Anker was a Swiss painter who loved to paint children and village life. Here a girl in a red dress bends over her bowl of soup, spoon in hand, with a crust of bread and a glass of water beside her. Anker painted many children eating, praying and learning, always with great kindness.

Look closely

- Find the bowl, the spoon, the bread and the glass of water.
- Look at how the girl holds her spoon. Is she eating quickly or carefully?
- Look at the table and the wall. Is this a fancy room or a plain one?
- Look at her face. How do you think the soup tastes?

Talk about it

1. If the soup is hot, what might you see rising from the bowl?
2. What do you do when your soup is too hot to eat?
3. Do you think the girl is hungry? How can you tell?

Safety first. Steam is as hot as boiling water. Only a grown-up uses the stove, lifts the lid (tipping it away from the face) and drains the pot. Watch from your safe spot at least 3 feet away. A grown-up cuts the lemon.

KITCHEN PROJECT

Watch the Steam and Steam the Broccoli

You will watch water heat up, bubble and steam from a safe distance, and see how steam turns back into water drops. Then you will help make steamed broccoli and compare it with raw broccoli.

You will need

- A pot with a lid (a clear glass lid is best) and a steamer basket (grown-up only)
- A cold metal pan lid or plate (for the drop test, held by a grown-up)
- A colander and a serving bowl
- A cutting board and sharp knife (grown-up only)

STEAMED BROCCOLI WITH LEMON AND PARMESAN

Serves 4 • Prep 10 min • Cook 5 min

Ingredients

- 1 large head broccoli (about 1 pound)
- 1 tablespoon butter or olive oil
- ½ lemon
- ¼ teaspoon salt
- 2 tablespoons grated Parmesan cheese (optional)

Method

1. Wash your hands. Rinse the broccoli under cool running water.
2. Break the broccoli into small trees with your hands. A grown-up cuts the thick stems with a sharp knife. Save one raw tree for the taste test.
3. Go to your safe spot. A grown-up puts about 1 inch of water in the pot, sets the steamer basket inside, covers it, and brings the water to a boil.
4. The grown-up adds the broccoli, covers the pot and steams it for 4–5 minutes, until it is bright green and a fork slides in easily.
5. The grown-up lifts the basket out (tipping the lid away from the face) and puts the broccoli in a bowl.

6. When the bowl is on the table, add the butter or oil and the salt. A grown-up cuts the lemon; you squeeze it over the broccoli and sprinkle on the cheese. Toss gently with a big spoon.

7. Clean up: put away the cheese and butter and wipe the counter.

Allergy check: Contains milk (butter, Parmesan). For a milk-free dish, use olive oil and leave out the cheese, or use a sprinkle of nutritional yeast.

Steps

1. **Watch it boil.** From your safe spot, watch the water in the pot with a clear lid. Tell what you see: tiny bubbles, big bubbles, a cloud of steam, drops on the lid.
2. **Drop test.** A grown-up holds a cold metal lid or plate high above the steaming pot for a few seconds, then shows you. What formed on it? (Steam turned back into water drops.)
3. Help make the steamed broccoli.
4. **Raw and steamed.** Compare a raw broccoli tree with a steamed one. Which is a brighter green? Which is crunchier? Which tastes sweeter?
5. **Taste test.** Give the steamed broccoli a family rating. Add a face to your try-it chart from Lesson 3.3.
6. **Make it better.** Choose one change for next time, such as green beans or carrots instead of broccoli.
7. Clean up together and wash your hands.

Tips

- Steamed broccoli turns bright green when it is ready. If it turns dull olive green, it has cooked too long.
- If you have no steamer basket, a grown-up can cook the broccoli in ½ inch of boiling water in a covered pan.

Check your work

- ☐ I can tell the story of James Watt and the kettle.
- ☐ I can tell what steam is and why I stay away from it.
- ☐ I helped make steamed broccoli and compared it with raw broccoli.

COOK'S NOTEBOOK

1. Draw a pot of boiling water with bubbles and steam rising, and you standing in your safe spot.
2. Draw a raw broccoli tree and a steamed one. Color them carefully.
3. Draw James Watt watching the kettle lid jiggle.

COMMON MISTAKES

- Leaning over a steaming pot to look. Steam burns; watch from your safe spot.
- Thinking the white cloud is the steam. Real steam is invisible; the cloud is tiny water drops forming as it cools.
- Steaming vegetables too long, until they are dull and mushy.

Make it a game · Steam or No Steam. Fold a paper into two columns. In one, draw three hot foods with curly steam lines above them, like soup or broccoli in a steamer. In the other, draw three cold foods with no steam. Your grown-up guesses each picture. Then tell what James Watt noticed about the kettle lid.

4.3 ICE AND THE OLD ICEBOX

OBJECTIVES

- Tell how families long ago kept food cold with ice cut from frozen lakes and delivered by the iceman.
- Explain that water freezes into ice when it gets very cold, and that wrapping ice helps it stay frozen longer.
- Make frozen banana pops with a butter knife, yogurt and toppings.

Warm-up. Fill a cup with water and put it in the freezer. Take a look every 30 minutes during the lesson. What is happening to it? Where does the ice start to form first?

WATCH

What is Freezing Point, Melting Point and Boiling Point? | Chemistry Lessons | Dr. Binocs Show

Peekaboo Kidz · 6:26

https://www.youtube.com/watch?v=Yv_vDQerOBk

WHEN TO WATCH

After the story. Listen for the freezing point of water and say it with Dr. Binocs.

KEY TERMS

freeze

To turn from a liquid into a solid when it gets very cold, like water turning into ice.

icebox

A wooden cabinet lined with metal that kept food cold with a big block of ice, before electric refrigerators.

iceman

A worker who delivered blocks of ice to homes in a wagon or truck.

icehouse

A building with thick walls where blocks of ice were packed in sawdust to keep them frozen all summer.

CORE IDEAS

Long ago. Before electric refrigerators, families kept food cold with ice. In the coldest part of winter, workers went out onto frozen lakes and ponds and cut the thick ice into big blocks with long saws. They packed the blocks in sawdust inside **icehouses**, buildings with thick walls, where the ice stayed frozen even in summer.

The iceman. All summer, the **iceman** drove his wagon down the street. Families put a card in the window to show how much ice they wanted that day. The iceman cut a block, grabbed it with big metal tongs, swung it onto his shoulder, and carried it into the kitchen. He set it in the top of the **icebox**, where the cold air flowed down over the milk, butter and meat. Children loved to follow the wagon and catch the little chips of ice that flew when he cut the blocks.

What happens to the water? When water gets very cold, 32 degrees or colder, it **freezes** and becomes solid ice. When the ice gets warm, it melts back into water. Ice melts more slowly when it is wrapped up, because the wrapping keeps the warm air away. That is why the icehouses used sawdust, and why we pack a lunch with an ice pack in a lunch box.

Let's cook! You will make frozen banana pops. You will peel bananas, cut them in half with a butter knife, push in a stick, dip them in yogurt and roll them in crunchy toppings. Then the freezer will do the rest.

PICTURE STUDY



Iceman and Helper with the Jamaica Pond Ice Company Wagon, Boston, Unknown photographer, about 1890–1910 · Photograph · Library of Congress, Washington, D.C.

Image: [Wikimedia Commons](#), public domain

This photograph is more than 100 years old. It shows an iceman and his helper with their ice wagon in Boston. Their ice came from Jamaica Pond, a real pond in the city, where the ice was cut every winter.

Look closely

- Find the words painted on the wagon. A grown-up can read them to you.
- Find the horse. What job does the horse do?
- Look at the men's clothes. Are they dressed for a hot day or a cold one?
- Can you find any blocks of ice or ice tongs?

Talk about it

1. Why did the ice wagon have to deliver ice so often?
2. How did ice from a pond in winter keep milk cold in summer?
3. How is our refrigerator easier than an icebox?

Safety first. Use only a butter knife to cut the soft bananas. Craft sticks can poke, so hold them by the handle end and do not run with them. Check for milk and nut allergies before choosing toppings.

KITCHEN PROJECT

Ice Race and Frozen Banana Pops

You will do an ice-melting race to see how wrapping keeps ice cold, like the old icehouses. Then you will make frozen banana pops and watch the freezer turn them solid.

You will need

- Three ice cubes, a plate, a small towel and a small lunch box or cooler with an ice pack (for the ice race)
- A cutting board and a butter knife
- Wooden craft sticks
- A baking sheet or plate lined with wax paper or parchment
- Three shallow bowls for the dipping and rolling

FROZEN BANANA POPS

Serves 6 pops • Prep 15 min • Freeze 2 hr

Ingredients

- 3 ripe but firm bananas
- $\frac{3}{4}$ cup vanilla or plain Greek yogurt
- 1 tablespoon honey or maple syrup (optional)
- $\frac{1}{2}$ cup crushed toasted oat cereal or granola
- $\frac{1}{4}$ cup unsweetened flaked coconut or mini chocolate chips

Method

1. Wash your hands. Line a baking sheet with wax paper or parchment.
2. Peel the bananas. Cut each one in half crosswise with a butter knife.
3. Gently push a craft stick into the cut end of each banana half.
4. Stir the honey into the yogurt in a shallow bowl. Put the cereal and the coconut or chocolate chips in two other bowls.
5. Dip each banana in the yogurt, or spread the yogurt on with a spoon. Then roll it in a topping.

6. Lay the pops on the lined sheet and freeze them for at least 2 hours, until solid.
7. Clean up: wash the bowls and wipe the counter. Let the pops sit 5 minutes before eating so they soften a little.

Allergy check: Contains milk (yogurt). Cereal and granola may contain wheat, oats, nuts or soy; chocolate chips may contain milk and soy; coconut is listed by some as a tree nut. Read every label. For a milk-free version, use a dairy-free yogurt. Never give honey to a baby under one year old.

Steps

1. **Ice race.** Put one ice cube on a plate, wrap one in a towel, and put one in a lunch box with an ice pack. Predict: which will melt first? Check every 15 minutes.
2. Make the banana pops and put them in the freezer.
3. **Freezer check.** Check your cup of water from the warm-up and your banana pops after 1 hour and after 2 hours. What changed?
4. **Taste test.** Taste a frozen pop. Is it hard or soft? Cold or very cold? Crunchy or creamy? Give it a family rating.
5. **Make it better.** Choose one change for next time, such as strawberries on a stick or a different topping.
6. Clean up together and wash your hands.

Tips

- Bananas with a few brown spots are sweet but still firm enough to hold a stick.
- Frozen pops keep in a covered container in the freezer for about a week.

Check your work

- ☐ I can tell how the iceman kept families' food cold.
- ☐ I can tell why wrapped ice melts more slowly.
- ☐ I made frozen banana pops and watched them freeze.

COOK'S NOTEBOOK

1. Draw the iceman carrying a block of ice with his tongs, and the icebox in the kitchen.
2. Draw the ice race: the three ice cubes and which one lasted longest.

3. Draw your banana pop and the toppings you chose.

COMMON MISTAKES

- Opening the freezer again and again to check. Each time, warm air gets in and the pops freeze more slowly.
- Thinking a towel makes ice warmer. A towel keeps warm air away, so the ice stays cold longer.
- Biting a hard frozen pop right away. Let it soften for a few minutes.

Make it a game · Wrap It or Not. Set two ice cubes on plates. Wrap one in a thick towel, as an icehouse wraps ice. Guess which will melt first and how many minutes it will take. Write down both guesses. Check every few minutes. Whoever is closest wins. Tell your grown-up how the iceman kept food cold long ago.

4.4 ELIJAH'S CAKE ON THE COALS

OBJECTIVES

- Retell the story of the angel who roused Elijah and gave him a cake baked on the coals.
- Explain that the heat of an oven makes dough puff up and turn golden.
- Measure and stir drop biscuit dough while a grown-up bakes it, and never taste unbaked dough.

Warm-up. Think about a time you were very, very tired and hungry, maybe after a long walk. How did a meal help you? What is the best thing to eat when you are tired?

WATCH

Elijah in the Wilderness

Saddleback Kids • 2:35

<https://www.youtube.com/watch?v=s0n2Ftucjrk>

WHEN TO WATCH

After you read the story from 1 Kings 19 together. Watch for the cake and the jar of water.

BACKUP VIDEO

Cooking Ash Cakes - 18th Century Cooking

Townsend's • 9:22

<https://www.youtube.com/watch?v=f55ZjXt7rrc>

After the kitchen project, for the whole family.

KEY TERMS

coals

The glowing hot pieces left in a fire after the flames die down. Long ago, people baked bread on them.

bake

To cook food with dry heat all around it, as in an oven.

dough

A thick mixture of flour and liquid that is shaped and baked into bread or biscuits.

biscuit

A small, soft bread that rises quickly in the oven without yeast.

CORE IDEAS

The story. The Bible tells about the prophet Elijah, who served God bravely. One day Elijah was so tired and sad that he ran away into the wilderness. He lay down under a juniper tree and fell asleep. Then an angel touched him and said, “Arise and eat.” Elijah looked, and beside his head was a cake baked on the coals and a jar of water. He ate and drank and slept again. The angel came a second time, and Elijah ate again. That food gave him strength to walk for forty days and forty nights (1 Kings 19:4-8). God took care of His tired servant with warm bread and water.

How did they bake? In Bible times, many families had no oven like ours. They made a flat dough of flour, water and a little oil and laid it right on hot stones or coals from a fire, or under the warm ashes. The heat from below and around baked the dough into a cake of bread, crusty on the outside and soft inside.

What happens to the dough? Biscuit **dough** has baking powder in it. When it gets hot in the oven, the baking powder makes tiny bubbles of gas, and the bubbles puff the dough up. The heat dries the outside into a golden crust and cooks the inside until it is soft and fluffy. Unbaked dough is never for tasting, because raw flour can carry germs; it is safe only after it is baked.

Let’s cook! You will measure the flour, baking powder and salt, pour in the milk and melted butter, and stir. Then you will drop spoonfuls of dough onto a baking sheet. A grown-up puts the pan into the hot oven and takes it out. You can watch the biscuits puff up through the oven window from your safe spot.

PICTURE STUDY



The Prophet Elijah in the Desert, Dieric Bouts, 1464–1468 · Oil on wood (a panel of the Altarpiece of the Holy Sacrament) · St. Peter's Church, Leuven, Belgium

Image: [Wikimedia Commons](#), public domain

Dieric Bouts was a painter in Belgium more than 550 years ago. He painted this picture as one panel of a large church painting about bread and the Lord's Supper. Here Elijah lies sleeping in the wilderness, and an angel wakes him to eat the food God has sent. Far off on the path, Bouts painted Elijah a second time, walking on in the strength of that food.

Look closely

- Find Elijah asleep. How is he resting his head?
- Find the angel. What is the angel doing with his hand?
- Find Elijah a second time, far away on the path. Where is he going?
- Look at the rocks and trees. Is this a city or a wilderness?

Talk about it

1. How did God take care of Elijah when he was tired and sad?
2. Why do you think the angel told Elijah to eat a second time?
3. When can we share food with someone who is tired or sad?

Safety first. Only a grown-up uses the oven and touches the hot pan, wearing oven mitts. Never taste unbaked dough; raw flour can carry germs. Wash your hands after handling the dough.

Watch Them Rise: Easy Drop Biscuits

You will mix a quick biscuit dough with no yeast and no rolling, drop it onto a pan, and watch through the oven window as the heat makes it puff up and turn golden.

You will need

- A large mixing bowl, a fork and a wooden spoon
- Measuring cups and spoons
- Two spoons for dropping the dough
- A baking sheet lined with parchment, oven mitts and a wire rack (grown-up only)

EASY DROP BISCUITS

Serves 10–12 biscuits • Prep 10 min • Bake 12–14 min

Ingredients

- 2 cups all-purpose flour
- 1 tablespoon baking powder
- 1 teaspoon sugar
- $\frac{3}{4}$ teaspoon salt
- 1 cup cold milk
- 6 tablespoons butter, melted by a grown-up and cooled a little

Method

1. A grown-up heats the oven to 450 °F and lines a baking sheet with parchment.
2. Wash your hands. Measure the flour, baking powder, sugar and salt into the big bowl. Level each measure with the back of a butter knife. Stir them together with a fork.
3. Pour in the cold milk and the melted butter. Stir with a wooden spoon just until there is no dry flour left. The dough will be thick and lumpy. That is just right.

4. Use two spoons to scoop up mounds of dough about the size of a golf ball and drop them onto the baking sheet, about 2 inches apart. Do not taste the unbaked dough.
5. Wash your hands. Go to your safe spot. A grown-up puts the pan in the oven and bakes the biscuits for 12–14 minutes, until they are tall and golden brown on top.
6. The grown-up takes the pan out with oven mitts and moves the biscuits to a rack to cool for 5 minutes.
7. Clean up: wash the bowl and spoons and wipe the counter. Serve the biscuits warm with butter, honey or jam.

Allergy check: Contains wheat and milk. For a milk-free version, use unsweetened oat or soy milk (soy is a major allergen) and ⅓ cup of a neutral oil instead of butter. A gluten-free baking flour blend with xanthan gum can replace the flour; the biscuits will be a little flatter.

Steps

1. **Read the story.** Read 1 Kings 19:4-8 aloud together before you cook. Tell it back in your own words.
2. Mix and drop the biscuit dough with your grown-up.
3. **Watch them rise.** Turn on the oven light and watch through the window from your safe spot. Every 3 minutes, tell what you see: flat lumps, puffing up, starting to turn golden, golden brown.
4. **Inside and out.** When a biscuit is cool enough, break it open. Is the outside crusty or soft? Is the inside fluffy? Can you see little holes where the bubbles were?
5. **Taste test.** Give the biscuits a family rating. Do they taste better plain, with butter or with jam?
6. **Make it better.** Choose one change for next time, such as a little grated cheese stirred in or a sprinkle of cinnamon sugar on top.
7. **Share:** give a warm biscuit to someone who has worked hard today, the way the angel brought food to tired Elijah.

Tips

- Stir only until the flour disappears. Too much stirring makes biscuits tough.
- Cold milk and a hot oven help the biscuits rise high.

Check your work

- ☐ I can retell the story of Elijah and the cake baked on the coals.
- ☐ I can tell what the oven's heat does to the dough.
- ☐ I mixed biscuit dough without tasting it and watched it bake from my safe spot.

COOK'S NOTEBOOK

1. Draw Elijah under the juniper tree, the angel, and the cake and jar of water.
2. Draw a biscuit three times: a lump of dough, puffing up in the oven, and golden on the plate.
3. A grown-up writes down who you shared a biscuit with and what that person said.

COMMON MISTAKES

- Tasting unbaked dough or licking the spoon. Raw flour can carry germs; wait until it is baked.
- Stirring the dough too much until it is smooth. Lumpy dough makes tender biscuits.
- Opening the oven door to peek. Use the oven light and window instead.

Make it a game • Elijah's Story Chain. Tell the story of Elijah and the cake on the coals as a chain. Your grown-up says the first sentence and you add the next, with a motion: tired under the tree, the angel's touch, the cake baking, the jar of water. Keep going until Elijah is strong. Name what an oven does to dough.

Scripture. “And he looked, and, behold, there was a cake baken on the coals, and a cruse of water at his head. And he did eat and drink, and laid him down again.” (1 Kings 19:6, KJV)

A cruse is a small jar. God cared for Elijah with simple food and water when he was weary, and He cares for us too.

UNIT 4

HEAT & COLD

Heat and cold are a cook's two great helpers. Heat melts butter, turns runny eggs solid, makes bread golden and turns water into steam. Cold keeps food fresh and turns juice into ice. In this unit you will watch these changes happen, always from your safe spot while a grown-up handles anything hot.

You will hear about the bread-slicing machine that made sandwiches easy, the iceman who carried big blocks of ice into kitchens long ago, and the prophet Elijah, who opened his eyes to find a cake baked on hot coals beside him. You will make a grilled cheese sandwich, steamed broccoli, frozen banana pops and drop biscuits.

PREREQUISITES

- Knows the kid-free zone and stays in a safe spot while the stove or oven is on (Unit 1)
- Measures and pours with cups and spoons (Units 1–3)
- Knows to wash hands and never taste unbaked dough or uncooked egg (Units 1–2)

MASTERY CHECKLIST

- ☐ I can tell how heat changes food: butter and cheese melt, eggs set, bread turns golden.
- ☐ I can tell what steam is and why I stay back from it.
- ☐ I can tell how families kept food cold with ice long ago, and how water turns to ice.
- ☐ I can retell the story of Elijah and the cake baked on the coals.
- ☐ I can help make a recipe while a grown-up does every hot step.

OPTIONAL BOOKS AND TOOLS FOR THIS UNIT

- **A pot with a clear glass lid:** Lets you watch water heat, bubble and steam from a safe distance in Lesson 4.2. Any pot works; a grown-up can lift a metal lid to show you.
- **Wooden craft sticks:** For the frozen banana pops in Lesson 4.3 and the freezing tests in the unit challenge.
- **An oven light and window:** Most ovens have a light and a window. Watching biscuits rise through the glass in Lesson 4.4 is safe and fun.

Not required. Every recipe in this unit works in an ordinary home kitchen.

School Launch has no ties to these authors, publishers or companies.

LESSONS IN THIS UNIT

4.1 Hot Makes Things Change	2 sessions of 30–40 minutes
4.2 Steam	2 sessions of 30–40 minutes
4.3 Ice and the Old Icebox	2 sessions of 30–40 minutes
4.4 Elijah’s Cake on the Coals	2 sessions of 30–40 minutes

UNIT 4 REVIEW

A parent asks each question aloud. Your child may answer by telling, pointing, showing or drawing. There are no points; this is a friendly conversation to see what has been learned. Have an ice cube, a pat of butter and a slice of bread ready.

1. Hold the ice cube and the butter in your hand. What does warmth do to them?
What else does heat do to food?
2. What is steam? Why do you stay in your safe spot when a pot is steaming?
3. Predict: what will happen to a cup of water if we leave it in the freezer for a few hours?
4. Tell me about the iceman. How did families keep food cold long ago?
5. Tell me the story of Elijah and the cake on the coals.

6. Why do we never taste raw biscuit or cookie dough?

ANSWER KEY

1. Warmth makes them melt. Heat also cooks food, turns bread golden and crispy, and turns runny eggs solid.
2. Steam is water that got so hot it turned into a gas. It is very hot and can burn your skin.
3. It will freeze into ice, because the freezer is colder than 32 degrees.
4. Workers cut ice from frozen ponds in winter and stored it in icehouses in sawdust. The iceman delivered blocks of ice for the icebox, which kept the food cold.
5. Elijah was tired and sad and slept under a tree. An angel touched him and gave him a cake baked on the coals and a jar of water. He ate twice and had strength to walk forty days.
6. Raw flour (and uncooked egg) can carry germs. Dough is safe only after it is baked.

UNIT CHALLENGE: SAME FOOD, HOT AND COLD

Choose one food and see how heat and cold change it. Try a banana three ways: fresh, frozen on a stick, and warmed by a grown-up (sliced and baked or cooked in a pan). Or try an apple fresh, frozen and cooked into applesauce. A grown-up does all of the cooking while you watch from your safe spot.

Taste each one. For each, draw a picture and tell how it looks, how it feels (hard, soft, crunchy, mushy) and how it tastes. Choose a family favorite and serve it at a meal.

LOOK FOR	WHAT IT MEANS
Three ways	The same food was tried fresh, cold and hot, with a grown-up doing every hot step.
Safe spot	The child stayed in the safe spot while anything was cooking.
Words and pictures	Each way has a drawing and a few words about look, feel and taste (a grown-up may write).
Served with thanks	The family favorite was served at a meal, and the child helped clean up.

UNIT 5

FOOD CHEMISTRY

Every kitchen is a little science lab. In this unit you will be a kitchen scientist and meet four ingredients that do big jobs. **Starch** from corn makes a pudding thick. **Fat** hiding in cream comes together into butter when you shake it. The **protein** in an egg white turns from clear to white when it cooks. And **yeast**, a tiny living thing, makes bubbles that puff up bread.

You will shake, stir, mash and watch, and a grown-up will do every hot step. You will also hear how Squanto showed the Pilgrims how to grow corn, how farm families churned their own butter, what Job said about the white of an egg, and how Louis Pasteur showed that yeast is alive. Jesus said the kingdom of heaven is like a little leaven, or yeast, that works through a whole batch of dough (Matthew 13:33).

PREREQUISITES

- Stays in a safe spot while the stove or oven is on (Units 1 and 4)
- Measures and pours with cups and spoons (Units 1–4)
- Knows to wash hands after touching uncooked eggs and never to taste unbaked dough (Units 1 and 4)

MASTERY CHECKLIST

- ☐ I can tell how a little cornstarch makes hot milk thick.
- ☐ I can shake cream into butter and tell that butter is mostly fat.
- ☐ I can tell how an egg white changes from clear to white when it cooks.
- ☐ I can show that yeast is alive by giving it sugar and warm water and watching the bubbles.
- ☐ I can be a kitchen scientist: guess, watch, tell what happened.

OPTIONAL BOOKS AND TOOLS FOR THIS UNIT

- **A clean jar with a tight lid:** A pint canning jar or a clean peanut-butter jar for shaking cream into butter in Lesson 5.2.
- **A packet of active dry or instant yeast:** From the baking aisle of any grocery store. Used for the balloon test in Lesson 5.4.
- **A small balloon and an empty plastic water bottle:** For the yeast balloon test in Lesson 5.4.

Not required. Every recipe in this unit works in an ordinary home kitchen.

School Launch has no ties to these authors, publishers or companies.

LESSONS IN THIS UNIT

5.1 Starch Makes Things Thick	2 sessions of 30–40 minutes
5.2 Butter Is Fat	2 sessions of 30–40 minutes
5.3 The Egg White Turns White	2 sessions of 30–40 minutes
5.4 Yeast Is Alive	2 sessions of 30–40 minutes

UNIT 5 REVIEW

A parent asks each question aloud. Your child may answer by telling, pointing, showing or drawing. There are no points; this is a friendly conversation to see what has been learned. Have a little cornstarch, a stick of butter, an egg and a slice of bread ready.

1. Predict: what will happen to cold milk with cornstarch in it when a grown-up heats it and stirs?
2. How did we make butter? What is butter mostly made of?
3. What color is a uncooked egg white? What color is a cooked one? Can a cooked egg turn back into a uncooked egg?
4. Show me the holes in this slice of bread. What made them?
5. Who was Louis Pasteur, and what did he show about yeast?

6. Tell me how Squanto helped the Pilgrims.

ANSWER KEY

1. It will get thick, like pudding. The starch grains soak up the milk and swell.
2. We shook cream in a jar until the fat stuck together into a lump of butter, with buttermilk left over. Butter is mostly fat.
3. Uncooked egg white is clear; cooked egg white is white and firm. No, heat changed it for good.
4. Yeast. It ate sugar and made bubbles of gas that puffed up the dough, and the bubbles left holes.
5. A French scientist who looked at yeast in a microscope and showed it is alive and that the living yeast makes dough rise.
6. He showed them how to plant corn in little hills with a fish to feed the soil, and they had a good harvest.

UNIT CHALLENGE: MY KITCHEN SCIENCE SHOW

Choose two experiments from this unit, such as cornstarch goo, shaking butter, a raw and cooked egg, or the yeast balloon. Do them again for your family, like a real scientist giving a show. Before each one, ask your family to guess what will happen. Then show them and explain what happened, in your own words.

Finish your show by serving a snack from the unit, such as butter on crackers or egg dip with vegetables. Draw a poster or notebook page for each experiment with “What we guessed” and “What happened.”

LOOK FOR	WHAT IT MEANS
Two experiments	Two experiments were shown safely, with a grown-up doing any hot steps.
Guess and tell	The child asked the family to predict, then explained what happened in his or her own words.
Notebook pages	A drawing for each experiment with what we guessed and what happened (a grown-up may write).
Snack and cleanup	A snack was served with thanks, and the child helped clean up.

5.1 STARCH MAKES THINGS THICK

OBJECTIVES

- Tell how Squanto showed the Pilgrims how to grow corn, and that corn is full of starch.
- Show what cornstarch does in cold water, and tell that heat makes it thicken.
- Measure and whisk a vanilla pudding while a grown-up cooks it.

Warm-up. Put 2 tablespoons of cornstarch in a bowl and add 1 tablespoon of water. Stir it with your finger. Now poke it hard and fast. Then let your finger sink in slowly. What happens? Is it a solid or a liquid?

WATCH

Let's Make Oobleck!

SciShow Kids · 4:52

<https://www.youtube.com/watch?v=nw8KaHglokQ>

WHEN TO WATCH

After the warm-up. Watch Jessi and Squeaks play with the same strange cornstarch goo you just made.

KEY TERMS

starch

A white powder that plants store in their seeds and roots. Corn, potatoes, rice and wheat are full of starch.

cornstarch

Pure starch made from corn. Cooks use it to make puddings, pie fillings and gravies thick.

thicken

To make a runny liquid get thick, like pudding.

whisk

To stir quickly with a wire tool so there are no lumps.

CORE IDEAS

Long ago. In the spring of 1621, the Pilgrims in Plymouth were trying to grow food in a land that was new to them. A man named Squanto (also called Tisquantum) came to help them. He had learned English, and he showed the Pilgrims how to plant corn in little hills, with a fish buried in each hill to feed the soil. That fall, they had a good

harvest of corn. Corn kept the Pilgrims fed, and it is still one of the most important foods in the world.

What is starch? A corn kernel is full of **starch**, food that the plant stored for its new baby plant. Factories can wash the starch out of corn and dry it into a soft white powder called **cornstarch**. Potatoes, rice and wheat are full of starch, too.

What happens to the food? In cold water, cornstarch just sinks, or makes a strange goo. But when it is heated in milk, each tiny grain of starch soaks up liquid and swells up, like a sponge. The swollen grains crowd together and make the milk **thicken** into pudding. That is why a cook stirs the cornstarch into *cold* milk first, so there are no lumps, and then heats it.

Let's cook! You will measure and **whisk** the sugar, cornstarch, salt and cold milk in the pot before it goes on the stove. Then you will watch from your safe spot while a grown-up stirs it over the heat until it turns thick and bubbly.

PICTURE STUDY



The Potato Eaters, Vincent van Gogh, 1885 · Oil on canvas · Van Gogh Museum, Amsterdam

Image: [Wikimedia Commons](#), public domain

Vincent van Gogh wanted to paint the hard-working farm families of the Netherlands. Here a family sits down to supper after a long day in the fields. Their meal is a big dish of potatoes, a food full of starch, which they grew themselves. Van Gogh said he wanted to show that they had dug the earth with the same hands they now put into the dish.

Look closely

- Find the dish of potatoes. Can you see steam rising?
- Count the people at the table.
- Find the lamp. Is the room bright or dim?
- Look at the people's hands. What do they tell you about their work?

Talk about it

1. Potatoes are full of starch. What other starchy foods give us energy?
2. This family worked hard to grow their food. Who grows the food we eat?
3. How is this family supper like yours? How is it different?

Safety first. Only a grown-up uses the stove and stirs the hot pudding. Hot pudding is thick and sticky and can bubble and spatter, so stay in your safe spot. Let the pudding cool before you taste it.

KITCHEN PROJECT

Goo, Then Pudding: Watch Starch Thicken

You will play with cornstarch goo, then whisk together a vanilla pudding and watch from your safe spot as the heat makes it thick.

You will need

- A small bowl, extra cornstarch and water (for the goo)
- A medium saucepan, a whisk and a heat-proof spatula
- Measuring cups and spoons
- Four small bowls or cups and plastic wrap

VANILLA CORNSTARCH PUDDING

Serves 4 (about ½ cup each) · Prep 5 min · Cook 8 min · Chill 2 hr

Ingredients

- ⅓ cup sugar
- 3 tablespoons cornstarch
- ⅛ teaspoon salt
- 2 cups cold milk
- 1 tablespoon butter
- 1 teaspoon vanilla extract

Method

1. Wash your hands. With the pot off the stove, measure the sugar, cornstarch and salt into the saucepan. Whisk them together.
2. Pour in ½ cup of the cold milk and whisk until smooth, with no lumps. Then pour in the rest of the milk and whisk again.
3. Go to your safe spot. A grown-up sets the pot over medium heat and stirs it all the time, scraping the bottom, for 5–7 minutes.
4. When the pudding starts to thicken and big, slow bubbles pop on top, the grown-up keeps stirring for 1 more minute.

5. The grown-up takes the pot off the heat and stirs in the butter and vanilla.
6. The grown-up spoons the pudding into the small bowls. When they have cooled a little, help press plastic wrap right onto the top of each pudding. Chill for at least 2 hours.
7. Clean up: a grown-up fills the pot with hot, soapy water to soak. You wipe the counter.

Allergy check: Contains milk. For a milk-free pudding, use a soy milk (soy is a major allergen) or oat milk and a plant-based butter; it will be a little softer. No eggs, wheat or nuts.

Steps

1. **Goo test.** Play with the cornstarch goo from the warm-up. Squeeze it, then open your hand. Does it act like a solid or a liquid?
2. **Predict.** Look at the thin, cold pudding mix in the pot. What do you think will happen when it gets hot?
3. **Make the pudding.** Every minute, the grown-up lifts the spatula and shows you the pudding. Tell what you see: thin like milk, a little thick, thick and bubbly.
4. **Taste test.** When the pudding is cold, taste it. Is it smooth or lumpy? Thick or thin? Give it a family rating.
5. **Make it better.** Choose one change for next time, such as chocolate pudding (add $\frac{1}{4}$ cup cocoa powder) or sliced bananas on top.
6. Clean up together and wash your hands.

Tips

- Cornstarch goo washes off with warm water. Do not pour a lot of it down the drain; scrape it into the trash.
- The pudding gets thicker as it cools in the refrigerator.

Check your work

- ☐ I can tell how Squanto helped the Pilgrims grow corn.
- ☐ I can tell what happens to cornstarch when it is heated in milk.
- ☐ I whisked a pudding and watched it thicken from my safe spot.

COOK'S NOTEBOOK

1. Draw a corn plant with ears of corn, and a box of cornstarch.
2. Draw the pudding three times: thin, getting thick, and thick in the bowl.
3. Draw Squanto showing the Pilgrims how to plant corn.

From history. The Pilgrims and their Wampanoag neighbors shared a harvest feast in the fall of 1621 that we remember at Thanksgiving. Corn was one of the foods they ate.

COMMON MISTAKES

- Dumping cornstarch into hot milk. It makes lumps; always mix it with cold milk first.
- Taking the pudding off the heat too soon. It must bubble for a minute to get thick.
- Tasting hot pudding. It holds heat a long time; let it cool.

Make it a game • Goo Duel. Mix cornstarch and cold water in a bowl until it is thick goo. Squeeze it fast, then touch it slowly. Is it a solid or a liquid? Take turns guessing what will happen next. Then tell your grown-up what heat does to starch in a pot, and why pudding gets thick.

5.2 BUTTER IS FAT

OBJECTIVES

- Tell how farm families long ago churned cream into butter.
- Explain that butter is the fat from cream, and that shaking makes the fat stick together.
- Shake cream in a jar to make real butter and spread it on crackers or bread.

Warm-up. Look at a stick of butter and a cup of cream. Both come from milk. Feel the butter. Swirl the cream. How are they different? Could you turn one into the other?

WATCH

Let's Make Butter! - #sciencegoals

SciShow Kids · 2:56

<https://www.youtube.com/watch?v=e1LYWF8T8g0>

WHEN TO WATCH

After the story, before you start shaking. Watch the cream change in Jessi's jar.

BACKUP VIDEO

How to Make Butter in Jar - Yummy Kitchen Science for Homeschool or the Classroom

STEAM Powered Family · 1:44

<https://www.youtube.com/watch?v=QdmzhYM3RII>

If your butter is taking a long time, watch this while you keep shaking.

KEY TERMS

cream

The rich, thick part of milk that rises to the top. It has lots of fat in it.

churn

To stir or shake cream hard until it turns into butter. Also the name of the tool used to do it.

fat

The oily part of foods like butter, cream, oil and cheese. Fat gives energy and makes food rich and smooth.

buttermilk

The thin, watery liquid left over after butter is made.

CORE IDEAS

Long ago. Long ago, farm families made their own butter. After the cow was milked, the milk sat in a cool place, and the rich **cream** rose to the top. Someone skimmed off the cream and poured it into a tall wooden **churn**. Then came the hard part: pushing a wooden pole up and down, up and down, sometimes for half an hour, until little yellow lumps of butter appeared. Children often helped with the churning.

What happens to the cream? Cream is full of tiny drops of **fat**, each one wrapped in a thin coat. When you shake or churn the cream, the drops bump and crash into each other. Their coats break, and the fat drops stick together, more and more, until they make one big lump of butter. The thin liquid left behind is called **buttermilk**.

Fat in food. Fat is one of the things our bodies need. It gives us energy and helps our bodies use some vitamins. It also makes food taste rich and feel smooth. Butter, oil, cheese, nuts and avocados all have fat in them.

Let's cook! You will pour cream into a jar, close it tightly and shake, shake, shake! You can take turns with your family. In about 10 to 15 minutes you will have real butter to spread on crackers or bread.

PICTURE STUDY



Woman Churning Butter, Jean-François Millet, 1866–1868 · Pastel and black crayon on paper · Museum of Fine Arts, Boston

Image: [Wikimedia Commons](#), public domain

Jean-François Millet grew up on a farm in France, and he loved to show the work of farm families. Here a young woman stands at a tall wooden churn, pushing the handle up and down to turn cream into butter. It was slow, tiring work, and she leans into it with her whole body.

Look closely

- Find the churn. What shape is it?
- Find the handle. Which way does it move?
- Find the white cream splashing at the top of the churn.
- Look at her arms. How hard is she working?

Talk about it

1. Why do you think she pushes with her whole body?
2. How is her churn like your jar? How is it different?
3. Who in your family would you ask to take a turn at the churn?

Safety first. Make sure the jar lid is screwed on tight, and hold the jar with both hands so it does not slip. Check for milk allergies before tasting.

Shake It Into Butter

You will make real butter from cream by shaking it in a jar, and you will watch it change from liquid to whipped cream to butter and buttermilk.

You will need

- A clean pint jar with a tight lid
- A timer
- A small strainer, a bowl and a spoon
- A small dish for the butter and a butter knife

SHAKE-IT HOMEMADE BUTTER

Serves About ½ cup butter, enough for 24 crackers or 8 slices of bread · Shake 10–20 min

Ingredients

- 1 cup heavy cream (also called heavy whipping cream), cold
- ⅛ teaspoon salt (optional)
- Crackers or bread for serving

Method

1. Wash your hands. Pour the cold cream into the jar. It should be no more than half full.
2. Screw the lid on tight. Shake the jar hard, up and down. Take turns with your family.
3. After about 5 minutes, open the jar and look. The cream will be thick, like whipped cream. Close it and keep shaking.
4. Keep shaking until you hear a thump-thump and see a yellow lump in a thin, watery liquid. That is butter and buttermilk!
5. Pour it through a strainer over a bowl. Save the buttermilk in the refrigerator for pancakes.
6. Put the butter in a bowl of very cold water and press it with a spoon to rinse out the last buttermilk. Pour off the water. Stir in the salt if you like.

7. Spread your butter on crackers or bread. Keep leftover butter covered in the refrigerator and use it within a week. Clean up: wash the jar and strainer.

Allergy check: Contains milk. There is no milk-free swap for this experiment; a family with a milk allergy can watch the video and instead shake oil and water in a jar to see that they do not mix. Crackers and bread usually contain wheat.

Steps

1. **Predict.** How long do you think it will take to turn cream into butter? Write down each person's guess.
2. Shake the cream with a timer running. Stop every 3 minutes and look. Tell what you see: runny, foamy, thick like whipped cream, lumps of butter.
3. Strain and rinse your butter.
4. **Taste test.** Taste your butter on a cracker. Then taste store butter on another cracker. Can you tell the difference? Give your butter a family rating.
5. **Make it better.** Choose one change for next time, such as stirring a little honey and cinnamon into the butter.
6. Clean up together and wash your hands.

Tips

- Cold cream works, but cream that has sat out for 15 minutes turns into butter a little faster.
- Do not fill the jar more than half full. The cream needs room to splash.

Check your work

- ☐ I can tell how farm families churned butter long ago.
- ☐ I can tell what happens to the fat in cream when we shake it.
- ☐ I shook cream into real butter.

COOK'S NOTEBOOK

1. Draw your jar four times: cream, whipped cream, a lump of butter, and butter with buttermilk.
2. Draw the woman at her tall churn and you with your jar.
3. A grown-up writes how many minutes it took and who shook the longest.

COMMON MISTAKES

- Stopping when the cream looks like whipped cream. Keep shaking; butter is coming soon.
- Filling the jar too full, so the cream cannot splash and churn.
- Leaving the buttermilk in the butter. Rinse it out, or the butter will spoil faster.

Make it a game • Shake and Say. Seal a clean, empty jar and shake it while you tell the butter story in order. Cream goes in, shaking makes the fat stick together, butter forms, and buttermilk is left. Count your shakes out loud. Can you finish the whole story before 50 shakes? Try again to beat your number.

Scripture. “Surely the churning of milk bringeth forth butter,” (Proverbs 30:33, KJV)

People in Bible times churned butter too, often by shaking milk in a skin bag. The writer of Proverbs knew that steady work brings a sure result.

5.3 THE EGG WHITE TURNS WHITE

OBJECTIVES

- Tell what Job said about the taste of the white of an egg.
- Explain that heat changes the clear egg white into a solid white, and that it cannot change back.
- Peel cooled hard-cooked eggs and mash them into an egg dip, while a grown-up does the cooking.

Warm-up. A grown-up cracks a uncooked egg into a clear glass dish. Look closely. What color is the part around the yolk? Is it runny or solid? Now think of a fried egg or a boiled egg. What color is that part? What changed it?

WATCH

Why Does Cooking Eggs Make Them Hard? | The Science of Cooking. | SciShow Kids

SciShow Kids · 4:25

<https://www.youtube.com/watch?v=ikh-QAUi8vA>

WHEN TO WATCH

After you look at the uncooked egg. Watch for what heat does to the egg white.

BACKUP VIDEO

The Science of Cooking :: Episode 4 :: The Eggciting Episode

Florida Department of Agriculture and Consumer Services · 6:51

<https://www.youtube.com/watch?v=UNT85g2fXSs>

For the whole family after the kitchen project.

KEY TERMS

egg white

The clear, runny part of an egg around the yellow yolk. It turns white and firm when cooked.

yolk

The round yellow middle of an egg.

protein

A part of food that helps build muscles.
Egg whites are mostly water and protein.

hard-cooked egg

An egg cooked in its shell in hot water until the white and yolk are both firm.

CORE IDEAS

Long ago. In the Bible, a man named Job went through a very hard time. When he talked about how dull and tasteless everything seemed to him, he asked, “Is there any taste in the white of an egg?” (Job 6:6). People have been eating eggs for thousands of years, and they knew that the white of an egg has almost no taste by itself. It needs a little salt!

What happens to the food? A uncooked egg white is clear and runny. It is mostly water with lots of tiny **protein** strings curled up inside like little balls of yarn. When the egg gets hot, the little balls of yarn uncurl and tangle together into a net. The net catches the water, and the egg white turns solid and white. The **yolk** turns firm and pale yellow too.

It cannot go back. When melted butter cools, it turns solid again. But once an egg is cooked, it can never turn back into a uncooked egg, no matter how long it sits in the refrigerator. Heat has changed it for good. Eggs must be cooked until the white and yolk are firm, because uncooked eggs can carry germs.

Let’s cook! A grown-up will cook the eggs in hot water and cool them in ice water. Then you will crack and peel the cooled eggs, mash them with a fork, and stir in the other ingredients to make a creamy egg dip for crackers and vegetables.

PICTURE STUDY



A Copper Cauldron, a Pestle and Mortar, a Stoneware Jug, Eggs and a Spring Onion on a Ledge, Jean-Siméon Chardin, about 1730s · Oil on canvas · Private collection

Image: [Wikimedia Commons](#), public domain

Chardin painted many quiet still lifes of the things in an ordinary French kitchen. Here are a copper pot for cooking, a mortar and pestle for crushing, a jug, a spring onion and a few eggs. Everything is waiting for the cook to begin.

Look closely

- Find the eggs. How many are there? What color are their shells?
- Find the copper pot. What could the cook make in it?
- Find the green spring onion. What could it add to an egg dish?
- Find the mortar and pestle. What could a cook crush in it?

Talk about it

1. If the cook boiled these eggs in the copper pot, what would happen to the egg whites?
2. Which of these things do we have in our kitchen?
3. What do you think the cook is going to make?

Safety first. Only a grown-up cooks the eggs and handles the boiling water. Peel the eggs only after they have cooled in ice water. Wash your hands after touching the uncooked egg in the warm-up, and do not taste uncooked egg.

Clear to White: Creamy Egg Dip

You will compare a uncooked egg with a cooked egg, then peel and mash hard-cooked eggs into a creamy dip for crackers and vegetable sticks.

You will need

- A clear glass dish (for looking at a uncooked egg)
- A medium saucepan with a lid and a slotted spoon (grown-up only)
- A large bowl of ice water
- A medium bowl and a fork or potato masher
- Measuring cups and spoons

CREAMY EGG DIP

Serves 4–6 • Cook 12 min • Cool 10 min • Prep 10 min

Ingredients

- 6 large eggs
- ¼ cup mayonnaise (store-bought) or plain Greek yogurt
- 1 teaspoon yellow mustard
- ¼ teaspoon salt
- A pinch of black pepper
- 1 tablespoon chopped chives or ½ teaspoon dried dill (optional)
- Crackers, celery sticks and cucumber rounds for dipping

Method

1. A grown-up puts the eggs in the saucepan, covers them with cold water by 1 inch, and brings the water to a boil. Then the grown-up turns off the heat, covers the pot and lets it stand for 12 minutes.
2. The grown-up moves the eggs with a slotted spoon into the bowl of ice water. Let them cool for at least 10 minutes.
3. Wash your hands. Tap a cooled egg all over on the counter, then roll it gently under your hand. Peel off the shell, starting at the wide end. Rinse off any bits of shell.

4. Put the peeled eggs in a bowl and mash them with a fork or potato masher until they are in tiny pieces.
5. Add the mayonnaise or yogurt, mustard, salt, pepper and chives. Stir until creamy.
6. Serve with crackers and vegetable sticks (cut by a grown-up). Refrigerate leftovers right away and eat them within 3 days.
7. Clean up: throw away the shells, wash the bowl and fork, and wipe the counter.

Allergy check: Contains eggs. Store-bought mayonnaise also contains eggs; yogurt contains milk. Crackers usually contain wheat. There is no easy swap for the eggs; a family with an egg allergy can mash chickpeas with the same seasonings for a different dip.

Steps

1. **Raw and cooked.** Look at the uncooked egg in the glass dish and a peeled hard-cooked egg side by side. What color is each white? Is each one runny or firm? Then wash your hands.
2. **Inside the egg.** A grown-up cuts one cooked egg in half. Find the white and the yolk. Are they both solid?
3. Peel and mash the eggs and make the dip.
4. **Taste test.** Taste a tiny bit of plain egg white. Is there much taste, as Job said? Then taste the dip with its salt and mustard. Give it a family rating.
5. **Make it better.** Choose one change for next time, such as a little paprika on top or a spoonful of sweet pickle relish.
6. Clean up together and wash your hands.

Tips

- Eggs that are a week or two old are easier to peel than very fresh ones.
- Peeling under a little running water helps the shell slip off.

Check your work

- ☐ I can tell what Job said about the white of an egg.
- ☐ I can tell how heat changes an egg white, and that it cannot change back.
- ☐ I peeled and mashed eggs into a dip.

COOK'S NOTEBOOK

1. Draw a uncooked egg in a dish and a cooked egg cut in half. Label the white and the yolk.
2. Draw little balls of yarn uncurling and tangling into a net, the way the egg protein does.
3. Draw your egg dip with the crackers and vegetables around it.

COMMON MISTAKES

- Peeling eggs while they are hot. Cool them in ice water first.
- Tasting uncooked egg. Uncooked eggs can carry germs; eggs must be cooked until firm.
- Leaving egg dip out on the table. It is perishable; put it back within 2 hours.

Make it a game • Clear or White Cards. Make two cards: a piece of clear plastic wrap for raw egg white, and white paper for cooked egg white. Your grown-up asks, What color is a raw egg white? What color is it cooked? Can it change back? Hold up the right card and explain. Then tell what Job said about egg white.

Scripture. “Can that which is unsavoury be eaten without salt? or is there any taste in the white of an egg?” (Job 6:6, KJV)

“Unsavoury” means without flavor. Job knew that a little salt makes plain food taste better, just as a kind word makes a hard day better.

5.4 YEAST IS ALIVE

OBJECTIVES

- Tell how Louis Pasteur showed that yeast is a tiny living thing.
- Show that yeast eats sugar and makes gas bubbles by blowing up a balloon.
- Top English muffin pizzas, and tell that the holes in the muffins were made by yeast.

Warm-up. Look closely at a slice of bread or a split English muffin. Do you see the little holes? How do you think they got there? Who or what made them?

WATCH

Blow Up Balloon with Yeast / Yeast Science Experiment

Teach Starter · 1:06

https://www.youtube.com/watch?v=_1DV0q1_9ac

WHEN TO WATCH

Before you start your own balloon test, so you know what to watch for.

BACKUP VIDEO

Why Does Bread Have Holes In It? | The Science of Cooking | SciShow Kids

SciShow Kids · 5:34

<https://www.youtube.com/watch?v=JlDlZr7Ljrw>

While you wait for your balloon to fill up.

KEY TERMS

yeast

A tiny living thing, too small to see one by one, that bakers use to make bread rise.

rise

To puff up and get bigger, like bread dough full of gas bubbles.

gas

Something like air that has no shape and spreads out to fill its space. Yeast makes a gas called carbon dioxide.

leaven

An old word for yeast or anything that makes dough rise.

CORE IDEAS

Long ago. For thousands of years, bakers knew that if they saved a lump of old dough and mixed it into new dough, the new dough would puff up. But nobody knew why. About 160 years ago, a French scientist named Louis Pasteur looked at yeast through his microscope. He saw that yeast was made of tiny living cells, and he watched them grow and make more of themselves. Pasteur showed that it is the living yeast that makes dough rise.

What happens to the food? Yeast is alive, but it is asleep when it is dry in the packet. When you give it warm water, it wakes up. When you give it sugar, it eats! As the yeast eats the sugar, it makes bubbles of a **gas** called carbon dioxide. In bread dough, the bubbles get trapped and make the dough **rise**. When the bread bakes, the bubbles leave behind little holes. That is what you see in a slice of bread or an English muffin.

Leaven in the Bible. In the Bible, yeast is called **leaven**. Jesus said that the kingdom of heaven is like leaven that a woman hid in three measures of flour, until the whole batch was leavened (Matthew 13:33). A tiny bit of yeast works quietly until it changes all of the dough.

Let's cook! You will make English muffin pizzas. You will spread the sauce, sprinkle the cheese and add your own toppings. A grown-up bakes them in the hot oven while you watch from your safe spot.

PICTURE STUDY



Woman Baking Bread, Jean-François Millet, 1854 · Oil on canvas · Kröller-Müller Museum, Otterlo, Netherlands

Image: [Wikimedia Commons](#), public domain

On French farms long ago, families baked many loaves at once in a big stone oven. The woman in this painting has made the dough, let it rise, and now uses a long wooden paddle to slide each loaf into the hot oven. Millet shows how strong and careful she must be.

Look closely

- Find the long wooden paddle. What is on it?
- Find the opening of the oven. How can you tell it is hot?
- Look at her sleeves and her face. How is she staying safe from the heat?
- Find the other loaves waiting their turn.

Talk about it

1. Why does she use a long paddle instead of her hands?
2. What did the yeast do to her dough before she baked it?
3. Who uses the oven in our kitchen? Where do you stand when the oven is open?

Safety first. Only a grown-up uses the oven and lifts the hot pan with oven mitts.

Melted cheese stays very hot, so let the pizzas cool for 3–5 minutes before you take a bite. Check for milk and wheat allergies.

Yeast Balloon and English Muffin Pizzas

You will feed some yeast and watch it blow up a balloon. Then you will look for yeast holes in English muffins and turn them into little pizzas.

You will need

- An empty plastic water bottle, a small balloon, 1 packet of yeast, 1 tablespoon sugar and ½ cup warm tap water (for the balloon test)
- A small funnel or a paper rolled into a cone
- A baking sheet, oven mitts and a spatula (grown-up only)
- A spoon for spreading sauce

ENGLISH MUFFIN PIZZAS

Serves 4 (8 little pizzas) · Prep 10 min · Bake 8–10 min

Ingredients

- 4 English muffins, split in half
- ½ cup pizza sauce or marinara sauce
- 1 cup grated mozzarella cheese
- Toppings: 16 slices turkey pepperoni, ¼ cup sliced black olives, ¼ cup diced bell pepper (cut by a grown-up) or a few small spinach leaves
- ½ teaspoon dried oregano or Italian seasoning (optional)

Method

1. A grown-up heats the oven to 400 °F.
2. Wash your hands. Lay the muffin halves cut side up on the baking sheet. Look for the yeast holes!
3. Spoon 1 tablespoon of sauce onto each half and spread it almost to the edge with the back of the spoon.
4. Sprinkle about 2 tablespoons of cheese on each one.
5. Add your toppings and a pinch of oregano. Make faces or patterns if you like.

6. Go to your safe spot. A grown-up bakes the pizzas for 8–10 minutes, until the cheese is melted and bubbly and the edges are golden, then lets them cool for a few minutes.

7. Clean up: put away the cheese and toppings, and wipe the counter.

Allergy check: Contains wheat (English muffins) and milk (cheese). Some English muffins contain soy; some pepperoni contains milk or soy; read the labels. For a wheat-free pizza, use gluten-free English muffins or rice cakes. For a milk-free pizza, use a dairy-free cheese.

Steps

1. **Yeast balloon.** With a grown-up, use a funnel to pour the yeast and sugar into the bottle. Add $\frac{1}{2}$ cup of warm tap water (warm like a bath, not hot). Swirl it. Stretch the balloon over the top of the bottle. Set it in a warm spot.
2. **Predict and watch.** What do you think will happen to the balloon? Check it every 10 minutes for 30–40 minutes. Can you see foam and bubbles in the bottle?
3. Make the English muffin pizzas while the yeast works.
4. **Taste test.** Look at the holes in the edge of your pizza. Then take a bite. Give it a family rating.
5. **Make it better.** Choose one change for next time, such as a new topping or a pizza face.
6. Clean up together: a grown-up pours out the yeast mixture and rinses the bottle. Wash your hands.

Tips

- If the water is too hot, it can hurt the yeast. Warm bath water is just right.
- If the balloon does not grow, check the date on the yeast packet; old yeast may be too sleepy.

Check your work

- ☐ I can tell how Louis Pasteur showed that yeast is alive.
- ☐ I can tell what yeast eats and what it makes.
- ☐ I did the balloon test and made English muffin pizzas.

COOK'S NOTEBOOK

1. Draw your yeast balloon at the start and after 30 minutes.

2. Draw tiny yeast cells eating sugar and blowing bubbles.
3. Draw your English muffin pizza and the holes the yeast made.

COMMON MISTAKES

- Using very hot water for yeast. Too much heat can stop the yeast from working.
- Forgetting the sugar in the balloon test. Yeast needs food to make gas.
- Biting a pizza straight from the oven. Melted cheese stays very hot.

Make it a game • Interview the Yeast. Your grown-up is a news reporter. You are the yeast, speaking in a tiny voice. Answer these questions: What do you eat? What do you make? Are you alive? Why is bread fluffy? Use the words sugar, gas, rise and bubbles. Then switch and let your grown-up try.

Scripture. “Another parable spake he unto them; The kingdom of heaven is like unto leaven, which a woman took, and hid in three measures of meal, till the whole was leavened.” (Matthew 13:33, KJV)

A little leaven quietly changes a whole batch of dough. Jesus used this kitchen picture to show how God’s kingdom grows.

FOOD CHEMISTRY

Every kitchen is a little science lab. In this unit you will be a kitchen scientist and meet four ingredients that do big jobs. **Starch** from corn makes a pudding thick. **Fat** hiding in cream comes together into butter when you shake it. The **protein** in an egg white turns from clear to white when it cooks. And **yeast**, a tiny living thing, makes bubbles that puff up bread.

You will shake, stir, mash and watch, and a grown-up will do every hot step. You will also hear how Squanto showed the Pilgrims how to grow corn, how farm families churned their own butter, what Job said about the white of an egg, and how Louis Pasteur showed that yeast is alive. Jesus said the kingdom of heaven is like a little leaven, or yeast, that works through a whole batch of dough (Matthew 13:33).

PREREQUISITES

- Stays in a safe spot while the stove or oven is on (Units 1 and 4)
- Measures and pours with cups and spoons (Units 1–4)
- Knows to wash hands after touching uncooked eggs and never to taste unbaked dough (Units 1 and 4)

MASTERY CHECKLIST

- ☐ I can tell how a little cornstarch makes hot milk thick.
- ☐ I can shake cream into butter and tell that butter is mostly fat.
- ☐ I can tell how an egg white changes from clear to white when it cooks.
- ☐ I can show that yeast is alive by giving it sugar and warm water and watching the bubbles.
- ☐ I can be a kitchen scientist: guess, watch, tell what happened.

OPTIONAL BOOKS AND TOOLS FOR THIS UNIT

- **A clean jar with a tight lid:** A pint canning jar or a clean peanut-butter jar for shaking cream into butter in Lesson 5.2.
- **A packet of active dry or instant yeast:** From the baking aisle of any grocery store. Used for the balloon test in Lesson 5.4.
- **A small balloon and an empty plastic water bottle:** For the yeast balloon test in Lesson 5.4.

Not required. Every recipe in this unit works in an ordinary home kitchen.

School Launch has no ties to these authors, publishers or companies.

LESSONS IN THIS UNIT

5.1 Starch Makes Things Thick	2 sessions of 30–40 minutes
5.2 Butter Is Fat	2 sessions of 30–40 minutes
5.3 The Egg White Turns White	2 sessions of 30–40 minutes
5.4 Yeast Is Alive	2 sessions of 30–40 minutes

UNIT 5 REVIEW

A parent asks each question aloud. Your child may answer by telling, pointing, showing or drawing. There are no points; this is a friendly conversation to see what has been learned. Have a little cornstarch, a stick of butter, an egg and a slice of bread ready.

1. Predict: what will happen to cold milk with cornstarch in it when a grown-up heats it and stirs?
2. How did we make butter? What is butter mostly made of?
3. What color is a uncooked egg white? What color is a cooked one? Can a cooked egg turn back into a uncooked egg?
4. Show me the holes in this slice of bread. What made them?
5. Who was Louis Pasteur, and what did he show about yeast?

6. Tell me how Squanto helped the Pilgrims.

ANSWER KEY

1. It will get thick, like pudding. The starch grains soak up the milk and swell.
2. We shook cream in a jar until the fat stuck together into a lump of butter, with buttermilk left over. Butter is mostly fat.
3. Uncooked egg white is clear; cooked egg white is white and firm. No, heat changed it for good.
4. Yeast. It ate sugar and made bubbles of gas that puffed up the dough, and the bubbles left holes.
5. A French scientist who looked at yeast in a microscope and showed it is alive and that the living yeast makes dough rise.
6. He showed them how to plant corn in little hills with a fish to feed the soil, and they had a good harvest.

UNIT CHALLENGE: MY KITCHEN SCIENCE SHOW

Choose two experiments from this unit, such as cornstarch goo, shaking butter, a raw and cooked egg, or the yeast balloon. Do them again for your family, like a real scientist giving a show. Before each one, ask your family to guess what will happen. Then show them and explain what happened, in your own words.

Finish your show by serving a snack from the unit, such as butter on crackers or egg dip with vegetables. Draw a poster or notebook page for each experiment with “What we guessed” and “What happened.”

LOOK FOR	WHAT IT MEANS
Two experiments	Two experiments were shown safely, with a grown-up doing any hot steps.
Guess and tell	The child asked the family to predict, then explained what happened in his or her own words.
Notebook pages	A drawing for each experiment with what we guessed and what happened (a grown-up may write).
Snack and cleanup	A snack was served with thanks, and the child helped clean up.

UNIT 6

HUNGRY, FULL & TREATS IN THEIR PLACE

God made our bodies to tell us when we need food and when we have had enough. In this unit you will learn to listen to your tummy: hungry, satisfied and too full. You will learn why sweet treats taste so good and why your brain sometimes says “More, more!” even when your tummy is full. And you will learn that water is the best drink for a thirsty body.

You will hear about the manna God sent to His people in the wilderness, a little each day, just enough for everyone. You will meet Esau, who traded something precious for a bowl of stew because he wanted it right now. And you will make popcorn, apple “cookies,” sparkling fruit water and a pot of lentil soup. Treats and feasts are good gifts from God, enjoyed in their place and shared with thanks.

PREREQUISITES

- Names the five food groups (Unit 2)
- Names the five tastes, including sweet (Unit 3)
- Stays in a safe spot while a grown-up cooks (Units 1 and 4)

MASTERY CHECKLIST

- ☐ I can tell how my tummy feels when I am hungry, satisfied and too full.
- ☐ I can tell why it helps to eat slowly.
- ☐ I can name some everyday foods and some sometimes foods.
- ☐ I can tell why water is the best drink when I am thirsty.
- ☐ I can retell the stories of the manna and of Esau and the stew.

OPTIONAL BOOKS AND TOOLS FOR THIS UNIT

- **Five clear cups and a teaspoon:** For the sugar-spoon display in Lesson 6.3: line up the cups and spoon in the sugar that is in each drink.
- **A kitchen timer:** For the slow-eating test in Lesson 6.1 and for timing the soup in Lesson 6.4.

Not required. Every recipe in this unit works in an ordinary home kitchen.

School Launch has no ties to these authors, publishers or companies.

LESSONS IN THIS UNIT

6.1 Hungry, Satisfied, Too Full

2 sessions of 30–40 minutes

6.2 Why Treats Taste So Good

2 sessions of 30–40 minutes

6.3 Water or a Sugary Drink?

2 sessions of 30–40 minutes

6.4 Esau and the Bowl of Stew

2 sessions of 30–40 minutes

UNIT 6 REVIEW

A parent asks each question aloud. Your child may answer by telling, pointing, showing or drawing. There are no points; this is a friendly conversation to see what has been learned. Have a few foods or grocery-flyer pictures and a drink label ready.

1. Show me with your hand how hungry, satisfied and too full feel. Why does it help to eat slowly?
2. Tell me the story of the manna. Did anyone go without?
3. Put these foods into everyday foods and sometimes foods.
4. What is the best drink when you are thirsty? Why?
5. Predict: if you eat a lot of a sweet treat very fast, will your tummy tell you right away that you have had enough?
6. Tell me the story of Esau and the stew. What should Esau have done?

ANSWER KEY

1. Low for hungry, middle for satisfied, high for too full. The tummy's "that's enough" message takes about 20 minutes to reach the brain.
2. God sent manna every morning in the wilderness. Each family gathered what it needed, and everyone had enough.
3. For example: apple, carrots, bread, eggs, milk are everyday foods; candy, cake, chips and soda are sometimes foods.
4. Water. It gives the body what it needs with no added sugar.
5. No. It takes about 20 minutes, so you might eat more than you need and feel too full.
6. Esau came in hungry and traded his birthright to Jacob for a bowl of red lentil stew. He should have waited and treasured his birthright instead of wanting food right now.

UNIT CHALLENGE: OUR FAMILY DRINK AND SNACK WEEK

For one week, help your family choose water as the main drink between meals and an everyday food for snacks. Each day, draw a cup for every glass of water you drink and draw the snack you chose. Make the sparkling fruit water or apple cookies at least once.

At the end of the week, plan one special treat to share with your family, such as a small dessert after Sunday dinner. Talk together: How did you feel this week? Did anything taste different? Thank God for the treat and enjoy it together.

LOOK FOR	WHAT IT MEANS
One week of drawing	The child drew water cups and snacks each day for the week (a grown-up may help).
Everyday choices	Most snacks were everyday foods, chosen cheerfully.
Kitchen help	The child made one of the unit's recipes safely and helped clean up.
Treat with thanks	The family shared a treat in its place, with thanks, and talked about the week.

6.1 HUNGRY, SATISFIED, TOO FULL

OBJECTIVES

- Retell how God sent manna each day, enough for everyone.
- Describe how your tummy feels when you are hungry, satisfied and too full, and why eating slowly helps.
- Help make popcorn while a grown-up pops it, and serve it in bowls.

Warm-up. Put your hand on your tummy. How does it feel right now: empty and grumbly, just right, or stuffed? Show with your hand: low for hungry, in the middle for satisfied, high for too full.

WATCH

Why do our stomachs growl?

Mystery Science · 5:45

<https://www.youtube.com/watch?v=KmAV3U-VC1E>

WHEN TO WATCH

After the story. Listen to find out what makes the growling sound in your tummy.

BACKUP VIDEO

Stomach Growling Explained | Kids Health | The Friday Zone | WTIU | PBS

The Friday Zone · 1:14

<https://www.youtube.com/watch?v=7fooDhSXn3k>

Before the slow-eating test, for a quick review.

KEY TERMS

hungry

When your body needs food. Your tummy may feel empty or growl.

satisfied

When you have had enough to eat and feel just right, not hungry and not stuffed.

full

When your tummy is filled with food.
Too full feels heavy and
uncomfortable.

manna

The food God sent from heaven to feed
His people in the wilderness.

CORE IDEAS

The story. Long ago, God led His people out of Egypt and into a wide, dry wilderness. They were hungry, and there was no food. So God sent bread from heaven. Every morning, the ground was covered with small white flakes that tasted like wafers made with honey. The people called it **manna**. Each family gathered as much as they needed for that day. And when they measured it, the one who gathered much had nothing left over, and the one who gathered little had no lack. Everyone had enough (Exodus 16).

Listen to your tummy. God made your body to talk to you. When you need food, you feel **hungry**: your tummy may feel empty, it may growl, and you may feel tired or grumpy. As you eat, your tummy fills up and sends a message to your brain: “That’s enough.” Then you feel **satisfied**, just right. If you keep eating after that, you may feel too **full**, heavy and uncomfortable.

Slow down. Your tummy’s message takes about 20 minutes to reach your brain. If you eat very fast, you can eat more than you need before the message arrives. Eating slowly, chewing well, talking with your family and stopping to ask “Am I still hungry?” all help you notice when you are satisfied.

Let’s cook! You will help make popcorn. You will measure the kernels, and a grown-up will pop them. Then you will season the popcorn and scoop it into bowls, one for each person, and eat it slowly while you listen to your tummy.

PICTURE STUDY



The Gathering of the Manna, Dieric Bouts, 1464–1468 · Oil on wood (a panel of the Altarpiece of the Holy Sacrament) · St. Peter's Church, Leuven, Belgium

Image: [Wikimedia Commons](#), public domain

This painting comes from the same big church altarpiece as the picture of Elijah in Lesson 4.4. Dieric Bouts painted the people of Israel gathering the manna God sent. Each person kneels or bends to fill a jar or basket with the small white flakes.

Look closely

- Find the white manna on the ground.
- Find the different jars, bowls and baskets the people use.
- Find Moses. He may be standing apart, watching. How can you tell who he is?
- Look at the people's faces. Are they rushing or gathering calmly?

Talk about it

1. Why did God give the manna one day at a time?
2. What would happen if someone gathered far more than his family could eat?
3. How does God give us our food today?

Safety first. Only a grown-up pops the corn and handles the hot pot or popper. Popcorn and unpopped kernels can make children under four choke, so keep them away from babies and toddlers. Check unpopped kernels and throw them away before serving.

KITCHEN PROJECT

The Slow Snack: Family Popcorn

You will measure kernels, watch them pop from your safe spot, and season the popcorn. Then you will do a slow-eating test and listen to your tummy.

You will need

- A large pot with a lid, or an air popper (grown-up only)
- Measuring cups and spoons
- A large bowl and a big spoon
- One small bowl for each person

STOVETOP FAMILY POPCORN

Serves 4–6 (about 2 cups each) · Prep 2 min · Cook 5 min

Ingredients

- 2 tablespoons vegetable or coconut oil
- ½ cup popcorn kernels
- 2 tablespoons butter, melted by a grown-up (optional)
- ½ teaspoon fine salt
- Optional flavor: 1 teaspoon cinnamon mixed with 2 teaspoons sugar, or ¼ cup grated Parmesan cheese

Method

1. Wash your hands. Measure the kernels into a cup. Look at them: how hard and small they are!
2. Go to your safe spot. A grown-up puts the oil and 3 kernels in the large pot, covers it and heats it over medium-high heat.
3. When the 3 kernels pop, the grown-up adds the rest of the kernels, covers the pot, and shakes it gently over the heat.
4. Listen! When the popping slows to 2–3 seconds between pops, the grown-up takes the pot off the heat and pours the popcorn into the big bowl.

5. When the bowl is on the table, drizzle the melted butter and sprinkle the salt (and cinnamon sugar or Parmesan, if you like). Toss with a big spoon.
6. Scoop the popcorn into small bowls, one for each person. Pick out any unpopped kernels.
7. Clean up: wipe the counter and put away the oil and salt. A grown-up washes the pot when it is cool.

Allergy check: Contains milk if made with butter or Parmesan. For a milk-free popcorn, use oil only. Popcorn is free of the other major allergens, but it is a choking risk for children under four.

Steps

1. **Hunger check.** Before you eat, show with your hand how hungry you are: low, middle or high.
2. Make the popcorn with your grown-up.
3. **Slow-eating test.** Eat your bowl of popcorn one piece at a time. Set the timer for 10 minutes. Talk with your family while you eat. When the timer rings, put your hand on your tummy and check again.
4. **Taste test.** Is the popcorn crunchy? Salty? Give it a family rating.
5. **Make it better.** Choose one change for next time, such as cinnamon sugar or a sprinkle of Parmesan.
6. Clean up together and wash your hands.

Tips

- An air popper or a brown paper bag in the microwave (grown-up only) also makes good popcorn.
- Popcorn is a whole grain, so it counts in the grains group!

Check your work

- ☐ I can retell the story of the manna.
- ☐ I can tell how hungry, satisfied and too full feel.
- ☐ I ate my popcorn slowly and listened to my tummy.

COOK'S NOTEBOOK

1. Draw three tummies: one hungry, one satisfied and one too full. Give each a face.
2. Draw the people gathering manna in the morning.

3. Draw a popcorn kernel before and after it pops.

COMMON MISTAKES

- Eating very fast. Your tummy's message needs about 20 minutes to reach your brain.
- Eating while watching a screen and not noticing how full you are.
- Standing near the pot to watch the popping. Hot oil and popcorn can jump; stay in your safe spot.

Make it a game · Just Enough Manna. Scatter dry beans on the floor for manna. You may gather only enough for today, ten beans, and no more. Then tell your grown-up how your tummy feels when it is hungry, satisfied and too full. Why does eating slowly help? Trade jobs and quiz your grown-up the same way.

Scripture. “he that gathered much had nothing over, and he that gathered little had no lack; they gathered every man according to his eating.” (Exodus 16:18, KJV)

God gave His people just what they needed each day. We can trust Him for our daily food and learn to eat what we need.

6.2 WHY TREATS TASTE SO GOOD

OBJECTIVES

- Tell that God made us able to enjoy sweet foods, and that the brain learns to want more of them.
- Sort foods into everyday foods and sometimes foods.
- Spread and decorate apple “cookies” as a sweet everyday snack.

Warm-up. Think of your favorite treat. How do you feel when you see it? When you smell it? When you remember it? Does your mouth water? Why do you think treats are so easy to want?

WATCH

Sesame Street: A Cookie is a Sometime Food

Sesame Street • 3:30

<https://www.youtube.com/watch?v=PaHkwE7TaNg>

WHEN TO WATCH

After the story. Sing along, and listen for the words “sometime food.”

Note: From Sesame Street. Cookie Monster learns that a cookie is a sometime food, and fruits and vegetables are anytime foods.

KEY TERMS

treat

A special food, often sweet, that we enjoy now and then.

sometimes food

A food, like candy, cake or chips, that is fine to enjoy now and then, in a small amount.

everyday food

A food that helps your body grow and work well, such as fruits, vegetables, whole grains, milk, eggs and beans.

self-control

Choosing to stop or wait, even when you want something right now.

CORE IDEAS

A good gift. God made us able to enjoy sweet tastes. The first sweet foods people ever tasted were ripe fruits and honey. In the Bible, the Promised Land was called a land “flowing with milk and honey,” a picture of a good and happy place. Sweet foods are a gift, and feasts and treats are part of God’s good world.

What happens in your brain? When you taste something sweet, your brain notices and remembers. It learns, “That was good. I want that again!” The next time you see or smell that treat, your brain sends a little wanting message, and your mouth may even water. That is why it can be hard to stop eating cookies once you start, even after your tummy says it has had enough.

Everyday foods and sometimes foods. Some foods are **everyday foods**: fruits, vegetables, whole grains, milk, eggs, beans and meat. They help your body grow strong. Other foods, like candy, cake, cookies and chips, are **sometimes foods**. They are not bad, but they do not help your body grow very much, so we enjoy them now and then, in small amounts, and share them. Choosing when to stop is called **self-control**, and it is one of the fruits of God’s Spirit (Galatians 5:22-23).

Let’s cook! You will make apple “cookies.” A grown-up slices apples into rings. You will spread them with a creamy topping and decorate them with crunchy and sweet bits. They taste like a treat, but they are an everyday food!

PICTURE STUDY



Mrs. Gillie Treadway Taking Bread from the Oven, Russell Lee, 1946 · Photograph · National Archives, College Park, Maryland

Image: [Wikimedia Commons](#), public domain

This photograph was taken in 1946 in Bell County, Kentucky, by Russell Lee, a photographer working for the U.S. government. Mrs. Gillie Treadway, whose husband worked in a coal mine, is taking fresh bread out of her wood-burning stove. Many American families baked their bread at home like this.

Look closely

- Find the pan of bread. What is she holding it with, and why?
- Find the oven door. Where would the fire have been in a stove like this?
- Count the pots and kettles on top of the stove. What might be cooking in them?
- Look at the bread's top. Does it look puffed up or flat?

Talk about it

1. Why must you always use a cloth or oven mitts to take a pan out of the oven?
2. What made her bread dough puff up before it baked?
3. How is her stove different from the one in your kitchen? How is it the same?

Safety first. A grown-up cores and slices the apples with a sharp knife; you use a butter knife only for spreading. Check for peanut, tree nut, seed and milk allergies before choosing your spread and toppings.

Everyday or Sometimes? Apple Cookies

You will play a sorting game with real foods and pictures. Then you will make apple “cookies,” a sweet snack that is an everyday food.

You will need

- Two sheets of paper labeled Everyday Foods and Sometimes Foods
- An apple corer, a cutting board and sharp knife (grown-up only)
- A butter knife and small bowls for toppings
- A serving plate

APPLE COOKIES

Serves 4 (about 12 apple rings) · Prep 15 min

Ingredients

- 2 large crisp apples, such as Honeycrisp or Gala
- 1 teaspoon lemon juice mixed with $\frac{1}{2}$ cup water
- $\frac{1}{3}$ cup sunflower-seed butter, peanut butter or thick vanilla yogurt
- $\frac{1}{4}$ cup granola or crushed whole-grain cereal
- 2 tablespoons raisins or dried cranberries
- 1 tablespoon mini chocolate chips (optional)
- A sprinkle of ground cinnamon

Method

1. Wash your hands. Rinse the apples under cool running water and dry them.
2. A grown-up cores each apple and cuts it across into rings about $\frac{1}{4}$ inch thick.
3. Dip the rings quickly in the lemon water so they stay white. Pat them dry with a towel.
4. Spread a thin layer of seed butter, peanut butter or yogurt on each ring with a butter knife.

5. Sprinkle on granola, raisins, a few chocolate chips and a little cinnamon. Press them down gently.

6. Set the apple cookies on a plate and serve right away.

7. Clean up: put away the spreads and toppings and wipe the counter.

Allergy check: Peanut butter contains peanuts; granola often contains oats, wheat, tree nuts or soy; yogurt contains milk; chocolate chips may contain milk and soy. Sunflower-seed butter is peanut-free, but some children are allergic to sunflower seeds. Choose the spread and toppings that are safe for your family.

Steps

1. **Sorting game.** Look at foods in the kitchen or pictures from a grocery flyer. Put each one on Everyday Foods or Sometimes Foods. Talk about the hard ones.
2. Make the apple cookies with your grown-up.
3. **Taste test.** Do the apple cookies taste like a treat? Which part is sweet? Which part is crunchy? Give them a family rating.
4. **Wait test.** Put one apple cookie on a plate and wait 5 minutes before you eat it. Was it hard to wait? Did it taste even better?
5. **Make it better.** Choose one change for next time, such as pear rings or a different topping.
6. Clean up together and wash your hands.

Tips

- Crisp, firm apples hold their shape best as rings.
- The lemon water keeps the apples from turning brown.

Check your work

- ☐ I can tell why treats are easy to want.
- ☐ I can sort foods into everyday foods and sometimes foods.
- ☐ I made apple cookies and practiced waiting.

COOK'S NOTEBOOK

1. Draw two plates: one with everyday foods and one with a sometimes food.
2. Draw your apple cookie with all its toppings.
3. Draw a time when you chose to wait or to share a treat.

COMMON MISTAKES

- Calling sometimes foods “bad.” They are fine in their place, now and then, and shared.
- Thinking a sweet taste always means a sometimes food. Fruit is sweet and is an everyday food.
- Eating a treat whenever you see it. Treats are best at the right time, like after a meal or at a celebration.

Make it a game · Two Plates Sprint. Label two paper plates, with a drawn apple on one and a drawn cookie on the other. Place them at opposite ends of the room. Your grown-up calls out foods. Race to the everyday plate or the sometimes plate. Tell one reason for each pick. Score a point for each correct answer and try to beat your score.

Scripture. “Hast thou found honey? eat so much as is sufficient for thee,” (Proverbs 25:16, KJV)

“Sufficient” means enough. Honey is a sweet gift from God, and the wise person enjoys just enough of it.

6.3 WATER OR A SUGARY DRINK?

OBJECTIVES

- Tell how Joseph Priestley found a way to put bubbles into water.
- Show with teaspoons how much sugar is in some drinks, and tell why water is the best drink when you are thirsty.
- Make sparkling fruit water with berries and mint.

Warm-up. When do you feel thirsty? After running, on a hot day, when you wake up? Name all the drinks you can think of. Which one do you think your body likes best?

WATCH

Water versus Sugary Drinks

Eat Smart Be Fit Maryland • 1:17

<https://www.youtube.com/watch?v=UdnA742a2s0>

WHEN TO WATCH

After the story. Then tell why Sip the Water Drop is the best drink.

BACKUP VIDEO

How much sugar is in your drink? - Medical Minute

Avera Health • 2:42

<https://www.youtube.com/watch?v=i6NB1qLHp2o>

For parents, before the sugar-spoon display.

KEY TERMS

thirsty

When your body needs water. Your mouth may feel dry.

sugary drink

A drink with a lot of sugar added, such as soda, sweet tea, lemonade or fruit punch.

sparkling water

Water with tiny bubbles of gas in it, which make it fizz.

teaspoon

A small measuring spoon. About 4 grams of sugar fill one teaspoon.

CORE IDEAS

Long ago. About 250 years ago, an English minister and scientist named Joseph Priestley loved to do experiments. He found that he could make water fizzy by mixing in a gas, the same gas that yeast makes. In 1772 he wrote a little book that told people how to make bubbly water themselves. Today we call it **sparkling water**, and it is the bubbly part of many drinks.

Your body needs water. More than half of your body is water! You lose water when you breathe, sweat and play, so you need to drink every day. When you are **thirsty**, plain water is the best drink. It has no sugar, and it gives your body just what it needs. Milk is a good drink at meals.

Hidden sugar. Some drinks, like soda, fruit punch and sweet tea, are **sugary drinks**. A regular can of soda can have almost 10 **teaspoons** of sugar in it! You cannot see the sugar, because it has melted into the drink. Sugary drinks are sometimes drinks. Too much sugar is not good for your teeth or your body, and sugary drinks can fill you up so you do not want your everyday foods.

Let's cook! You will make sparkling fruit water. You will wash and gently squash berries, tear mint leaves and add slices of lemon or orange (cut by a grown-up). Then you will pour in the bubbly water. It is pretty, fizzy and has no added sugar.

PICTURE STUDY



Woman Drawing Water from a Water Urn, Jean-Siméon Chardin, about 1733–1739 · Oil on canvas ·

Chardin painted several versions; the first is dated 1733

Image: [Wikimedia Commons](#), public domain

In Chardin's time, there were no faucets in the kitchen. Water was carried in from a well or fountain and stored in a big copper urn with a little spout. Here a woman bends down to fill her jug, carefully and patiently. Every drop of clean water was precious.

Look closely

- Find the big copper urn and the spout. How does the water come out?
- Find the jug she is filling.
- Look for someone else in the picture, through the doorway.
- Look at how she bends. Is she in a hurry?

Talk about it

1. Where does the water in our kitchen come from?
2. What would it be like to carry in every drop of water your family used?
3. Why is clean water such a good gift?

Safety first. A grown-up cuts the lemon, orange or cucumber with a sharp knife. Wash all the fruit and mint before using it. Check for fruit allergies.

Sugar Spoons and Sparkling Fruit Water

You will measure how much sugar is hiding in a few drinks and see it in spoonfuls. Then you will make a fizzy fruit water with no added sugar and compare.

You will need

- Five clear cups, a teaspoon and a bowl of sugar (for the sugar display)
- Labels from a few drinks: soda, juice, sports drink, chocolate milk, water
- A large pitcher and a long spoon
- A cutting board and sharp knife (grown-up only)

SPARKLING BERRY-MINT WATER

Serves 6 (about 1 cup each) • Prep 10 min • Rest 10 min

Ingredients

- 1 cup strawberries, raspberries or blueberries
- 1 small lemon or orange
- 8–10 fresh mint leaves (optional)
- 1 liter (about 4 cups) cold plain sparkling water
- 2 cups cold still water
- Ice cubes

Method

1. Wash your hands. Rinse the berries and mint under cool running water.
2. Put the berries in the pitcher and gently squash them with the back of a long spoon, just enough to let some juice out.
3. Tear the mint leaves into the pitcher and squeeze them with your fingers to wake up the smell.
4. A grown-up slices the lemon or orange into thin rounds. Add them to the pitcher.

5. Pour in the still water and let it sit for 10 minutes so the fruit flavors the water.
6. Just before serving, add ice and slowly pour in the sparkling water. Stir gently and pour into glasses.
7. Clean up: rinse the spoon and cutting board and wipe the counter. Keep leftovers in the refrigerator and drink them within a day.

Allergy check: Free of the nine major allergens. Check with your family about any fruit allergies.

Steps

1. **Sugar spoons.** With a grown-up, read the sugar on each drink label (in grams). Divide by 4 to find the teaspoons. Spoon that much sugar into a clear cup for each drink. Put an empty cup in front of the water. Line them up. Which has the most?
2. Make the sparkling berry-mint water with your grown-up.
3. **Taste test.** Sip the fruit water. Can you taste the berries? The mint? Is it sweet even with no sugar added? Give it a family rating.
4. **Make it better.** Choose one change for next time, such as cucumber and lemon, or watermelon cubes.
5. **Drink check.** For three days, draw a cup in your notebook every time you drink water. How many did you draw?
6. Clean up together: pour the sugar from the display back into the sugar bowl or use it for baking. Wash your hands.

Tips

- Squashing the berries a little gives more flavor and a pretty pink color.
- Add the sparkling water at the very end so it stays bubbly.

Check your work

- ☐ I can tell how Joseph Priestley made fizzy water.
- ☐ I can show how much sugar is in a sugary drink.
- ☐ I made sparkling fruit water with no added sugar.

COOK'S NOTEBOOK

1. Draw the five cups from the sugar display, with the right number of spoons of sugar in each.
2. Draw your pitcher of sparkling fruit water with the berries and bubbles.
3. Draw yourself drinking water after playing outside.

From history. Joseph Priestley also discovered the gas we breathe in, oxygen, in 1774. He was a minister as well as a scientist, and later moved to Pennsylvania, where his house still stands.

COMMON MISTAKES

- Thinking juice drinks and sports drinks have no sugar because you cannot see it. Read the label.
- Waiting until you feel very thirsty to drink. Drink water through the day, especially when you play.
- Adding the sparkling water too early, so the bubbles go flat.

Make it a game • Guess the Sugar Spoons. Choose three drinks and look at their sugar on the label. Before your grown-up reveals the number, guess how many teaspoons of sugar each drink holds. Four grams is about one teaspoon. Scoop the real sugar into clear cups. Whose guess is closest? Then say why water is best when you are thirsty.

6.4 ESAU AND THE BOWL OF STEW

OBJECTIVES

- Retell the story of Esau, who traded his birthright for a bowl of lentil stew.
- Tell what it means to want something right now, and how waiting and self-control help.
- Rinse and measure lentils for a lentil soup that a grown-up cooks.

Warm-up. Imagine you have been playing outside all afternoon, and you are very, very hungry. Someone offers you a bowl of warm soup, but only if you give them your favorite toy forever. Would you do it? Why or why not?

WATCH

Jacob and Esau - Stories of the Bible

Saddleback Kids • 4:20

<https://www.youtube.com/watch?v=jNadcmhUjVQ>

WHEN TO WATCH

After you read the story from Genesis 25 together. Watch for the bowl of red stew.

BACKUP VIDEO

Jacob and Esau 1 God's Story

Crossroads Kids' Club • 4:19

<https://www.youtube.com/watch?v=hGs1WfRKIoM>

Another day, for the rest of Jacob and Esau's story.

KEY TERMS

lentils

Small, flat seeds of a plant in the bean family. They cook quickly into a soft, filling soup.

birthright

In Bible times, the special gift and honor that belonged to the oldest son in a family.

pottage

An old word for a thick soup or stew.

patience

Waiting calmly and kindly, without grumbling.

CORE IDEAS

The story. Isaac and Rebekah had twin sons, Esau and Jacob. Esau was a hunter who loved the fields, and Jacob stayed near the tents. Esau was born first, so he had the **birthright**, a special honor and blessing for the oldest son. One day Esau came in from the field tired and very hungry. Jacob was cooking a red stew of **lentils**. “Feed me, I pray thee, with that same red pottage,” Esau said. Jacob answered, “Sell me this day thy birthright.” Esau said, “I am at the point to die: and what profit shall this birthright do to me?” So he traded it away for a bowl of stew and some bread (Genesis 25:29-34).

What went wrong? Esau was so hungry that he could think only about right now. He gave away something precious that would last his whole life for a meal that was gone in a few minutes. The Bible says that Esau “despised his birthright.” He did not treasure what God had given him.

Wanting it now. We all feel like Esau sometimes. When we are hungry or want a treat, it is hard to wait. But **patience** and self-control help us make wise choices. A hungry person can say, “I will wait a few minutes for supper,” or choose a healthy snack, instead of grabbing the first thing in sight. And a good meal is worth waiting for.

Let’s cook! You will help make a pot of lentil soup, like Jacob’s red pottage. You will rinse the lentils and look for little stones, measure the broth and spices, and wait patiently while a grown-up chops the vegetables and cooks the soup.

PICTURE STUDY



Esau Sells His Birthright, Mikael Toppelius, 1775 · Paint on the wooden wall of a church · A village church in northern Finland

Image: [Wikimedia Commons](#), public domain

Mikael Toppelius was a Finnish painter who decorated the walls of wooden village churches with Bible stories, so that the people could see the stories while they listened. Here he painted Esau the hunter, with his bow and his dog, coming home hungry to Jacob, who holds out the bowl of stew. Underneath, he painted the words of the Bible verse in Finnish.

Look closely

- Find Esau. How can you tell he is a hunter?
- Find the bowl. Who is holding it?
- Find the dog.
- Find the words painted under the picture. What do you think they say?

Talk about it

1. What is Esau thinking about right now? What should he have thought about?
2. Why do you think the painter put this story on a church wall?
3. When is it hard for you to wait for food? What helps?

Safety first. Only a grown-up chops the vegetables and cooks the soup. Stay in your safe spot while the pot is on the stove, and let your bowl of soup cool before eating. Check for allergies to any spices or broth ingredients.

KITCHEN PROJECT

Waiting for Jacob's Red Lentil Soup

You will rinse and sort lentils like a careful cook, then help make a big pot of lentil soup. While it cooks, you will practice waiting patiently, and you will set the table so supper is ready when the soup is.

You will need

- A fine strainer and a white plate (for sorting lentils)
- Measuring cups and spoons
- A large soup pot with a lid, a wooden spoon and a ladle (grown-up only)
- A cutting board and sharp knife (grown-up only)
- A timer

RED LENTIL SOUP

Serves 6 (about 1 cup each) • Prep 15 min • Cook 30 min

Ingredients

- 1 cup red lentils
- 2 tablespoons olive oil
- 1 small onion
- 2 carrots
- 1 stalk celery
- 1 clove garlic (or ¼ teaspoon garlic powder)
- 1 teaspoon ground cumin
- ½ teaspoon paprika
- 1 can (14½ ounces) diced tomatoes
- 5 cups low-sodium chicken or vegetable broth
- ½ teaspoon salt
- 1 tablespoon lemon juice
- Bread for serving

Method

1. Wash your hands. Pour the lentils onto a white plate and look for any tiny stones or bits of dirt. Pick them out. Then rinse the lentils in the strainer under cool running water until the water runs clear.
2. Measure the cumin, paprika and salt into a small cup. Open the tomatoes with a grown-up's help (can edges are sharp) and measure the broth.
3. A grown-up chops the onion, carrots, celery and garlic with a sharp knife.
4. Go to your safe spot. A grown-up heats the oil in the pot over medium heat and cooks the vegetables for about 5 minutes, until soft. Then the grown-up adds the spices and stirs for 30 seconds.
5. The grown-up adds the lentils, tomatoes and broth, brings the soup to a boil, then turns the heat down, covers the pot and simmers it for 20–25 minutes, until the lentils are soft and falling apart.
6. The grown-up stirs in the lemon juice, tastes it, and adds more salt if needed. Ladle the soup into bowls and let it cool a little.
7. Clean up: wash the strainer, put away the spices and wipe the counter. Refrigerate leftovers within 2 hours.

Allergy check: Free of the nine major allergens when made with plain broth. Some store-bought broths contain soy, wheat or celery; read the label. Bread usually contains wheat.

Steps

1. **Read the story.** Read Genesis 25:29-34 aloud together before you cook. Tell it back in your own words.
2. **Sort and rinse.** Sort and rinse the lentils carefully. A good cook checks the food before it goes in the pot.
3. Help make the soup with your grown-up.
4. **Waiting time.** While the soup simmers, set a timer for 20 minutes. Use that time to set the table, fold the napkins and draw in your notebook. Was it easier to wait when you had a job to do?
5. **Taste test.** When the soup has cooled a little, taste it with bread, like Esau. Is it thick or thin? Give it a family rating.

6. **Make it better.** Choose one change for next time, such as a little more lemon or a spoonful of plain yogurt on top.

7. Clean up together and wash your hands.

Tips

- Red lentils cook faster than brown or green ones and melt into a thick, smooth soup.
- Lentil soup thickens as it sits. Add a little water or broth when you warm up leftovers.

Check your work

- ☐ I can retell the story of Esau and the red stew.
- ☐ I can tell why waiting and self-control help us make wise choices.
- ☐ I sorted and rinsed lentils and waited patiently for the soup.

COOK'S NOTEBOOK

1. Draw Esau coming in hungry from the field and Jacob stirring the red stew.
2. Draw a bowl of lentil soup and a piece of bread.
3. Draw what you did while you waited for the soup to cook.

COMMON MISTAKES

- Skipping the sorting. Lentils sometimes have tiny stones; always look first.
- Eating soup straight from the pot. Let it cool in the bowl first.
- Grabbing the first snack in sight when very hungry. Ask a grown-up for an everyday food, or wait for the meal.

Make it a game • Now or Later Beans. Play a patience game with dry beans as pretend points. Each round, you may take one bean now or wait for the count of ten and take three. Play ten rounds and count your beans. Then retell how Esau traded his birthright for stew. What does waiting teach us?

Scripture. “Then Jacob gave Esau bread and pottage of lentiles; and he did eat and drink, and rose up, and went his way: thus Esau despised his birthright.” (Genesis 25:34, KJV)

Esau traded something lasting for something that was gone in minutes. God helps us treasure what is truly precious and to wait with patience.

UNIT 6

HUNGRY, FULL & TREATS IN THEIR PLACE

God made our bodies to tell us when we need food and when we have had enough. In this unit you will learn to listen to your tummy: hungry, satisfied and too full. You will learn why sweet treats taste so good and why your brain sometimes says “More, more!” even when your tummy is full. And you will learn that water is the best drink for a thirsty body.

You will hear about the manna God sent to His people in the wilderness, a little each day, just enough for everyone. You will meet Esau, who traded something precious for a bowl of stew because he wanted it right now. And you will make popcorn, apple “cookies,” sparkling fruit water and a pot of lentil soup. Treats and feasts are good gifts from God, enjoyed in their place and shared with thanks.

PREREQUISITES

- Names the five food groups (Unit 2)
- Names the five tastes, including sweet (Unit 3)
- Stays in a safe spot while a grown-up cooks (Units 1 and 4)

MASTERY CHECKLIST

- ☐ I can tell how my tummy feels when I am hungry, satisfied and too full.
- ☐ I can tell why it helps to eat slowly.
- ☐ I can name some everyday foods and some sometimes foods.
- ☐ I can tell why water is the best drink when I am thirsty.
- ☐ I can retell the stories of the manna and of Esau and the stew.

OPTIONAL BOOKS AND TOOLS FOR THIS UNIT

- **Five clear cups and a teaspoon:** For the sugar-spoon display in Lesson 6.3: line up the cups and spoon in the sugar that is in each drink.
- **A kitchen timer:** For the slow-eating test in Lesson 6.1 and for timing the soup in Lesson 6.4.

Not required. Every recipe in this unit works in an ordinary home kitchen.

School Launch has no ties to these authors, publishers or companies.

LESSONS IN THIS UNIT

6.1 Hungry, Satisfied, Too Full	2 sessions of 30–40 minutes
6.2 Why Treats Taste So Good	2 sessions of 30–40 minutes
6.3 Water or a Sugary Drink?	2 sessions of 30–40 minutes
6.4 Esau and the Bowl of Stew	2 sessions of 30–40 minutes

UNIT 6 REVIEW

A parent asks each question aloud. Your child may answer by telling, pointing, showing or drawing. There are no points; this is a friendly conversation to see what has been learned. Have a few foods or grocery-flyer pictures and a drink label ready.

1. Show me with your hand how hungry, satisfied and too full feel. Why does it help to eat slowly?
2. Tell me the story of the manna. Did anyone go without?
3. Put these foods into everyday foods and sometimes foods.
4. What is the best drink when you are thirsty? Why?
5. Predict: if you eat a lot of a sweet treat very fast, will your tummy tell you right away that you have had enough?
6. Tell me the story of Esau and the stew. What should Esau have done?

ANSWER KEY

1. Low for hungry, middle for satisfied, high for too full. The tummy's "that's enough" message takes about 20 minutes to reach the brain.
2. God sent manna every morning in the wilderness. Each family gathered what it needed, and everyone had enough.
3. For example: apple, carrots, bread, eggs, milk are everyday foods; candy, cake, chips and soda are sometimes foods.
4. Water. It gives the body what it needs with no added sugar.
5. No. It takes about 20 minutes, so you might eat more than you need and feel too full.
6. Esau came in hungry and traded his birthright to Jacob for a bowl of red lentil stew. He should have waited and treasured his birthright instead of wanting food right now.

UNIT CHALLENGE: OUR FAMILY DRINK AND SNACK WEEK

For one week, help your family choose water as the main drink between meals and an everyday food for snacks. Each day, draw a cup for every glass of water you drink and draw the snack you chose. Make the sparkling fruit water or apple cookies at least once.

At the end of the week, plan one special treat to share with your family, such as a small dessert after Sunday dinner. Talk together: How did you feel this week? Did anything taste different? Thank God for the treat and enjoy it together.

LOOK FOR	WHAT IT MEANS
One week of drawing	The child drew water cups and snacks each day for the week (a grown-up may help).
Everyday choices	Most snacks were everyday foods, chosen cheerfully.
Kitchen help	The child made one of the unit's recipes safely and helped clean up.
Treat with thanks	The family shared a treat in its place, with thanks, and talked about the week.

UNIT 7

FIRE, THE GRILL & SPICE

This is the fun unit! Fire is hot and helpful: it cooks food, warms homes and brings families together around a campfire or a grill. But fire is only for grown-ups to light and tend. In this unit you will learn the grill rules, stay in the kid-free zone, and help get food ready while a grown-up does the grilling. If your family has no grill, a grown-up can use a grill pan or the oven broiler instead.

You will also discover herbs from the garden and spices from far away, and you will learn that cinnamon is really the bark of a tree. Then you will find out which flavors are good friends, like sweet and salty, and make fruit-and-cheese kabobs. A dinner of herbs where love is, the Bible says, is better than a feast without it.

PREREQUISITES

- Knows the kid-free zone and stays in a safe spot near heat (Units 1 and 4)
- Names the five tastes (Unit 3)
- Washes hands and produce before cooking (Unit 1)

MASTERY CHECKLIST

- ☐ I can tell the grill rules: only grown-ups light and use the grill, and I stay 3 feet back.
- ☐ I can name the three things a fire needs: heat, fuel and air.
- ☐ I can name three herbs and tell that herbs are leaves.
- ☐ I can tell where cinnamon comes from.
- ☐ I can name two flavors that go well together, like sweet and salty.

OPTIONAL BOOKS AND TOOLS FOR THIS UNIT

- **NFPA: Grilling safety tips:** Free tips from the National Fire Protection Association for the grown-up at the grill. Read before Lesson 7.1.
- **A small pot of a kitchen herb, such as basil, mint or parsley:** Inexpensive at grocery stores and garden centers. Keep it on a sunny windowsill for Lesson 7.2 and pick a few leaves whenever you cook.
- **A grill pan or the oven broiler:** For families without an outdoor grill. A grown-up uses it for the grilled pineapple in Lesson 7.1.

Not required. Every recipe in this unit works in an ordinary home kitchen.

School Launch has no ties to these authors, publishers or companies.

LESSONS IN THIS UNIT

7.1 Fire Is Hot and Helpful	2 sessions of 30–40 minutes
7.2 Herbs from the Garden	2 sessions of 30–40 minutes
7.3 Cinnamon Comes from Bark	2 sessions of 30–40 minutes
7.4 Sweet and Salty Friends	2 sessions of 30–40 minutes

UNIT 7 REVIEW

A parent asks each question aloud. Your child may answer by telling, pointing, showing or drawing. There are no points; this is a friendly conversation to see what has been learned. Have a cinnamon stick, a few herbs or spices and some sweet fruit ready.

1. Tell me the grill rules. Show me how far back you stand.
2. What three things does a fire need? How can a grown-up put out a flare-up on a grill?
3. Smell these leaves. What are herbs? Name three.
4. Here is a cinnamon stick. Where does it come from?
5. Predict: what will a tiny pinch of salt do to a piece of watermelon?

6. Tell me the story of Smokey Bear.

ANSWER KEY

1. Only grown-ups light and use the grill; it is used outdoors; children stay at least 3 feet back and never run near it; grown-ups use long tongs and never leave it alone.
2. Heat, fuel and air. Closing the lid shuts out the air.
3. Herbs are the leaves of plants used for flavor, such as basil, mint, parsley, dill or chives.
4. It is the dried inner bark of the cinnamon tree, which curls into a quill as it dries.
5. It will make the watermelon taste even sweeter, not salty.
6. The Forest Service made Smokey Bear in 1944 to teach fire safety. In 1950 firefighters rescued a real bear cub after a forest fire in New Mexico, and he lived at the National Zoo.

UNIT CHALLENGE: A FAMILY GRILL NIGHT (OR BROILER NIGHT)

Help plan a family dinner cooked on the grill (or under the oven broiler) by a grown-up. With your grown-up, choose a main food, such as chicken or burgers, a vegetable and a fruit. Make a simple spice sprinkle for the meat or vegetables by measuring and shaking spices in a jar (for example, paprika, garlic powder, a little salt and pepper), and add an herb for color.

Help get the food ready, mark the kid-free zone, and watch from your safe spot while a grown-up grills and checks the meat with a thermometer (chicken to 165 °F, burgers to 160 °F). Serve a flavor-friends fruit plate for dessert. Draw the meal and tell what each person liked best.

LOOK FOR	WHAT IT MEANS
Grill safety	The child marked the kid-free zone, said the grill rules and stayed 3 feet back the whole time.
Spice sprinkle	The child measured and shook a spice mix and can tell which plant part one spice came from.
Flavor friends	The fruit plate or meal had at least one pair of flavor friends, such as sweet and salty.
Thanks and cleanup	The family gave thanks, and the child helped clear the table and clean up.

7.1 FIRE IS HOT AND HELPFUL

OBJECTIVES

- Tell the story of Smokey Bear and name the three things every fire needs.
- Say the grill rules and show the 3-foot kid-free zone around a grill.
- Help get pineapple ready for a grown-up to grill, and sprinkle on cinnamon.

Warm-up. Look at a picture of a campfire or a candle flame (or watch a grown-up light a candle). What does fire give us? What can fire do that is dangerous? Who should light fires?

WATCH

Get to Know Grilling Safety with NFPA

National Fire Protection Association • 2:58

https://www.youtube.com/watch?v=E-A_vixL1dU

WHEN TO WATCH

After the story. Watch for the safe distance around the grill and the long tools the grown-up uses.

Note: From the National Fire Protection Association. The tips are written for the grown-up at the grill; the child should notice the kid-free zone.

BACKUP VIDEO

A Children's Story Of Smokey Bear

Forest Service • 11:43

https://www.youtube.com/watch?v=n_MjUOTQoxc

Another day, for the whole story of the real Smokey Bear.

KEY TERMS

fire

The heat and light that come from something burning.

fuel

Anything that can burn, like wood, charcoal or gas.

grill

A metal grate over hot coals or gas flames, used outdoors to cook food.

tongs

A long tool with two arms for picking up and turning food, so hands stay far from the heat.

CORE IDEAS

The story. In 1944 the U.S. Forest Service needed a way to teach people to be careful with fire in the woods. They chose a friendly bear in a ranger's hat and named him Smokey Bear. A few years later, in 1950, firefighters in the mountains of New Mexico found a real bear cub clinging to a tree after a forest fire. They rescued him, cared for him, and named him Smokey. He lived for many years at the National Zoo in Washington, D.C., where children came to visit him.

What does fire need? Every fire needs three things: **heat** to start it, **fuel** to burn (like wood, charcoal or gas) and **air**. Take away any one of them, and the fire goes out. That is why a grown-up can put out a small grill flare-up by closing the lid: the lid keeps out the air.

The grill rules. A **grill** cooks food over hot coals or flames, and it gives food a smoky, toasty taste. Grills are used only outdoors, away from the house. Only grown-ups light the grill and cook on it. Children stay at least 3 feet away, in the kid-free zone, and never run or play near it. The grown-up uses long **tongs** and keeps a hose or fire extinguisher close by. And a lit grill is never left alone.

Let's cook! You will help get pineapple ready for the grill: you will arrange the spears on a tray and brush on a little honey and cinnamon. Then a grown-up grills them while you watch from a safe spot 3 feet back. (Without a grill, a grown-up can use a grill pan or the oven broiler.)

PICTURE STUDY



Camp Fire, Winslow Homer, 1880 · Oil on canvas · Metropolitan Museum of Art, New York

Image: [Wikimedia Commons](#), public domain

Winslow Homer was an American painter who loved the outdoors. He painted this campfire in the Adirondack Mountains of New York, where hunters and fishermen camped in the woods. The fire lights up the night, warms the camper and could cook his supper. Look at the sparks flying up into the dark.

Look closely

- Find the fire. What colors are the flames?
- Find the sparks. Where are they going?
- Find the camper by the fire. What is he doing?
- Look at the shelter. How did the campers build it?

Talk about it

1. What good things does this campfire give the camper?
2. How do you think the camper keeps the fire safe?
3. What could they cook over this fire?

Safety first. Only a grown-up lights, tends and cooks on the grill, and the grill is used outdoors, away from the house, on a flat surface. Stay at least 3 feet back and never run near the grill. A grown-up cuts the pineapple with a sharp knife.

KITCHEN PROJECT

The Grill Zone and Grilled Pineapple

You will mark the kid-free zone around the grill and practice the grill rules. Then you will get pineapple ready for a grown-up to grill, and compare raw and grilled pineapple.

You will need

- Sidewalk chalk or a rope to mark the kid-free zone
- A tray, a small bowl and a pastry brush
- A cutting board and sharp knife (grown-up only)
- A grill, a grill pan or the oven broiler, and long tongs (grown-up only)

GRILLED CINNAMON PINEAPPLE

Serves 6 • Prep 10 min • Grill 6–8 min

Ingredients

- 1 fresh pineapple (or 1 can, 20 ounces, of pineapple rings in juice, drained)
- 1 tablespoon honey or maple syrup
- 1 tablespoon melted butter or vegetable oil
- ½ teaspoon ground cinnamon
- A pinch of salt

Method

1. A grown-up peels and cores the pineapple and cuts it into spears or rings with a sharp knife.
2. Wash your hands. Arrange the pineapple on a tray.
3. In a small bowl, stir together the honey, melted butter or oil, cinnamon and salt.
4. Brush the mixture lightly over the pineapple with a pastry brush.
5. Go to your safe spot, 3 feet back. A grown-up grills the pineapple over medium heat for 3–4 minutes on each side, turning it with long tongs,

until it has golden grill marks. (Indoors: a grown-up cooks it in a hot grill pan, or under the oven broiler for 3–4 minutes on each side.)

6. The grown-up brings the pineapple inside on a clean plate. Let it cool for a few minutes before eating.

7. Clean up: wash the tray, bowl and brush, and wipe the counter.

Allergy check: Contains milk if made with butter; use oil for a milk-free version. Never give honey to a baby under one year old; use maple syrup instead.

Steps

1. **Mark the zone.** Before the grill is lit, use chalk or a rope to mark a circle 3 feet (one big step) around it. Practice walking around the outside of the circle.
2. **Say the rules.** Tell your grown-up the grill rules: grown-ups only, 3 feet back, no running, long tongs, never leave it alone.
3. Help make the grilled pineapple, and watch from your safe spot.
4. **Raw and grilled.** Taste a piece of raw pineapple and a piece of grilled pineapple. Which is sweeter? Which is juicier? Can you taste the toasty grill flavor?
5. **Taste test.** Give the grilled pineapple a family rating.
6. **Make it better.** Choose one change for next time, such as grilled peaches or a spoonful of yogurt on top.
7. Clean up together and wash your hands.

Tips

- Grilling makes fruit taste sweeter, because the heat browns its natural sugar.
- Canned pineapple rings work well and need no cutting.

Check your work

- ☐ I can tell the story of Smokey Bear and name what a fire needs.
- ☐ I can say the grill rules and stay in the kid-free zone.
- ☐ I helped get pineapple ready for the grill and compared raw and grilled.

COOK'S NOTEBOOK

1. Draw a grill with a circle around it for the kid-free zone, and you standing outside the circle.
2. Draw the fire triangle: heat, fuel and air, with a picture for each.
3. Draw Smokey Bear in his ranger hat.

From history. The real Smokey Bear lived at the National Zoo from 1950 until 1976. He got so much mail from children that the Post Office gave him his own zip code.

COMMON MISTAKES

- Thinking it is safe to go close once the food is off. Grills stay hot for a long time.
- Using a short fork to turn food. Grown-ups use long tongs to keep hands away from the heat.
- Using a grill indoors or in a garage. Grills are for outdoors only.

Make it a game • Take One Away. Hold up three fingers for what every fire needs: heat, fuel and air. Say each one. Your grown-up says, Take one away! Fold a finger and tell what happens to the fire. Then lay a string three big steps from a pillow grill. Stay outside it and say the grill rules, like Smokey Bear.

7.2 HERBS FROM THE GARDEN

OBJECTIVES

- Tell how the emperor Charlemagne ordered herbs to be grown in gardens long ago.
- Name three herbs, smell them, and tell that herbs are the leaves of plants.
- Pull, tear and mash fresh herbs into butter for herb bread.

Warm-up. With your eyes closed, smell three small bunches of fresh herbs, such as basil, mint and parsley. Which smell do you like best? Do any remind you of a food you have eaten?

WATCH

Growing and choosing herbs for cooking

Raising Children Network • 2:36

<https://www.youtube.com/watch?v=s9yR4luZ1Q4>

WHEN TO WATCH

After the story. Look for herbs you have seen in our kitchen or garden.

BACKUP VIDEO

How to Chop Herbs and Make Basil Pesto | Test Kitchen Kids Takeover

America's Test Kitchen Kids • 5:59

<https://www.youtube.com/watch?v=YPNJmLcUDg4>

After the kitchen project, to see another way to use basil.

KEY TERMS

herb

The leaves of a plant used to add flavor and smell to food, such as basil, parsley, mint and dill.

basil

A sweet-smelling green herb often used with tomatoes and in pizza and pasta.

mint

A cool, fresh-smelling herb used in drinks, salads and sweets.

parsley

A bright green, mild herb used in soups, salads and sauces.

CORE IDEAS

Long ago. About 1,200 years ago, a great king named Charlemagne ruled much of Europe. He wanted his people to have good food. He wrote a long list of plants that must be grown in the gardens of his royal farms. On his list were vegetables, fruit trees and many **herbs**: sage, rosemary, mint, parsley, dill and more. Monks in monasteries also grew herb gardens, and they used herbs for cooking and for medicine.

What are herbs? Herbs are the leaves of certain plants. They are full of tiny drops of oil that smell strong and good. When you rub or tear a leaf, the oil comes out, and you can smell it right away. A few herb leaves add lots of flavor to food without adding any salt or sugar.

A dinner of herbs. The Bible says, “Better is a dinner of herbs where love is, than a stalled ox and hatred therewith” (Proverbs 15:17). A simple meal with love is better than a fancy feast with quarreling. Herbs are humble plants, but they make ordinary food special.

Let’s cook! You will make herb butter. You will wash the herbs, pull the leaves off the stems, tear them into tiny pieces and mash them into soft butter with a fork. Then you will spread it on bread for the family.

PICTURE STUDY



Kitchen Gardens at L'Hermitage, Pontoise, Camille Pissarro, 1874 · Oil on canvas · Scottish National Gallery, Edinburgh

Image: [Wikimedia Commons](#), public domain

A kitchen garden is a garden close to the house where a family grows vegetables and herbs for cooking. Camille Pissarro lived in a French village called Pontoise and loved to paint its gardens and the people working in them. Look at all the neat green rows.

Look closely

- Find the rows of plants. How many different greens can you see?
- Find the people and the donkey. What work are they doing?
- Find the houses. How far would a cook walk to pick herbs?
- The trees have no leaves yet. What season do you think it is?

Talk about it

1. Why would a cook want a garden right next to the house?
2. Which herbs would you plant in your kitchen garden?
3. How is this garden like Thomas Jefferson's garden from Lesson 2.2?

Safety first. Wash all herbs before using them. Tear herbs with your fingers instead of using a knife. If you toast the bread, a grown-up does it. Check for milk and wheat allergies.

KITCHEN PROJECT

Smell, Tear and Mash: Herb Butter Bread

You will do a smell test with fresh herbs, then make a garden herb butter and spread it on bread. You will taste bread with and without herbs to see what they add.

You will need

- A colander and clean towel
- A small bowl and a fork
- A butter knife
- A blindfold (optional) for the smell test

GARDEN HERB BUTTER BREAD

Serves 6 · Prep 15 min

Ingredients

- ½ cup (1 stick) butter, softened
- 2 tablespoons fresh herb leaves, such as parsley, basil, chives or dill (or 2 teaspoons dried herbs)
- ¼ teaspoon garlic powder (optional)
- A pinch of salt (skip if using salted butter)
- 1 loaf French bread or 12 slices whole-wheat bread

Method

1. Take the butter out of the refrigerator 30 minutes early so it is soft.
2. Wash your hands. Rinse the herbs and pat them dry with a towel.
3. Pull the leaves off the stems. Tear them into tiny pieces with your fingers (chives can be snipped by a grown-up).
4. Put the soft butter in a bowl. Add the herbs, garlic powder and salt. Mash and stir with a fork until the green bits are mixed all through.
5. Spread the herb butter on slices of bread with a butter knife. If you like, a grown-up can toast the bread in the oven or toaster oven for 3–5 minutes, until warm and golden.

6. Put leftover herb butter in a small covered dish in the refrigerator and use it within a week.

7. Clean up: wash the bowl and fork and wipe the counter.

Allergy check: Contains milk (butter) and wheat (bread). For a milk-free version, mash the herbs into olive oil or a plant-based butter. For wheat-free, use gluten-free bread. Some breads contain soy or sesame; read the label.

Steps

1. **Smell test.** With your eyes closed, smell each herb. Then rub a leaf between your fingers and smell again. Was the smell stronger after rubbing? Why?
2. Make the herb butter with your grown-up.
3. **With and without.** Taste a small piece of bread with plain butter and a piece with herb butter. What did the herbs add?
4. **Taste test.** Give the herb butter bread a family rating.
5. **Make it better.** Choose one change for next time, such as a different herb or a little grated Parmesan cheese.
6. Clean up together and wash your hands.

Tips

- Soft herbs like basil, parsley, dill and chives work best in butter.
- A small pot of herbs on a sunny windowsill can give you fresh leaves all year.

Check your work

- ☐ I can tell how Charlemagne ordered herbs to be grown.
- ☐ I can name three herbs and tell that they are leaves.
- ☐ I made herb butter by tearing and mashing herbs.

COOK'S NOTEBOOK

1. Draw three herb leaves and write (or tell) their names.
2. Draw your herb butter bread with green bits showing.
3. Draw the kitchen garden you would like to have.

COMMON MISTAKES

- Using cold, hard butter. It will not mix; let it soften first.
- Leaving thick stems in. Pull off just the leaves.

- Using too many strong herbs at once. Start with a little and taste.

Make it a game · Charlemagne's Garden Order. You are Charlemagne, ordering the garden. Draw three beds on paper and plant a basil, a mint and a parsley leaf shape in each. Your grown-up plays the gardener and asks, What is this one? Answer with the herb and tell how it smells. Remember that herbs are the leaves of plants.

Scripture. “Better is a dinner of herbs where love is, than a stalled ox and hatred therewith.” (Proverbs 15:17, KJV)

A “stalled ox” was a fattened ox for a fancy feast. A simple meal shared with love is the best kind of meal.

7.3 CINNAMON COMES FROM BARK

OBJECTIVES

- Tell that cinnamon is the inner bark of a tree, and that spices once came from far away on long voyages.
- Smell and name several spices and tell that spices come from seeds, bark, roots and buds.
- Shake up cinnamon sugar and make cinnamon toast while a grown-up toasts the bread.

Warm-up. Look at a cinnamon stick. What does it look like? What do you think it is made of? Now break off a tiny piece and smell it. What food does it remind you of?

WATCH

How is cinnamon made?

Mystery Science · 7:26

<https://www.youtube.com/watch?v=U7l0Zl3tSjQ>

WHEN TO WATCH

After the story. Watch the farmers peel the bark and see how it curls up into quills.

KEY TERMS

spice

A dried part of a plant, such as a seed, bark, root or bud, used to flavor food.

cinnamon

A sweet, warm spice made from the dried inner bark of a cinnamon tree.

bark

The tough outside covering of a tree's trunk and branches.

quill

A rolled-up stick of cinnamon bark.

CORE IDEAS

Far away. Cinnamon trees grow in warm, rainy lands far from here, such as the island of Sri Lanka near India. For thousands of years, traders carried cinnamon across seas and deserts in ships and on camels. It was so rare and precious that only kings and rich people could buy much of it. The Bible mentions “sweet cinnamon” as

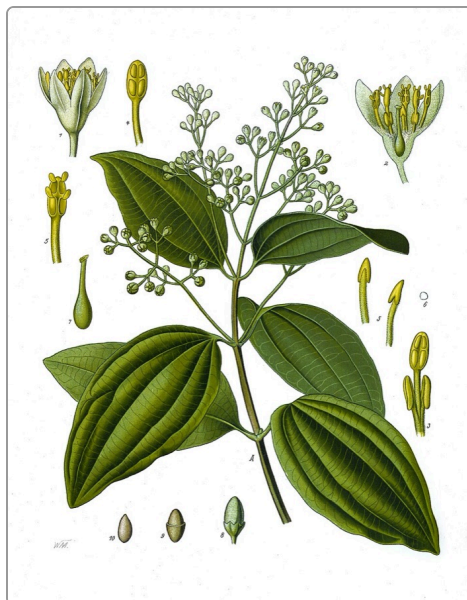
one of the fine spices used to make the holy anointing oil for God's tabernacle (Exodus 30:23).

How is it made? Farmers cut thin branches from cinnamon trees. They scrape off the rough outer **bark** and carefully peel off the thin inner bark. As the inner bark dries in the sun, it curls up into a roll called a **quill**, the cinnamon sticks you can buy. Ground cinnamon is just the quills ground into a powder.

Spices come from many parts of plants. A **spice** is a dried part of a plant used for flavor. Cinnamon is bark. Pepper and nutmeg are seeds. Ginger is a root. Cloves are flower buds. Herbs are leaves, but spices come from almost every other part of a plant!

Let's cook! You will mix sugar and cinnamon in a jar and shake it. You will spread butter on bread and shake on your cinnamon sugar. A grown-up toasts the bread until it is warm and bubbly.

PICTURE STUDY



Cinnamon Tree (Cinnamomum verum), From Köhler's Medicinal Plants, a German book of plant drawings, 1887 · Color print of a botanical drawing · Published in Gera, Germany

Image: [Wikimedia Commons](#), public domain

Before photographs were common, scientists and artists made careful drawings of plants so people could learn to know them. This picture from a German plant book shows a branch of the cinnamon tree, with its leaves, flowers and fruits, and little drawings of its parts.

Look closely

- Find the leaves. What shape are they? How many lines run along each leaf?
- Find the clusters of tiny flowers.
- Find the little drawings of plant parts around the branch.
- Can you find any bark in this picture? Where would it be on the tree?

Talk about it

1. Which part of this tree gives us cinnamon?
2. Why do you think the artist drew the flower parts so large?
3. If you could visit a cinnamon tree, what would you want to smell first?

Safety first. Only a grown-up uses the toaster, toaster oven or broiler. Toast with melted butter and sugar is very hot; let it cool for a minute before you bite. Check for milk and wheat allergies.

KITCHEN PROJECT

Spice Sniff and Cinnamon Toast

You will smell and guess several spices and sort them by the part of the plant they come from. Then you will shake up cinnamon sugar and make cinnamon toast.

You will need

- Four or five spices in small cups: cinnamon, black pepper, ginger, nutmeg and whole cloves
- A small jar with a tight lid
- Measuring spoons and a butter knife
- A toaster, toaster oven or baking sheet (grown-up only)

CINNAMON TOAST

Serves 4 • Prep 5 min • Toast 3–5 min

Ingredients

- 2 tablespoons sugar
- 1 teaspoon ground cinnamon
- 4 slices whole-wheat or white bread
- 2 tablespoons butter, softened

Method

1. Wash your hands. Put the sugar and cinnamon in the small jar. Close the lid tight and shake, shake, shake until it is all one light brown color.
2. A grown-up toasts the bread lightly in the toaster and sets it on a plate to cool for a moment.
3. Spread the soft butter over each slice with a butter knife, right to the edges.
4. Shake or spoon the cinnamon sugar evenly over the butter.
5. For bubbly toast, a grown-up puts the slices on a baking sheet under the oven broiler for 1–2 minutes, watching closely, until the sugar melts and bubbles.

6. The grown-up cuts each slice into strips or triangles. Let them cool a minute before eating.
7. Clean up: save extra cinnamon sugar in the jar for next time, and wipe the counter.

Allergy check: Contains wheat and milk. For a milk-free toast, use a plant-based butter or a light brush of coconut oil. For a wheat-free toast, use gluten-free bread. Some breads contain soy or sesame; read the label.

Steps

1. **Spice sniff.** With your eyes closed, smell each spice. Can you name it? Then sort them: bark (cinnamon), seeds (pepper, nutmeg), root (ginger), bud (cloves).
2. Make the cinnamon toast with your grown-up.
3. **Taste test.** Is the toast crunchy or soft? Sweet or spicy? Give it a family rating.
4. **Make it better.** Choose one change for next time, such as a pinch of nutmeg in the cinnamon sugar.
5. Clean up together and wash your hands.

Tips

- Shake the jar until you cannot see white sugar or brown cinnamon separately.
- Label your cinnamon-sugar jar so it is ready for oatmeal, applesauce or toast.

Check your work

- ☐ I can tell where cinnamon comes from.
- ☐ I can name spices from bark, seeds, roots and buds.
- ☐ I shook cinnamon sugar and made cinnamon toast.

COOK'S NOTEBOOK

1. Draw a cinnamon tree and a farmer peeling the bark into quills.
2. Draw your spice cups with a picture of the plant part each one came from.
3. Draw your cinnamon toast.

From history. Christopher Columbus sailed west in 1492 hoping to find a shorter way to the spice lands of Asia. Instead he reached the Americas, where people grew chili peppers, vanilla and allspice, spices the Europeans had never tasted.

COMMON MISTAKES

- Sniffing spices too hard. Take a gentle sniff from a little way off; pepper can make you sneeze!
- Putting too much cinnamon in the sugar. A little goes a long way.
- Grabbing toast right from the toaster. Let it cool for a moment.

Make it a game • Spice Source Match. Make six cards in three pairs. Draw cinnamon sticks and a tree bark, pepper and a berry, ginger and a root. Turn them face down. Take turns flipping two cards. Keep a pair when a spice matches its plant part. Say what each spice is, and tell why spices from far away were precious.

7.4 SWEET AND SALTY FRIENDS

OBJECTIVES

- Tell that some flavors taste even better together, like sweet and salty.
- Do a salt test on watermelon and tell what a pinch of salt does to sweet fruit.
- Build fruit-and-cheese kabobs on pretzel sticks.

Warm-up. Think of foods that go together: peanut butter and jelly, apples and cheese, pretzels and chocolate, chips and salsa. Why do you think people like to eat them together?

WATCH

Fruit Kabobs

Marbles Kids Museum • 3:13

<https://www.youtube.com/watch?v=4DiBlue0Ao8>

WHEN TO WATCH

Before you build your own kabobs, to get ideas.

Note: From Marbles Kids Museum in Raleigh, North Carolina. The young host uses wooden skewers with a grown-up; first graders use pretzel sticks.

KEY TERMS

flavor friends

Two flavors that taste even better together than alone, like sweet and salty.

kabob

Small pieces of food threaded onto a stick.

seasoned

Made more flavorful with a little salt, herbs or spices.

CORE IDEAS

Around the world. People in many places have found that sweet and salty foods are good friends. In the American South, many families sprinkle a little salt on a slice of watermelon. In Mexico, people eat mango and cucumber with lime and a pinch of

salt and chili. In New England, some people like a slice of cheddar cheese with their apple pie. A cook in Spain might serve sweet melon with salty ham.

What happens in your mouth? A tiny pinch of salt on sweet fruit does not make it taste salty. It makes the fruit taste even sweeter and juicier! Salt wakes up your taste buds. Salty cheese next to sweet grapes makes both taste better. Cooks call these **flavor friends**. Other friends are sour and sweet (lemonade), and crunchy and creamy (crackers and cheese).

Seasoned with salt. The Bible says that our words should be “seasoned with salt” (Colossians 4:6). Just as a little salt makes food taste good, kind and wise words make our talking pleasant to others.

Let’s cook! You will build fruit-and-cheese **kabobs** on pretzel sticks, so even the stick is salty and good to eat. A grown-up cuts the cheese and melon; you thread the pieces and choose your flavor friends.

PICTURE STUDY



Still Life with Watermelons and Apples, Luis Meléndez, 1771 · Oil on canvas · Museo del Prado, Madrid

Image: [Wikimedia Commons](#), public domain

Luis Meléndez was a Spanish painter who painted fruits, breads and kitchen things so carefully that they look real. Here he has painted big watermelons and a pile of apples outdoors. One watermelon is cut open, so you can see its juicy red inside and black seeds.

Look closely

- Find the cut watermelon. What colors do you see inside?
- Count the apples.
- Find the seeds in the watermelon.
- Is this picture inside a kitchen or outside? How can you tell?

Talk about it

1. Which of these fruits is crunchy? Which is juicy?
2. What could you add to watermelon to make it taste even sweeter?
3. Which food would you pair with an apple as a flavor friend?

Safety first. A grown-up cuts the cheese, melon and any firm fruit with a sharp knife. Pretzel sticks are safe to eat, but grapes should be cut in half for children under four. Check for milk, wheat and fruit allergies.

The Salt Test and Fruit-and-Cheese Kabobs

You will test what a tiny pinch of salt does to sweet watermelon. Then you will build kabobs with sweet fruit and salty cheese on salty pretzel sticks.

You will need

- Two small plates and a salt shaker (for the salt test)
- A cutting board and sharp knife (grown-up only)
- A butter knife for soft fruit
- A serving plate

FRUIT-AND-CHEESE PRETZEL KABOBS

Serves 4–6 (about 16 kabobs) · Prep 20 min

Ingredients

- 1 cup seedless grapes
- 1 cup watermelon or cantaloupe cubes (cut by a grown-up)
- 1 cup strawberries
- 1 banana
- 6 ounces mild cheddar or Colby cheese, cut into $\frac{3}{4}$ -inch cubes by a grown-up
- 16 thick pretzel rods or sticks
- A pinch of salt for the watermelon

Method

1. Wash your hands. Rinse the grapes and strawberries under cool running water and pat them dry.
2. Pull the green tops off the strawberries. Cut the strawberries and the peeled banana into thick slices with a butter knife.
3. A grown-up cuts the melon and cheese into cubes.
4. Gently push the fruit and cheese onto a pretzel stick, one piece at a time. Try a pattern: grape, cheese, strawberry, cheese, melon. If a pretzel

breaks, eat it!

5. Lay the kabobs on a plate. Sprinkle a tiny pinch of salt over the melon pieces if you like.
6. Serve right away (pretzels get soft if they sit). Put leftover cheese and fruit in the refrigerator.
7. Clean up: wipe the board and counter and wash your hands.

Allergy check: Contains milk (cheese) and wheat (pretzels). Some pretzels contain soy. For a milk-free version, leave out the cheese and use salted sunflower seeds or a few salted crackers on the side. For a wheat-free version, use gluten-free pretzels or short blunt wooden skewers (with a grown-up).

Steps

1. **Salt test.** Put two pieces of watermelon on two plates. Sprinkle a tiny pinch of salt on one. Taste the plain piece first, then the salted one. Which tastes sweeter? Ask your family to try it too.
2. Build the kabobs with your grown-up.
3. **Find the friends.** Take a bite of fruit and cheese together. Then a bite of fruit alone. Which do you like better?
4. **Taste test.** Give the kabobs a family rating.
5. **Make it better.** Choose one change for next time, such as pineapple with ham, or apple with cheddar.
6. Clean up together and wash your hands.

Tips

- Push gently and twist a little; pretzels can snap if you push too hard.
- Thick pretzel rods hold up better than thin sticks.

Check your work

- ☐ I can name two flavor friends.
- ☐ I tested salt on watermelon and told what happened.
- ☐ I built fruit-and-cheese kabobs on pretzel sticks.

COOK'S NOTEBOOK

1. Draw your kabob pattern with every piece in order.
2. Draw two watermelon slices, one with salt and one without. Which got the bigger smile?

3. Draw two more flavor friends you would like to try.

COMMON MISTAKES

- Using too much salt. A tiny pinch makes fruit taste sweeter; a lot makes it taste salty.
- Making the kabobs hours early. Pretzels get soft; build them just before eating.
- Forgetting to wash the fruit. Rinse grapes and berries even if they look clean.

Make it a game • Flavor Matchmaker. Your grown-up names a food, like watermelon, pretzels or apples. You have five seconds to name its flavor friend, such as salt, chocolate or cheese. Play ten rounds and keep score on paper. Then switch. Can you beat your own score? Say what a pinch of salt does to sweet fruit.

Scripture. “Let your speech be alway with grace, seasoned with salt,” (Colossians 4:6, KJV)

A little salt makes food pleasant. Gracious, kind words make our speech pleasant to everyone who hears us.

UNIT 7

FIRE, THE GRILL & SPICE

This is the fun unit! Fire is hot and helpful: it cooks food, warms homes and brings families together around a campfire or a grill. But fire is only for grown-ups to light and tend. In this unit you will learn the grill rules, stay in the kid-free zone, and help get food ready while a grown-up does the grilling. If your family has no grill, a grown-up can use a grill pan or the oven broiler instead.

You will also discover herbs from the garden and spices from far away, and you will learn that cinnamon is really the bark of a tree. Then you will find out which flavors are good friends, like sweet and salty, and make fruit-and-cheese kabobs. A dinner of herbs where love is, the Bible says, is better than a feast without it.

PREREQUISITES

- Knows the kid-free zone and stays in a safe spot near heat (Units 1 and 4)
- Names the five tastes (Unit 3)
- Washes hands and produce before cooking (Unit 1)

MASTERY CHECKLIST

- ☐ I can tell the grill rules: only grown-ups light and use the grill, and I stay 3 feet back.
- ☐ I can name the three things a fire needs: heat, fuel and air.
- ☐ I can name three herbs and tell that herbs are leaves.
- ☐ I can tell where cinnamon comes from.
- ☐ I can name two flavors that go well together, like sweet and salty.

OPTIONAL BOOKS AND TOOLS FOR THIS UNIT

- **NFPA: Grilling safety tips:** Free tips from the National Fire Protection Association for the grown-up at the grill. Read before Lesson 7.1.
- **A small pot of a kitchen herb, such as basil, mint or parsley:** Inexpensive at grocery stores and garden centers. Keep it on a sunny windowsill for Lesson 7.2 and pick a few leaves whenever you cook.
- **A grill pan or the oven broiler:** For families without an outdoor grill. A grown-up uses it for the grilled pineapple in Lesson 7.1.

Not required. Every recipe in this unit works in an ordinary home kitchen.

School Launch has no ties to these authors, publishers or companies.

LESSONS IN THIS UNIT

7.1	Fire Is Hot and Helpful	2 sessions of 30–40 minutes
7.2	Herbs from the Garden	2 sessions of 30–40 minutes
7.3	Cinnamon Comes from Bark	2 sessions of 30–40 minutes
7.4	Sweet and Salty Friends	2 sessions of 30–40 minutes

UNIT 7 REVIEW

A parent asks each question aloud. Your child may answer by telling, pointing, showing or drawing. There are no points; this is a friendly conversation to see what has been learned. Have a cinnamon stick, a few herbs or spices and some sweet fruit ready.

1. Tell me the grill rules. Show me how far back you stand.
2. What three things does a fire need? How can a grown-up put out a flare-up on a grill?
3. Smell these leaves. What are herbs? Name three.
4. Here is a cinnamon stick. Where does it come from?
5. Predict: what will a tiny pinch of salt do to a piece of watermelon?

6. Tell me the story of Smokey Bear.

ANSWER KEY

1. Only grown-ups light and use the grill; it is used outdoors; children stay at least 3 feet back and never run near it; grown-ups use long tongs and never leave it alone.
2. Heat, fuel and air. Closing the lid shuts out the air.
3. Herbs are the leaves of plants used for flavor, such as basil, mint, parsley, dill or chives.
4. It is the dried inner bark of the cinnamon tree, which curls into a quill as it dries.
5. It will make the watermelon taste even sweeter, not salty.
6. The Forest Service made Smokey Bear in 1944 to teach fire safety. In 1950 firefighters rescued a real bear cub after a forest fire in New Mexico, and he lived at the National Zoo.

UNIT CHALLENGE: A FAMILY GRILL NIGHT (OR BROILER NIGHT)

Help plan a family dinner cooked on the grill (or under the oven broiler) by a grown-up. With your grown-up, choose a main food, such as chicken or burgers, a vegetable and a fruit. Make a simple spice sprinkle for the meat or vegetables by measuring and shaking spices in a jar (for example, paprika, garlic powder, a little salt and pepper), and add an herb for color.

Help get the food ready, mark the kid-free zone, and watch from your safe spot while a grown-up grills and checks the meat with a thermometer (chicken to 165 °F, burgers to 160 °F). Serve a flavor-friends fruit plate for dessert. Draw the meal and tell what each person liked best.

LOOK FOR	WHAT IT MEANS
Grill safety	The child marked the kid-free zone, said the grill rules and stayed 3 feet back the whole time.
Spice sprinkle	The child measured and shook a spice mix and can tell which plant part one spice came from.
Flavor friends	The fruit plate or meal had at least one pair of flavor friends, such as sweet and salty.
Thanks and cleanup	The family gave thanks, and the child helped clear the table and clean up.

UNIT 8

MEAL PLANNING & THE FAMILY TABLE

A good meal begins long before anyone sits down to eat. Someone reads the recipe, makes a list, shops, gets the food ready, sets the table and welcomes everyone with thanks. In this last unit you will learn to read a recipe with pictures, plan a picnic, use up leftovers so nothing is wasted, and set a table for your family.

You will meet Hannah Glasse, who wrote a cookbook so plain and easy that anyone could follow it, and Ruth, who ate bread and parched corn with the reapers at mealtime. You will remember the boy whose five loaves and two fishes fed thousands, and the leftovers Jesus told His disciples to gather. And in the very last week, you will plan and make one dish for a family feast, set the table, and say grace together.

PREREQUISITES

- Washes hands, measures and pours (Units 1–7)
- Names the five food groups (Unit 2)
- Keeps cold foods cold and knows the two-hour rule (Unit 1)
- Stays in a safe spot while a grown-up uses heat (Units 1, 4 and 7)

MASTERY CHECKLIST

- ☐ I can read a picture recipe and follow its steps in order.
- ☐ I can help plan a picnic with a food from each group and keep the cold foods cold.
- ☐ I can tell why we gather up leftovers and do not waste food.
- ☐ I can set a place at the table: plate, fork, knife, spoon, cup and napkin.
- ☐ I can plan one dish for a family meal, make it with a grown-up and serve it with thanks.

OPTIONAL BOOKS AND TOOLS FOR THIS UNIT

- **A cooler bag and an ice pack:** For the picnic in Lesson 8.2. Keeps cold foods at 40 °F or below.
- **Index cards or plain paper and crayons:** For drawing your own picture recipe cards in Lesson 8.1 and a menu card for the feast.
- ***The Complete Cookbook for Young Chefs, America's Test Kitchen Kids:*** A well-tested cookbook for children, with clear steps and photographs. Best used with a grown-up for any recipe that uses heat or a sharp knife.

Not required. Every recipe in this unit works in an ordinary home kitchen.

School Launch has no ties to these authors, publishers or companies.

LESSONS IN THIS UNIT

8.1 Reading a Picture Recipe	2 sessions of 30–40 minutes
8.2 Planning a Picnic	2 sessions of 30–40 minutes
8.3 Gather the Fragments: No Waste	2 sessions of 30–40 minutes
8.4 The Family Feast	2 sessions of 60–90 minutes

UNIT 8 REVIEW

A parent asks each question aloud. Your child may answer by telling, pointing, showing or drawing. There are no points; this is a friendly conversation to see what has been learned. Have a recipe card and a plate, fork, knife, spoon, cup and napkin ready.

1. Show me the three parts of this recipe card. Why should we read the whole recipe before we start?
2. Who was Hannah Glasse, and what did she do?
3. We are planning a picnic on a hot day. What will we pack, and how will we keep the cold foods safe?

4. Tell me the story of the boy with five loaves and two fishes. What did Jesus say about the leftovers?
5. Name two ways to use leftovers instead of wasting them.
6. Set one place at the table for me. Where does each thing go?

ANSWER KEY

1. The name, the ingredients and the steps. Reading it first helps us get everything ready and not miss a step.
2. An English woman who wrote a cookbook in 1747 in plain, easy words so that anyone could follow the recipes.
3. A food from each group and water. Cold foods go in a cooler with an ice pack, and they should not sit out more than 1 hour on a day above 90 degrees (2 hours on a cooler day).
4. Jesus gave thanks and fed about five thousand men and their families with the boy's lunch. He said, "Gather up the fragments that remain, that nothing be lost," and they filled twelve baskets.
5. For example: smoothies or muffins from ripe bananas, bread crumbs or French toast from old bread, soup from leftover vegetables.
6. Plate in the middle, fork and napkin on the left, knife (blade toward the plate) and spoon on the right, cup above the knife.

UNIT CHALLENGE: THE FAMILY FEAST

The unit challenge is the family feast from Lesson 8.4. Keep these pages together in your folder: the menu card you drew, the shopping list, a drawing or photo of the dish you made, a drawing or photo of the table you set, and the grace your family said (a grown-up can write it down).

After the feast, look back through your cook's notebook with your family. Choose your three favorite recipes from the year and tell why you liked them. Then thank everyone who helped you cook this year.

LOOK FOR	WHAT IT MEANS
Planning	The child helped choose the menu and make the shopping list, and chose one dish to make.
Safe cooking	The child made the dish with clean hands and helper tools, stayed in the safe spot near heat, and put cold foods away.
Hospitality	The child set the table, made a menu card, and welcomed the family warmly.
Thanks	The child led or joined in grace and thanked the people who helped.
Looking back	The child chose three favorite recipes from the year and told why.

8.1 READING A PICTURE RECIPE

OBJECTIVES

- Tell how Hannah Glasse wrote a cookbook in plain, easy words in 1747.
- Name the parts of a recipe: the name, what you need and the steps in order.
- Follow a picture recipe to make no-bake oat bites.

Warm-up. Look at a cookbook or a recipe card with a grown-up. What do you see on the page? Where are the foods you need? Where are the steps? Why do you think the steps have numbers?

WATCH

 [Cooking Basics for Kids | Children's No-Bake Recipes | Twinkl USA](#)

Twinkl Teaching Resources - United States • 3:17

<https://www.youtube.com/watch?v=fgnfBMHo5-M>

WHEN TO WATCH

After the story. Watch how the young cook gets everything ready before starting.

BACKUP VIDEO

[No Bake Energy Bites - Kids Cook At Home](#)

Coborn's Family of Stores • 2:26

<https://www.youtube.com/watch?v=q5AU5xhN0rI>

Right before you make your oat bites.

KEY TERMS

recipe

Directions that tell how to make a food: what you need and what to do, step by step.

steps

The things to do, in order, numbered 1, 2, 3.

ingredients

The foods that go into a recipe.

level

To scrape off the extra on top of a measuring cup or spoon so it is just full.

CORE IDEAS

Long ago. About 280 years ago, in 1747, an English woman named Hannah Glasse wrote a cookbook called *The Art of Cookery Made Plain and Easy*. In those days, many cookbooks were written by fancy chefs, with hard words that only other chefs understood. Hannah wanted anyone who could read, even a young kitchen helper, to be able to follow her recipes. So she wrote them in plain, easy words. Her book became one of the most popular cookbooks in England and America for a hundred years.

The parts of a recipe. A **recipe** has three main parts. The name tells what you are making. The **ingredients** list tells what foods you need and how much. The **steps** tell what to do, in order. A picture recipe uses drawings so that even a cook who is just learning to read can follow it.

Good cooks get ready first. Before you start, read the whole recipe with a grown-up. Then set out every ingredient and tool you need. Measure carefully and **level** each scoop. Then do the steps one at a time, in order, and check each one off as you go.

Let's cook! You will follow a picture recipe to make no-bake oat bites. You will measure, stir and roll the mixture into little balls. There is no oven, so you can do almost every step yourself.

PICTURE STUDY



Cooking Class in a Washington, D.C., Elementary School, Frances Benjamin Johnston, about 1899 ·

Photograph · Library of Congress, Washington, D.C.

Image: [Wikimedia Commons](#), public domain

Frances Benjamin Johnston was one of the first women in America to work as a photographer. In about 1899 she took pictures of the public schools in Washington, D.C. In this one, children are learning to cook in a classroom kitchen, wearing aprons and caps, more than 125 years ago.

Look closely

- Find the white aprons and caps. Why do they wear them?
- Find the bowls, spoons and pans on the tables.
- Find the glass cupboards. What is inside them?
- Find the board on the wall. What might be written on it?

Talk about it

1. How is this cooking class like your cooking lessons? How is it different?
2. Why do you think it is helpful to follow a recipe in a class?
3. What would you like to learn to cook next?

Safety first. Check for peanut, seed, wheat, milk and soy allergies before choosing the nut butter and mix-ins. Wash your hands before rolling the bites, and keep them in the refrigerator. Honey is never given to babies under one year old.

KITCHEN PROJECT

Follow the Pictures: No-Bake Oat Bites

You will draw a picture recipe card, then follow the picture recipe step by step to make oat bites, checking off each step as you finish it.

You will need

- An index card or sheet of paper and crayons
- A medium bowl and a sturdy spoon
- Measuring cups and spoons and a butter knife for leveling
- A plate or container lined with wax paper

NO-BAKE OAT BITES

Serves About 18 bites • Prep 15 min • Chill 30 min

Ingredients

- 1 cup old-fashioned rolled oats
- ½ cup sunflower-seed butter or peanut butter
- ⅓ cup honey or maple syrup
- ¼ cup mini chocolate chips or raisins
- 2 tablespoons ground flaxseed (optional)
- 1 teaspoon vanilla extract
- A pinch of salt

Method

1. Wash your hands. Set out every ingredient and tool. Check them off on your picture card.
2. Measure the oats, level the cup with the back of a butter knife, and pour them into the bowl.
3. Measure and add the seed butter or peanut butter, the honey or maple syrup, the vanilla and the salt.
4. Add the chocolate chips or raisins and the flaxseed.

5. Stir hard with a sturdy spoon until everything is mixed and sticky. If it is too dry, add 1 more tablespoon of honey; if it is too wet, add 2 more tablespoons of oats.
6. Chill the bowl for 15 minutes. Then wash your hands again and roll the mixture into 1-inch balls. Set them on the wax paper and chill 15 more minutes.
7. Clean up: wash the bowl and spoons and wipe the counter. Keep the bites covered in the refrigerator for up to a week.

Allergy check: Peanut butter contains peanuts; chocolate chips may contain milk and soy. Oats are often processed with wheat; choose certified gluten-free oats if needed. Sunflower-seed butter is peanut-free, but some children are allergic to sunflower seeds. Never give honey to a baby under one year old; use maple syrup instead.

Steps

1. **Draw a picture recipe.** On a card, draw each ingredient (a bowl of oats, a jar of seed butter, a honey jar and so on). Then draw the steps in boxes, numbered 1, 2, 3, 4.
2. **Get ready.** Set out everything your card shows before you begin.
3. Make the oat bites, following your card and checking off each step.
4. **Taste test.** Are the bites chewy? Sweet? Crunchy? Give them a family rating.
5. **Make it better.** Choose one change for next time, such as dried cranberries or a pinch of cinnamon. Add it to your card in a different color.
6. Clean up together and wash your hands.

Tips

- Wet your hands lightly with water before rolling so the mixture does not stick.
- Warm the seed butter or peanut butter jar in a bowl of warm water if it is too stiff to stir.

Check your work

- ☐ I can tell who Hannah Glasse was and why she wrote plainly.
- ☐ I can name the three parts of a recipe.
- ☐ I followed a picture recipe step by step to make oat bites.

COOK'S NOTEBOOK

1. Glue or copy your picture recipe card into your notebook.
2. Draw your oat bites on a plate.
3. Draw a picture recipe for another snack you made this year.

From history. Hannah Glasse's cookbook was so popular that it was printed again and again for many years, in England and later in America too.

COMMON MISTAKES

- Starting to cook before reading the whole recipe. Read it all first and get everything ready.
- Heaping the measuring cup. Level it off so you use just the right amount.
- Skipping a step. Check off each step as you finish it.

Make it a game • Follow My Pictures. Draw a four-step picture recipe for a bowl of cereal or a jam sandwich, using only pictures and numbers. Your grown-up follows your picture steps exactly. Does the food come out right? If not, fix your picture. Then name the three parts of a recipe: name, what you need, and the steps in order.

8.2 PLANNING A PICNIC

OBJECTIVES

- Retell how Boaz shared his mealtime bread and parched corn with Ruth in the field.
- Plan a picnic with foods from each food group and keep cold foods cold with an ice pack.
- Make and pack picnic sandwiches and help carry them to the picnic spot.

Warm-up. Where would you like to have a picnic: in the backyard, at a park, by a lake? What foods would you bring? How would you carry them? What would keep the cold foods cold?

WATCH

Picnic Food Safety Tips

[Washington State Department of Health](https://www.youtube.com/watch?v=qfb_Gsg3Gao) • 2:08

https://www.youtube.com/watch?v=qfb_Gsg3Gao

WHEN TO WATCH

After the story, while you make your picnic plan. Listen for how to keep cold foods cold.

KEY TERMS

picnic

A meal eaten outdoors, often on a blanket.

plan

To decide ahead of time what to do and what you need.

cooler

An insulated box or bag that keeps cold foods cold with ice or an ice pack.

mealtime

The time of day when people stop working and eat together.

CORE IDEAS

The story. In the Bible, a young woman named Ruth went to glean grain in the fields of a kind farmer named Boaz. At **mealtime**, when the reapers stopped working to eat in the field, Boaz called to her: “At mealtime come thou hither, and eat of the bread.” She sat beside the reapers, and Boaz handed her parched corn, roasted grain. She ate

until she was satisfied, and she even had some left over to take home (Ruth 2:14). It was a picnic in a wheat field!

Planning a picnic. A good picnic takes a **plan**. First choose the place and the time. Then choose the foods: try to bring something from each food group, such as sandwiches (grain and protein), carrot sticks (vegetable), grapes or apples (fruit) and cheese or yogurt (dairy). Don't forget water to drink, napkins, a blanket and a bag for trash.

Keep cold foods cold. Sandwiches with meat or cheese, yogurt and cut fruit must stay cold. Pack them in a **cooler** or cooler bag with an ice pack. Food should not sit out in the warm air for more than 2 hours, or 1 hour on a very hot day above 90 degrees. When the picnic is over, put leftovers back in the cooler, and throw away anything that sat out too long.

Let's cook! You will make picnic sandwiches, wrap them, and pack them with the ice pack. Then you will help carry the picnic to your spot, spread the blanket and serve your family.

PICTURE STUDY



The Harvesters, Pieter Bruegel the Elder, 1565 · Oil on wood · Metropolitan Museum of Art, New York

Image: [Wikimedia Commons](#), public domain

More than 450 years ago, the Flemish painter Pieter Bruegel painted harvest time. The wheat is tall and golden. Some workers are still cutting it, but a group has stopped for the noon meal under a tree. It is a picnic in the field, just like Ruth's mealtime with the reapers.

Look closely

- Find the people eating under the tree. What foods can you see?
- Find someone cutting wheat with a long curved blade.
- Find the bread, the bowls and the fruit.
- Find someone resting or sleeping. Why do you think he is so tired?

Talk about it

1. Why do the workers stop to eat together in the middle of the day?
2. How is this harvest picnic like Ruth's meal in Boaz's field?
3. What would you pack for a picnic on a hot summer day?

Safety first. Keep sandwiches with meat, cheese or mayonnaise in a cooler with an ice pack, and do not leave them out more than 2 hours (1 hour above 90 °F). A grown-up does any cutting with a sharp knife. Check for allergies when choosing fillings.

KITCHEN PROJECT

Plan It, Pack It: A Family Picnic

You will draw a picnic plan with a food from each group, make the sandwiches, and pack a cooler bag. Then you will enjoy the picnic and check the ice pack at the end.

You will need

- Paper and crayons for a picnic plan
- A cutting board, a butter knife, and a sharp knife (grown-up only)
- Wax paper, foil or reusable sandwich containers
- A cooler bag or cooler and an ice pack
- A blanket, napkins, water bottles and a trash bag

PICNIC TURKEY-AND-CHEESE SANDWICHES

Serves 4 · Prep 15 min

Ingredients

- 8 slices whole-wheat bread
- 4 teaspoons mustard or 4 tablespoons cream cheese
- 8 slices deli turkey or ham
- 4 slices mild cheese
- 4 leaves lettuce, washed and dried
- 1 cucumber or 1 tomato, sliced by a grown-up (optional)
- For the picnic: baby carrots, grapes or apple slices, and water

Method

1. Wash your hands. Lay out 4 slices of bread.
2. Spread mustard or cream cheese on each slice with a butter knife.
3. Layer on 2 slices of turkey, 1 slice of cheese, a lettuce leaf and a few cucumber or tomato slices.
4. Top with the other 4 slices of bread and press gently. A grown-up can cut them in half.

5. Wrap each sandwich in wax paper or foil, or put it in a container.
6. Pack the sandwiches, carrots and fruit in the cooler bag with the ice pack on top. Put the turkey and cheese back in the refrigerator.
7. Clean up: wipe the board and counter and wash your hands.

Allergy check: Contains wheat (bread) and milk (cheese, cream cheese). Some deli meats and breads contain soy or sesame; read the labels. For a wheat-free sandwich, use gluten-free bread or a lettuce wrap. For a milk-free sandwich, leave out the cheese and use mustard or hummus (contains sesame).

Steps

1. **Draw a plan.** Draw your picnic plan: where you will go and one food from each group. Add water, napkins and a blanket.
2. Make and pack the sandwiches with your grown-up.
3. **Ice-pack test.** Feel the ice pack when you pack it. At the end of the picnic, feel it again. Is it still cold? Is it still frozen?
4. **Taste test.** Eat your picnic outdoors. Give the sandwiches a family rating. Did food taste different outside?
5. **Make it better.** Choose one change for the next picnic, such as a different fruit or a game to bring.
6. Clean up the picnic spot: pick up every napkin and wrapper and carry it home or to a trash can. Wash your hands.

Tips

- Freeze a water bottle the night before. It works as an ice pack and gives you a cold drink later.
- Pack the heavy things on the bottom of the bag and the soft bread on top.

Check your work

- ☐ I can retell Ruth's mealtime with the reapers.
- ☐ I can plan a picnic with food from each group.
- ☐ I packed the cold foods with an ice pack and cleaned up the picnic spot.

COOK'S NOTEBOOK

1. Draw your picnic plan with a food from each group.
2. Draw your family on the picnic blanket.
3. Draw Ruth sitting with the reapers and Boaz handing her the parched corn.

COMMON MISTAKES

- Packing cold foods without an ice pack. Germs grow fast in warm food.
- Leaving the picnic food out all afternoon. Put it back in the cooler after eating.
- Leaving trash behind. A good picnicker leaves the spot cleaner than it was.

Make it a game • Pack the Picnic Basket. Play a memory chain. Start with, I am going on a picnic and I will pack apples. Your grown-up repeats it and adds a food. Keep adding until someone forgets. Try to include every food group, and finish by remembering the ice pack. Tell how Boaz shared bread and parched corn with Ruth.

Scripture. “And Boaz said unto her, At mealtime come thou hither, and eat of the bread,” (Ruth 2:14, KJV)

Boaz shared his meal with Ruth, a stranger who needed food. Inviting others to share our table is a way to show God’s kindness.

8.3 GATHER THE FRAGMENTS: NO WASTE

OBJECTIVES

- Retell the feeding of the five thousand and why Jesus told His disciples to gather up the leftovers.
- Find leftover and soft fruits in the kitchen and tell ways to use food instead of wasting it.
- Gather leftover fruit for a smoothie that a grown-up blends.

Warm-up. Go on a leftover hunt with a grown-up. Look in the refrigerator, the freezer and the fruit bowl. Can you find a banana with brown spots, a few lonely berries, or the end of a loaf of bread? What could we make with them?

WATCH

Jesus Feeds the 5,000

Saddleback Kids • 2:09

<https://www.youtube.com/watch?v=S6rj9cAJrWE>

WHEN TO WATCH

After you read John 6:5-13 together. Count the baskets of leftovers at the end.

BACKUP VIDEO

God's Story: Jesus Feeds 5000

Crossroads Kids' Club • 4:18

<https://www.youtube.com/watch?v=zDp3HW4cES4>

Another day, to hear the story told again.

KEY TERMS

leftovers

Food that is not eaten at one meal and is saved for later.

fragments

Pieces that are left. In the Bible, the broken pieces of bread and fish.

waste

To throw away or use up something carelessly when it could have been used.

ripe

Ready to eat. Very ripe fruit is soft and sweet, perfect for smoothies and baking.

CORE IDEAS

The story. One day a great crowd of people followed Jesus up a hillside. It was late, and they were hungry. A boy in the crowd had five barley loaves and two small fishes. Andrew brought the boy to Jesus. Jesus took the loaves, gave thanks, and gave the food to the people, and then the fish too. About five thousand men, plus women and children, ate until they were filled! Then Jesus said to His disciples, “Gather up the fragments that remain, that nothing be lost.” They filled twelve baskets with the pieces that were left (John 6:5-13).

Why gather the fragments? Jesus could make more food whenever He wanted, yet He still did not want any to be wasted. Food is a gift from God, and someone worked hard to grow it, carry it and cook it. When we take only what we will eat and save our **leftovers**, we take good care of God’s gifts.

Ways to use leftovers. Cooks have many tricks for not wasting food. Soft, very **ripe** bananas and berries make sweet smoothies and muffins. Old bread becomes bread crumbs or French toast. Leftover vegetables can go into soup. Leftover cooked food goes into the refrigerator within 2 hours, and is eaten within 3 or 4 days. Food scraps can feed a compost pile for the garden.

Let’s cook! You will gather leftover fruit from the kitchen, wash it, peel and break the bananas, and measure everything into the blender. A grown-up blends it into a smoothie, and not a bit is wasted.

PICTURE STUDY



The Miracle of the Loaves and Fishes, James Tissot, 1886–1894 · Opaque watercolor over graphite on paper · Brooklyn Museum, New York
Image: [Wikimedia Commons](#), public domain

James Tissot was a French painter who traveled to the Holy Land to see the real places where Jesus lived. Then he painted hundreds of pictures of the life of Christ. This one shows the hillside where Jesus fed the great crowd with five loaves and two fishes.

Look closely

- Find the long rows of people sitting on the hillside.
- Find someone carrying a basket. What is in it?
- Look at the crowd. Can you count them? Why not?
- Look far away. What do you see beyond the hill?

Talk about it

1. How do you think the boy felt when he saw his lunch feed so many people?
2. Why did Jesus tell the disciples to gather up the leftovers?
3. What is one way our family can waste less food?

Safety first. Only a grown-up uses the blender, with the lid on, and rinses the sharp blades. Check leftover fruit with a grown-up: soft and spotty is fine, but moldy or slimy fruit goes in the trash or compost. Check for milk allergies.

The Leftover Hunt: A No-Waste Smoothie

You will be a leftover detective and find foods that need to be used soon. Then you will turn leftover fruit into a smoothie and plan how to use one more leftover this week.

You will need

- A blender with a lid (grown-up only)
- Measuring cups
- A colander
- Four glasses
- Paper for a leftover plan

LEFTOVER FRUIT SMOOTHIE

Serves 4 (about 1 cup each) • Prep 10 min

Ingredients

- 2 very ripe bananas (brown spots are perfect)
- 1–1½ cups leftover fruit: a few strawberries, blueberries, a peach, half an apple (cored by a grown-up), or frozen fruit
- 1 cup plain or vanilla yogurt
- 1 cup milk or 100% fruit juice
- A handful of baby spinach (optional)
- 4–5 ice cubes (if your fruit is not frozen)

Method

1. Wash your hands. Gather the leftover fruit and show it to a grown-up to check that it is still good.
2. Rinse the fruit in a colander. Peel the bananas and break them into pieces.
3. A grown-up cuts any big or firm fruit, such as a peach or apple, into chunks.

4. Put the fruit, yogurt and milk or juice into the blender jar. Add the spinach and ice.
5. A grown-up puts the lid on tight and blends for about 1 minute, until smooth.
6. The grown-up pours the smoothie into glasses. Share it with your family.
7. Clean up: a grown-up rinses the blender jar and blades. You rinse the colander and cups and wipe the counter.

Allergy check: Contains milk (yogurt and milk). For a milk-free smoothie, use a dairy-free yogurt and 100% juice or oat milk. Check for any fruit allergies.

Steps

1. **Read the story.** Read John 6:5-13 aloud together. Tell it back in your own words.
2. **Leftover hunt.** Look through the refrigerator and fruit bowl with a grown-up. Make a list (or drawing) of foods that need to be used soon.
3. Make the leftover smoothie with your grown-up.
4. **Taste test.** Can you guess every fruit in the smoothie by taste? Give it a family rating.
5. **No-waste plan.** Choose one more leftover from your list and plan a way to use it this week, such as bread crumbs, banana muffins or vegetable soup.
6. Clean up together and wash your hands.

Tips

- Freeze very ripe bananas (peeled, in a bag) to use in smoothies later.
- Every smoothie will taste a little different, depending on your leftovers. That is part of the fun!

Check your work

- ☐ I can retell the feeding of the five thousand.
- ☐ I can tell why we do not waste food.
- ☐ I gathered leftover fruit and helped make a smoothie.

COOK'S NOTEBOOK

1. Draw the boy's five loaves and two fishes, and the twelve baskets of leftovers.

2. Draw your leftover hunt list.
3. Draw your smoothie and the fruits that went into it.

COMMON MISTAKES

- Throwing away brown bananas. They are perfect for smoothies and baking.
- Taking more food on your plate than you can eat. Take a little, and go back for more if you are still hungry.
- Keeping leftovers too long. Eat them within 3 or 4 days, or freeze them.

Make it a game • Fragment Basket Hunt. Your grown-up hides twelve small paper scraps around the room. They are the bread fragments. Take a basket and gather them in two minutes, counting as you go. Then hunt the kitchen for one soft fruit or leftover and tell what you could make with it. Say why Jesus did not want food wasted.

Scripture. “When they were filled, he said unto his disciples, Gather up the fragments that remain, that nothing be lost.” (John 6:12, KJV)

Jesus gave thanks for the food, fed everyone, and then made sure nothing was wasted. We can do the same in our kitchen.

8.4 THE FAMILY FEAST

OBJECTIVES

- Retell how Abraham and Sarah welcomed three visitors with a quick meal.
- Plan one dish for a family feast, help shop for it and make it with a grown-up.
- Set the table, welcome the family and lead or join in saying grace.

Warm-up. Think back over the whole year. Which recipe was your favorite? Which one would you like to make for your family again? Look through your cook's notebook for ideas.

WATCH

Learning How to Set the Table - Vocabulary for Kids

Smile and Learn - English • 4:39

<https://www.youtube.com/watch?v=Il1b79NsQZg>

WHEN TO WATCH

Before you set the table, so you know the name and place of everything.

KEY TERMS

feast

A special meal to celebrate and give thanks, with family or friends.

hospitality

Welcoming guests warmly and opening their table and home with them.

grace

A short prayer of thanks to God before a meal.

place setting

The plate, fork, knife, spoon, cup and napkin set at one person's place.

CORE IDEAS

The story. One hot afternoon, Abraham was sitting at the door of his tent when he saw three visitors standing nearby. He ran to meet them and bowed and invited them to rest under a tree. Then Abraham hurried into the tent to Sarah and said, "Make ready quickly three measures of fine meal, knead it, and make cakes upon the hearth." He chose a tender calf for his servant to cook, and he brought butter and milk. Abraham served his guests himself and stood by them while they ate (Genesis 18:1-8). This is **hospitality**: welcoming others with our best.

Planning a feast. A feast is a special meal of thanks. A good feast needs a plan: a menu with a food from each group, a shopping list, a time to start cooking, and jobs for everyone. A grown-up cooks the main dish, and you choose and make one dish yourself, such as a fruit salad, a vegetable tray with dip, a smoothie, oat bites or drop biscuits (a grown-up bakes them).

Setting the table. Each **place setting** has a plate in the middle, the fork on the left, the knife (blade facing the plate) and spoon on the right, the cup above the knife, and the napkin by the fork. A pretty table says to everyone, “You are welcome here.”

Let’s cook and give thanks! When the food is ready and everyone is seated, we pause to say **grace** and thank God for the food, for the hands that made it, and for the family around the table. Then we eat together slowly, talk kindly, and help clean up.

PICTURE STUDY



Saying Grace, Jean-Siméon Chardin, 1740 · Oil on canvas · Musée du Louvre, Paris

Image: [Wikimedia Commons](#), public domain

This painting's French name is *Le Bénédicité*, which means “the blessing.” A mother is serving dinner to her two little children. Before anyone eats, the youngest child folds small hands to say grace. The mother waits patiently with the dish in her hands. The king of France, Louis XV, liked this painting so much that it was given to him.

Look closely

- Find the youngest child. What are the little hands doing?
- Find the dish the mother is holding. Is she waiting or serving?
- Find the older child. Where is that child looking?
- Find the pot on the floor and the cloth on the table.

Talk about it

1. Why does the family wait before eating?
2. What would you say if you were the child saying grace?
3. How will our feast table be like this one?

Safety first. A grown-up does all the hot cooking and the sharp-knife cutting for the feast. You make your dish with the safety rules you have learned all year: wash your hands, use only your helper tools, stay in your safe spot near heat, and put cold foods back in the refrigerator. Check every dish against your family's food allergies.

KITCHEN PROJECT

Our Family Feast

This is the big day! You will plan one dish for a family feast, help make the shopping list, make your dish with a grown-up, set the table, make a menu card, welcome your family and say grace.

You will need

- Paper and crayons for a menu card and a shopping list
- Plates, forks, knives, spoons, cups and napkins for everyone
- A tablecloth or placemats and a small centerpiece, such as flowers or a candle (a grown-up lights any candle)
- Bowls, measuring cups and tools for your dish

FAMILY FEAST FRUIT SALAD WITH HONEY-LIME YOGURT

Serves 6–8 • Prep 20 min • Chill 15 min

Ingredients

- 2 cups strawberries
- 1 cup blueberries
- 1 cup seedless grapes
- 2 bananas
- 2 cups melon or pineapple cubes (cut by a grown-up)
- 1 cup vanilla Greek yogurt
- 1 tablespoon honey or maple syrup
- 1 lime (cut by a grown-up)
- A few fresh mint leaves (optional)

Method

1. Wash your hands. Rinse the berries and grapes under cool running water and pat them dry.
2. Pull the tops off the strawberries and cut them in half with a butter knife or kid knife. Slice the peeled bananas the same way.

3. A grown-up cuts the melon or pineapple into cubes and cuts the lime in half.
4. Put all the fruit in a large bowl and stir very gently with a big spoon.
5. In a small bowl, stir the yogurt and honey together. Squeeze in the juice of half the lime and stir again.
6. Cover both bowls and chill for 15 minutes. Just before serving, tear the mint leaves over the fruit. Serve the yogurt on the side or spooned on top.
7. Clean up: put away the yogurt, wash the bowls and wipe the counter.

Allergy check: Contains milk (yogurt). For a milk-free version, use a dairy-free yogurt or serve the fruit plain with a squeeze of lime. Never give honey to a baby under one year old; use maple syrup instead.

Steps

1. **Read the story.** Read Genesis 18:1-8 together. How did Abraham and Sarah welcome their guests?
2. **Plan the menu.** With a grown-up, choose the feast menu, with a food from each group. A model menu: herb-roasted chicken (a grown-up cooks it to 165 °F), steamed broccoli (Lesson 4.2), drop biscuits (Lesson 4.4), your fruit salad, and water or milk to drink. Choose your one dish.
3. **Shop.** Help write or draw the shopping list, and go shopping with your grown-up to find each item.
4. Make your dish with your grown-up, and help with any other helper jobs.
5. **Set the table.** Set a place for each person: plate, fork and napkin on the left, knife and spoon on the right, cup above. Put a menu card that you drew in the middle of the table.
6. **Welcome and give thanks.** Greet each person as they come to the table. Then lead or join in saying grace.
7. **After the feast.** Ask each person to name a favorite dish. Then help clear the table, put leftovers away within 2 hours, and wash up together.

Tips

- Make your dish early in the day so you are free to help set the table.

- A simple centerpiece, like a jar of flowers from the yard or a bowl of fruit, makes the table feel special.

Check your work

- ☐ I can retell how Abraham and Sarah welcomed their guests.
- ☐ I planned and made one dish for our family feast.
- ☐ I set the table, welcomed my family and gave thanks.

COOK'S NOTEBOOK

1. Draw your feast table from above, with every place setting and the dishes in the middle.
2. Draw your menu card. A grown-up can help you write the names of the dishes.
3. Write or tell the grace you said, and draw your family at the table.

COMMON MISTAKES

- Trying to make too many dishes. One dish made well, plus helping, is plenty for a young cook.
- Forgetting the plan. Make your dish early and check your list.
- Rushing off after eating. Feasts end with thanks and cleaning up together.

Make it a game • Guests in Sixty Seconds. Your grown-up says, Three guests are coming in one minute! Race to set a place for each guest, choose one dish to serve, and say a welcome. Abraham and Sarah hurried the same way. Then plan one dish for your family feast, tell what you must buy, and say who will help you cook.

Scripture. “And Abraham hastened into the tent unto Sarah, and said, Make ready quickly three measures of fine meal, knead it, and make cakes upon the hearth.” (Genesis 18:6, KJV)

Abraham and Sarah hurried to give their guests their best. When we cook and serve with joy, our home becomes a place of welcome.

UNIT 8

MEAL PLANNING & THE FAMILY TABLE

A good meal begins long before anyone sits down to eat. Someone reads the recipe, makes a list, shops, gets the food ready, sets the table and welcomes everyone with thanks. In this last unit you will learn to read a recipe with pictures, plan a picnic, use up leftovers so nothing is wasted, and set a table for your family.

You will meet Hannah Glasse, who wrote a cookbook so plain and easy that anyone could follow it, and Ruth, who ate bread and parched corn with the reapers at mealtime. You will remember the boy whose five loaves and two fishes fed thousands, and the leftovers Jesus told His disciples to gather. And in the very last week, you will plan and make one dish for a family feast, set the table, and say grace together.

PREREQUISITES

- Washes hands, measures and pours (Units 1–7)
- Names the five food groups (Unit 2)
- Keeps cold foods cold and knows the two-hour rule (Unit 1)
- Stays in a safe spot while a grown-up uses heat (Units 1, 4 and 7)

MASTERY CHECKLIST

- ☐ I can read a picture recipe and follow its steps in order.
- ☐ I can help plan a picnic with a food from each group and keep the cold foods cold.
- ☐ I can tell why we gather up leftovers and do not waste food.
- ☐ I can set a place at the table: plate, fork, knife, spoon, cup and napkin.
- ☐ I can plan one dish for a family meal, make it with a grown-up and serve it with thanks.

OPTIONAL BOOKS AND TOOLS FOR THIS UNIT

- **A cooler bag and an ice pack:** For the picnic in Lesson 8.2. Keeps cold foods at 40 °F or below.
- **Index cards or plain paper and crayons:** For drawing your own picture recipe cards in Lesson 8.1 and a menu card for the feast.
- ***The Complete Cookbook for Young Chefs, America's Test Kitchen Kids:*** A well-tested cookbook for children, with clear steps and photographs. Best used with a grown-up for any recipe that uses heat or a sharp knife.

Not required. Every recipe in this unit works in an ordinary home kitchen.

School Launch has no ties to these authors, publishers or companies.

LESSONS IN THIS UNIT

8.1 Reading a Picture Recipe	2 sessions of 30–40 minutes
8.2 Planning a Picnic	2 sessions of 30–40 minutes
8.3 Gather the Fragments: No Waste	2 sessions of 30–40 minutes
8.4 The Family Feast	2 sessions of 60–90 minutes

UNIT 8 REVIEW

A parent asks each question aloud. Your child may answer by telling, pointing, showing or drawing. There are no points; this is a friendly conversation to see what has been learned. Have a recipe card and a plate, fork, knife, spoon, cup and napkin ready.

1. Show me the three parts of this recipe card. Why should we read the whole recipe before we start?
2. Who was Hannah Glasse, and what did she do?
3. We are planning a picnic on a hot day. What will we pack, and how will we keep the cold foods safe?

4. Tell me the story of the boy with five loaves and two fishes. What did Jesus say about the leftovers?
5. Name two ways to use leftovers instead of wasting them.
6. Set one place at the table for me. Where does each thing go?

ANSWER KEY

1. The name, the ingredients and the steps. Reading it first helps us get everything ready and not miss a step.
2. An English woman who wrote a cookbook in 1747 in plain, easy words so that anyone could follow the recipes.
3. A food from each group and water. Cold foods go in a cooler with an ice pack, and they should not sit out more than 1 hour on a day above 90 degrees (2 hours on a cooler day).
4. Jesus gave thanks and fed about five thousand men and their families with the boy's lunch. He said, "Gather up the fragments that remain, that nothing be lost," and they filled twelve baskets.
5. For example: smoothies or muffins from ripe bananas, bread crumbs or French toast from old bread, soup from leftover vegetables.
6. Plate in the middle, fork and napkin on the left, knife (blade toward the plate) and spoon on the right, cup above the knife.

UNIT CHALLENGE: THE FAMILY FEAST

The unit challenge is the family feast from Lesson 8.4. Keep these pages together in your folder: the menu card you drew, the shopping list, a drawing or photo of the dish you made, a drawing or photo of the table you set, and the grace your family said (a grown-up can write it down).

After the feast, look back through your cook's notebook with your family. Choose your three favorite recipes from the year and tell why you liked them. Then thank everyone who helped you cook this year.

LOOK FOR	WHAT IT MEANS
Planning	The child helped choose the menu and make the shopping list, and chose one dish to make.
Safe cooking	The child made the dish with clean hands and helper tools, stayed in the safe spot near heat, and put cold foods away.
Hospitality	The child set the table, made a menu card, and welcomed the family warmly.
Thanks	The child led or joined in grace and thanked the people who helped.
Looking back	The child chose three favorite recipes from the year and told why.