



SWEET AND SPICY PICKLES

Kitchen

EST. TIME 45 minutes SEASON fall TYPE cooking 

GRADE 4 | LESSON #4

? ESSENTIAL QUESTION(S)

- How are pickles made?
- Why was preserving food important in the past and why is it important today?



MATERIALS

- Recipe
- Handouts / Visual Aids
- Equipment
- Ingredients
- Tableware
- Cleaning Tools

Abc VOCABULARY

- Preserves, preserving
- Pickles
- Brine

✓ ASSESSMENT

- Observational checklist

PREPARATION (30 MINUTES)

- Gather materials, equipment, and ingredients listed above.
- Learn how to preserve foods safely if this is a new skill for you. Safety is critical in canning foods. [The National Center for Home Food Preservation](#) provides great online resources.
- Pre-make 3 bowls of cucumber, onion, and pickling salt mixture to be used with the first class so that it can soak for at least 2 hours before being pickled. The pickling veggies that the first class prepares will soak for about an hour and then be used by the second class, and so forth.
- Sterilize jars.
- Fill a large pot (for canning) with water.
- Recruit adult volunteers to support each table group in using the stoves.

TEACHER BACKGROUND

Pickling is a process of preserving or expanding the lifespan of food by either fermentation in brine or immersion in vinegar. Pickling can preserve perishable foods for months. Antimicrobial herbs and spices, such as mustard seed, garlic, cinnamon, or cloves, are often added to pickled products.

LESSON DESCRIPTION

In this lesson, students will read a narrative article about the history, purpose, and culture around preserving foods. Then they will work together in their table groups to prepare jars of pickles. Because pickles need to sit in brine for at least 2 hours, this lesson requires a set of pickles to be prepared ahead of time for the first class. The following classes can use the pickles prepared by the class that preceded them.



Use the lesson template to create your own and share with us!

LEARNING OBJECTIVES

Content Learning Objectives

CFT.4.2 Create basic flavor combinations using international cuisines.

FP.4.2 Describe and perform food preservation processes such as drying, freezing, pickling.

RC.4.2 Demonstrate the ability to follow recipe instructions with increased independence.

KTE.4.1 Use tools introduced in previous grades independently.

KTE.4.2 Name, identify, locate, and safely use new tools.

KTE.4.3 Demonstrate proper care and storage of tools/equipment.

KTE.4.4 Practice various tool techniques with increasing independence.

Life Skills Learning Objectives

PLS.1 Students are self-aware and show respect for their own needs, the needs of others, and the environment. They practice safe and conscientious behaviors in the garden and kitchen environments.

ACADEMIC CONTENT STANDARD CONNECTIONS

CCSS.ELA-LITERACY.RI.4.3

Explain events, procedures, ideas, or concepts in a historical, scientific, or technical text, including what happened and why, based on specific information in the text.

HEALTH STANDARD CONNECTIONS

National Health Education Standard 7: Students will demonstrate the ability to practice health-enhancing behaviors and avoid or reduce health risks.



LESSON MATERIALS

Materials for

Lesson Introduction

Handouts

- Emeril's Homemade Sweet and Spicy Pickles**, *Emerils.com* (recipe, 1 copy per small group)
- Brine Group Tool Cards (1 per cooking station)
- Brine Group Instruction Cards (1 per cooking station)
- Veggie Group Tool Cards (1 per cooking station)
- Veggie Group Instruction Cards (1 per cooking station)

Equipment

For Each Group of 10:

- 5 cutting boards
- 1 large, non-reactive bowl
- 5 knives
- 2 small buckets
- 1 set of measuring spoons
- 1 set of measuring cups
- 1 small bowl
- 1 medium saucepan
- 1 roll of plastic wrap
- 1 gallon plastic, re-sealable bag
- 1 glass measuring cup
- 1 colander
- 4 pint jars, with lids and metal rings
- 1 ladle
- 2 towels
- 1 large canning pot
- 1 pair of canning tongs
- Adhesive labels (2 per student)
- 1 set of markers (for decorating labels)

For Whole Class:

- Stovetop

Ingredients

For Each Group of 10:

- 3 cups white vinegar
 - 1 ½ cups apple cider vinegar
 - 3 ½ cups sugar
 - 2 tablespoons yellow mustard seeds
 - ½ teaspoons turmeric
 - 4 whole cloves
 - 24 dried cayenne peppers
 - ½ cup of pickling salt
- Check the Garden for:**
- 6 medium cucumbers, sliced into ¼ inch thick slices
 - 2 medium onions, sliced
 - 30 cloves of garlic, roughly chopped

Materials for Cleaning Up

- Dish soap
- Scrubber (for dishes)
- Drying rack
- Kitchen towels
- Sponge (for counters)
- Broom and dustpan

PREPARE TO COOK (5 MIN)

Have students tie hair back, wash hands, put on aprons (if relevant) and take their seats.

RECIPE INTRODUCTION (5 MINUTES)

Briefly introduce the purpose, history, and cultural significance of **preserving** food (see Additional Resources below for more information). Have students share examples of preserved foods that they enjoy (pickles, jams, etc).

REVIEW FAMILIAR SKILLS (7 MINUTES)

1. Divide each table into 2 equal groups of students (Each table should have no more than 10 students). Explain to students that they will work together to make **pickles**—one group will be slicing the vegetables and the other will be measuring the ingredients for the **brine**, which is what we commonly think of as the “pickle juice.” Each group will be observing the other group at their table to learn the full method for the recipe.
2. Have students work as a team to locate and bring the tools listed on the group tool cards back to their cooking station. When students have returned to their seats, deliver knife buckets to tables.
3. Model for students where to gather and how to prepare each of the ingredients.
 - **Veggie Group:** Remind students to wash their cucumbers before they begin. Model how to slice cucumbers into $\frac{1}{4}$ -inch thick slices, how to slice the onions, and how to roughly chop the garlic. Request that they leave their veggies on their cutting boards when they are done.
 - **Brine Group:** Request that they measure and pour all of their ingredients into the medium saucepan except for the $\frac{1}{2}$ cup of pickling salt, which should be placed in their small bowl. Remind students to return their ingredients to where they are stored after they have measured what they need.

DIVVY UP TASKS (10 MINUTES)

1. Have students divide and execute the tasks within their groups. Once complete, have students return their attention to the whole group.
2. Ask the veggie group and the brine group at each table to trade the 30 cloves of garlic for the ½ cup of pickling salt. Ask the brine group to add the garlic to their saucepan. Model for the veggie group how to place the cucumbers, onions, and pickling salt in their large, non-reactive bowl and pour 6 cups of water over them before covering.
3. Explain that these will soak for 2 hours and be ready for the next class that day. Explain to students that the class before them that day sliced and soaked the vegetables they'll be using. Using a colander, model for students how to drain the water from the onions and cucumbers, and rinse them well for 5 minutes. Have students work as a team to drain and rinse the veggies for their table.

DEMONSTRATE NEW TOOLS AND SKILLS (15 MINUTES)

1. Demonstrate for students how to heat the brine over high heat on the stove. When it boils, the heat should be reduced to medium. Review with students the idea that heat is always changing and specifically demonstrate what a **boil** and **simmer** look like. Have students bring their brine to a simmer.
2. Demonstrate for students how to safely add some cucumbers and onions without splashing. Have students bring pickle mixture to a simmer, then remove from heat.
3. Demonstrate for students how to fill each of the hot sterilized pint-size preserving jars with the pickle mixture, adding enough of the liquid to come within 1/2-inch of the top. Show students how to wipe the rim with a clean damp towel and fit each jar with a hot lid before screwing on the metal ring just until the point of resistance is met. Have students carefully follow this step.
4. Demonstrate for students **how to process the jars safely and properly** in a hot-water bath. You will start this process with students, but finish it after they have left class.
5. When jars are processed, use tongs to remove the jars, place on a towel, and let cool.
6. Allow the jars to stand at room temperature overnight or until the lids pop. Then tighten the rings and store in a cool dry place. Let the pickles age for at least 2 weeks before eating.


COOK!

After each mini-demonstration above, have students complete the task (i.e., bring to a simmer, add cucumbers, etc.) at their tables, with the help of an adult.

Note:

Enjoy pickles together at least 2 weeks after preparing them. When you eat them, note the flavor combination (sweet and spicy) and brainstorm other foods that use a similar combination, such as mango with chili powder, barbecue sauce, and the like.

CLEAN UP (5 MINUTES)

1. Engage students in their clean up tasks: washing dishes, wiping cooking station, sweeping floor around cooking station, placing cucumber scraps in the compost, etc. Provide a gallon re-sealable plastic bag for tables to save their onion and garlic peels to place in the freezer for a vegetable stock in the winter. Provide students with time in their small groups to divide then execute tasks before returning their attention back to the whole group.
2.  As students work in their small groups, use the cooking and cleaning observational checklist to assess students' mastery of cleaning skills.

REFLECT (5 MINUTES)

1. While jars are processing, recognize specific students' behaviors that aligned with being the best for themselves, their communities, and their environment. Specifically, ask students to reflect on how they showed cooperation and how they communicated in their small groups.
2. Either in class or for homework, review the essential question, "How are pickles made?" by providing students with this list of nouns to include in a description of the process.

cucumbers	onions	garlic	vinegar	sugar
salt	jar	lid	ring	tongs

Ask students to list the verbs they used in their description.

3. Review the essential question, "Why was preserving food important in the past and why is it important today?"

CONNECTIONS TO GARDEN LESSONS

Use cucumbers, onions, and garlic, from your garden. Bring compost out to the garden.

POSSIBLE EXTENSIONS

Community: Make jars of pickles as gifts for loved ones.

BAM! Box Activity: Bring home a jar of pickles and come up with a fun way to enjoy them, such as on crackers or sandwiches. Take photos and share your pickle ideas with the class.

ADDITIONAL RESOURCES

- Williams Sonoma Pickle Guide
<https://www.williams-sonoma.com/pages/basics-of-pickling.html>
- Globalization: A Pickle's Tale
<https://www.theatlantic.com/international/archive/2016/10/globalization-a-pickles-tale/501398/>
- Artisanal Pickle Makers
<http://www.nytimes.com/2012/02/19/magazine/adam-davidson-craft-business.html>
- *101 Things to Do with a Pickle* by Eliza Cross
- *The Joy of Pickling* by Linda Ziedrich
- *Asian Pickles* by Karen Solomon

TOOLS AND INGREDIENTS CARDS

SWEET AND SPICY PICKLES	
VEGGIE GROUP—TOOLS	VEGGIE GROUP—INGREDIENTS
<ul style="list-style-type: none"> • 5 cutting boards • 1 large, non-reactive bowl • 1 glass measuring cup 	<ul style="list-style-type: none"> • 6 medium cucumbers, sliced into ¼ inch thick slices • 2 medium onions, sliced
	<ul style="list-style-type: none"> • 30 cloves of garlic, roughly chopped

FRONT

BACK

TOOLS AND INGREDIENTS CARDS

SWEET AND SPICY PICKLES	
BRINE GROUP—TOOLS	BRINE GROUP—INGREDIENTS
<ul style="list-style-type: none"> • 1 set of measuring spoons • 1 set of measuring cups • 1 small bowl • 1 medium saucepan 	<ul style="list-style-type: none"> • 3 cups white vinegar • 1 ½ cups apple cider vinegar • 3 ½ cups sugar • 2 Tbsp yellow mustard seeds • ½ tsp tumeric • 4 whole cloves • 24 dried cayenne peppers
	<ul style="list-style-type: none"> • ½ cup of pickling salt

FRONT

BACK