



UNIT 3: DISTRIBUTION

Food for Keeps

Grade level: Upper elementary

NATIONAL STANDARDS

NSS-C.K-4.4

NS.K-4.2

NS.K-4.6

NS.K-4.7

Student Learning Objectives

By the end of this lesson, students will be able to:

1. Explain the meaning of food preservation and why it is necessary.
2. List four methods of food preservation and give an example of each.

Time: 50 minutes

Tools, Equipment, and Supplies: Writing surface, copies of Activity Sheet 12:1, samples of food preserved using the methods listed in

Objective 2:

Key Term(s): Canning Food preservation
Drying Salting
Freezing Pickling

Background Information

Many agricultural products must be prepared, treated or processed to prevent spoilage or decay and to allow them to be used later. This process is called **food preservation**. No one knows how long humans have been preserving their food. As early as 1500 BC, foods were dried in Egypt and Arabia.

Four important methods of preservation are:

- Canning
- Freezing
- Drying
- Salting or pickling (salt preservation)

Packing and **food preservation** methods also make more food available. The Pilgrims preserved meat with salt for their ocean journey. Later, Clarence Birdseye developed a method of **freezing** and packaging vegetables. It revolutionized the food industry. **Canning** has been an important food-packaging method for many years.

Today, thanks to **food preservation**, Americans enjoy many different foods throughout the year—not just at the time they are harvested.



NOTES

Interest Approach

Let's explore the things that prevent us from getting sick, keep us from starving to death, and may even keep us from being "grossed out."

How many of you have ever smelled or tasted spoiled milk? Raise your hand. How do you think the milk got like that?

Entertain several responses. Respond positively to each.

Have you ever seen, smelled, or tasted other foods or drinks that were spoiled? That's just nasty, isn't it? Well, today we are going to learn about some important processes known as **food preservation**.

OBJECTIVE 1: Explain the meaning of food preservation and why it is necessary.

Here's a question for you: what does the word **preserve** mean? Raise your hands if you have an answer.

Entertain several responses. Comment positively to each response.

You gave some good answers, but the word preserve actually means, "to keep." Food must move from where it is grown to where people eat it. And sometimes, food isn't eaten right away. Those are reasons why some foods need to be preserved so that they do not spoil. For example, if we do not drink all of the milk before the expiration date passes the milk will spoil.

Use the Motion e-Moment® to help students remember the meaning of preserve. Suggested motion could be to clasp hands and pull them toward their chest—like they want "to keep" whatever food they are imagining is in their hands.

OBJECTIVE 2: List four methods of food preservation and give an example of each.

Now that we know what **food preservation** is, let's investigate some specific methods of **food preservation**.

If possible, bring in examples of preserved foods:

- A canned food (fruits or vegetables)
- A frozen food (fruits or vegetables)
- A dried food (for example, dates, raisins, banana chips, etc.)
- A salted or pickled food (pickles, country ham)

Show the foods to students. Talk about each food and how it was preserved.



NOTES

Use a Choral Response e-Moment® to memorize the following terms.

Canning involves packing food in a container and then heating the container to sterilize the food.

Freezing involves lowering the temperature of the food to below 28 degrees Fahrenheit. This stops the food from spoiling.

Drying involves taking the moisture out of the food by drying it in the sun, in the air or by using heat.

Salting or **Pickling** involves adding salt or a brine (a mixture of salt and water) to keep the food safe.

Some of these methods of preserving foods are very old. People have been drying and pickling foods for thousands of years. More than 1500 years ago, people in Egypt and Arabia were drying foods. Can you think of some foods that are still preserved by drying?

Answers may include popcorn, dried fruit, dried beans, powdered milk.

The Babylonians salted and pickled foods in 1500 BC and George Washington fed his troops salt pork at Valley Forge. Who can tell us some foods that are salted or pickled today?

Answers may include: pickles, olives, slab pork.

Canning was not invented until the 1800s. Napoleon fed his troops canned foods. What are some foods that are canned for preservation today?

Answers may include canned fruits and vegetables, canned meat, canned soup.

A man named Clarence Birdseye first marketed frozen foods. He had visited Labrador where he ate frozen fish. He came back to the United States and developed a way to freeze foods quickly. Today you can buy many frozen foods in your supermarket. Who will share some examples of them?

Answers may include frozen pizza, ice cream, vegetables, frozen dinners.

Hand out the Activity Sheet 12.1, "Food for Keeps." Ask students to take it home and list as many foods preserved by each method as they can find in their house.



NOTES

SUMMARY/REVIEW

Food preservation is a very important part of agriculture that many people never even think about, but what would we do without it? Let's map out the history of **food preservation**.

Use a Cartographer e-Moment® and have students map out the genesis and development of the food preservation concept.

REFLECTIVE REVIEW QUESTIONS:

- Who has parents or grandparents that can their own food? What can you share about it?
- What foods do you commonly eat that use one or more of the preservation techniques we discussed today?
- Think about all of the food in your home's refrigerator. How do you suppose people did without cold storage long ago before refrigeration existed?

APPLICATION

APPLICATION 1: Learn more about how the Pilgrims preserved food. An excellent resource is "Coming to America," National Livestock and Meat Board, Education Department, 444 N. Michigan Ave., Chicago, IL 60611. (There is a cost for these materials.)



ACTIVITY SHEET 12:1

Food for Keeps

Look around your house. List all the foods you can find that are preserved by canning, freezing, drying or pickling. Put a checkmark by your favorite preserved foods.

Canning:

Freezing:

Drying:

Pickling:

Did you know?

- Ice was manufactured in Greece as early as 500 BC.
- The Pilgrims brought salted meat when they came to America on the Mayflower.
- George Washington's troops ate salt pork at Valley Forge.
- In 1809 Nicholas Appert invented canning; Napoleon fed his troops canned food.
- In 1860 Louis Pasteur first *pasteurized* milk.
- Clarence Birdseye first sold quick-frozen fish in 1925.
- The astronauts took many *freeze-dried* foods with them in space.