

Exploring Food Preservation

Suggested Grade Level 7-8



The Big Idea

Students will explore the history and different methods of food preservation. We recommend this lesson be completed for a more in-depth look at food processing as a follow-up to our introductory Food Systems lesson.

Activity Notes

The research project can be completed during class time, at home, or a mix of both. You may choose your expectations for this assignment; students may present the information orally, written or visually at your discretion.

Be sure to foster a safe and inclusive space for all students during discussion. For example, consider food access, cultural background, varying definitions of healthy foods, and ensure that food is discussed in a positive manner without judgement. Refer to the [Teach Food First](#) resource for more teaching tips.

Consider finding local field trip opportunities, resources, and programs in your area to use as extension activities, such as cooking programs, farmers market/grocery store tours, etc. Be mindful of associated cost and potential impact on access and student participation.

Learning Goals

- We are exploring various groups in Canada in the past, including First Nations, Métis, and Inuit communities, and assessing how their ways of life compares to those of the present
- We are learning the role science plays in preserving and processing foods
- We are learning how different cultures in Canada and around the world preserve foods to overcome food storage challenges, today and in the past
- We are learning about the inputs and outputs of a variety of food preservation systems
- We are exploring the factors that contribute to the safety and efficiency of food preservation systems

Activities

Total Time: 1 hour 10 minutes

- | | |
|--|------------------------------|
| • Introduction: Brief Discussion | • 10 minutes |
| • Activity 1: Exploring Food Preservation Video | • 30 minutes |
| • Activity 2: Food Preservation Research Project | • 25 minutes + research time |
| • Wrap-up and Review | • 5 minutes |

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Success Criteria

Students will be able to do the following:

- Describe a food preservation process, with examples, that was used by one or more groups (including First Nations, Métis and Inuit Peoples, and settlers) inhabiting North America from the 18th to the early 20th century and compare that process to how it is used today.
- Explain how food preservation helped to overcome real-world challenges in the past, and compare this to challenges that have been overcome in present day.
- Explain the scientific reasoning behind the success of a method of food preservation or processing both historically and in the modern world.
- Describe a variety of food preservation systems in terms of their inputs, outputs and factors that contribute to their safety and efficiency.

Preparation

Materials needed:

- Writing utensils
- Internet access and a printer
- Food Preservation Research Project (option for during class or at home)
- Food Preservation Extension Activities (optional)
- Projector or SMARTBoard
- Food Preservation Exit Card

Preparation:

- Print 1 Exploring Food Preservation worksheet per student.
- Print 1 Food Preservation worksheet table per student (optional)
- Print 1 Food Preservation Exit Card per student. Note: there are 4 exit cards per page.
- Open and project the [Exploring Food Preservation video](#).

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Introduction

Students will learn about how different methods of food preservation were invented and discovered and what the impact each method has on current society. Students will learn which foods are preserved by which method and will explore an area of interest in regards to food preservation.

- Using the student worksheet, in pairs or small groups, ask students to generate ideas of different food preservation methods they have heard of before. Challenge them to think of different types of preserved foods they've had before. Then, ask them to match the food with the preservation method.
- Ask students to share their ideas with the class.
- See Guiding Questions on p.4

Activity 1: Exploring Food Preservation Video

- Watch the Food Preservation video as a class. Pause the video when indicated and have students fill out the worksheet throughout.
- Discuss the answers as a class before unpausing the video.

Activity 2: Food Preservation Research Project

- Explain the Food Preservation Research Project to students.
- The research project can be completed during class time, at home, or a mix of both at the teacher's discretion. You may choose your expectations for this assignment; students may present the information orally, written or visually at your discretion.
- See Guiding Questions on p.4

Wrap-Up & Review

- "We've spent some time today learning about different methods of food preservation and different foods that are preserved by these methods. Would anyone like to share a new food they would like to try after today's lesson?"
- Ask students to complete the Food Preservation Exit Card to summarize their learning.

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Assessment Opportunities

- Activity 1 - Video: Collect student worksheets and assess responses. Have students selected the correct food preservation method? Have students included examples from their own background knowledge and not just ones from the video? Are their examples accurate?
- Activity 2 - Research Project: Assess the research project by looking for student comprehension and adherence to directions. Has the student:
 - Followed the scientific research process?
 - Provided thoughtful answers with evidence to the assigned questions?
 - Demonstrated an understanding of different types of food preservation methods and the factors that contribute to their safety and efficiency?
 - Understood the inputs and outputs of the food preservation system they selected?
- Exit Card: Collect and review exit tickets in relation to learning goals and success criteria of the lesson.

Additional Resources

- Video: Exploring Food Preservation video.
- Recipes: Students are encouraged to visit <https://growingchefsontario.ca/recipes> to find recipes they want to try at home.
- Traditional foodways of the Metis people. Revised June 28, 2018.
- "The Old Foods Are the New Foods!": Erosion and Revitalization of Indigenous Food Systems in Northwestern North America By Leigh Joseph and Nancy J. Turner
- Sustainable Food Systems Lab: Indigenous Food Circle

Guiding Questions

Introduction:

- What is food preservation? How is food preserved?
- What are some reasons that we preserve foods?

Food Preservation Research Project and Extension Activity 1:

- Why is it important that we're able to preserve foods?
- How does one's access to various food preservation methods affect the types of foods they're able to access?
- What would happen if we didn't have access to some of the food preservation methods we rely on?

Food Preservation Video

Student Worksheet



Name: _____

Date: _____

List as many methods of food preservation as you can (bonus points if you can give an example of a food preserved using each method):

For each of the seven Food Preservation Methods below, fill in the blank with the name of the method indicated in the video, then list three examples of foods preserved using that method. Try to think of your own answers (i.e. don't just list the foods you see pictured in the video).

Food Preservation Method #1: _____

Examples of foods preserved using the above method:

Food Preservation Method #2: _____

Examples of foods preserved using the above method:

Food Preservation Method #3: _____

Examples of foods preserved using the above method:

Food Preservation Method #4: _____

Examples of foods preserved using the above method:

Food Preservation Method #5: _____

Examples of foods preserved using the above method:

Food Preservation Method #6: _____

Examples of foods preserved using the above method:

Food Preservation Method #7: _____

Examples of foods preserved using the above method:

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Food Preservation Research Project

At home option:

Ask students to complete a photo scavenger hunt at home in their kitchens. Each student will take 5-10 photos of preserved foods, trying to include as many different methods of food preservation as they can find. Create a shared class slideshow for all students to add their photos into with a label indicating what method of food preservation was used.

Allow students to select one of the foods from the class slideshow to research further (it doesn't have to be their own photo)! From here, the instructions are the same as the in-class option.

In class option:

Using a computer/the internet, ask students individually or in pairs to select one preserved food to research further. You may choose your expectations for this assignment. Students may present the information orally, written, or visually at your discretion.

As students are doing their research, assign some or all of the following questions:

1. What method(s) of food preservation would this food be prepared with today in the 21st century?
2. What method(s) of food preservation would this food have been prepared with when it was originally discovered or created? Where and when was this discovery/creation?
3. Would the method of food preservation differ if it was prepared in a small-scale/home/artisanal scale vs. a large/commercial scale? Why?
4. Select one of the preservation methods from the above answers. What are the inputs and outputs during each stage of the process?
5. How does each step in the selected preservation process account for worker safety and food safety?
6. Has the preservation process been adapted over history to become safer and more efficient? If so, how? Are there any drawbacks to this scientific advancement?
7. Create or choose a recipe using a preserved food as an ingredient that you would be excited to make or eat. Students could make the recipe and take photos as an extension activity.

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Extension Activities

Activity 1:

Assign students a real-world scenario where a large amount of food needs to be preserved quickly before it spoils. Ask students to select the best methods of preservation that they can do on short-notice without a fridge or freezer and explain how they would maintain worker and food safety. Two examples of scenarios are below, or you can create your own scenario.

Scenario example one: You are working in a food bank and a shipment of hundreds of pounds of very ripe strawberries comes in with no notice. Your fridges and freezers are full, and you've already distributed as many fresh strawberries to your clients as possible. How can you preserve the rest to be distributed at a later time? How will you maintain worker and food safety?

Scenario example two: You are working on an organic farm that only sells at a farmers' market once a week. There is a frost coming, so you need to harvest your crop of tomatoes as fast as possible, all at once. All the tomatoes won't last until your next farmers' market as some are very ripe. How can you preserve the tomatoes to take to the farmers' market at a later time? How will you maintain worker and food safety?

Activity 2:

Assign students to complete the student worksheet table. For each method of food preservation, list the features, examples of foods, and historical notes applicable to that method. This activity can be given as a review after watching the Exploring Food Preservation video. Students may benefit from being given a link to review the video again at their own pace.

Exploring Food Preservation

Student Worksheet Table



Method of Food Preservation	Features	Examples of Foods	Historical Notes

Food Preservation Exit Ticket

Name: _____ Date: _____

Which preservation process do you find the most interesting? Why? What foods might be preserved that way?

What might be the best way to preserve _____ ? Why do you think this will work? _____

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Food Preservation Exit Ticket

Name: _____ Date: _____

Which preservation process do you find the most interesting? Why? What foods might be preserved that way?

What might be the best way to preserve _____ ? Why do you think this will work? _____

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Ontario Curriculum Connections

Grade 7 History:

- A1. analyse aspects of the experiences of various groups and communities, including First Nations, Meʻis, and Inuit communities, in Canada between 1713 and 1800, and compare them to the lives of people in present-day Canada
- B1. analyse aspects of the lives of various groups and communities, including First Nations, Meʻis, and Inuit communities, in Canada between 1800 and 1850, and compare them to the lives of people in Canada in 1713–1800

Grade 8 History:

- A2. use the historical inquiry process to investigate perspectives of different groups and communities, including First Nations, Meʻis, and/or Inuit communities, on some significant events, developments, and/or issues that affected Canada and/or people in Canada between 1850 and 1890
- B1. assess key similarities and differences between Canada in 1890– 1914 and in the present day, with reference to the experiences of, major challenges facing, and actions taken by various individuals, groups, and/or communities, including First Nations, Meʻis, and Inuit individuals and/or communities

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Ontario Curriculum Connections

Grade 8 Science and Technology

Strand A: STEM Investigation and Communication Skills

Overall

- A1. use a scientific research process, a scientific experimentation process, and an engineering design process to conduct investigations, following appropriate health and safety procedures

Specific

- A1.1 use a scientific research process and associated skills to conduct investigations; A1.5 communicate their findings, using science and technology vocabulary and formats that are appropriate for specific audiences and purposes.

Overall

- A3. Applications, Connections, and Contributions demonstrate an understanding of the practical applications of science and technology, and of contributions to science and technology from people with diverse lived experiences

Specifics

- A3.1 describe practical applications of science and technology concepts in various occupations, including skilled trades, and how these applications address real-world problems
- A3.2 investigate how science and technology can be used with other subject areas to address real-world problems
- A3.3 analyse contributions to science and technology from various communities

Strand D: Structures and Mechanisms

Overall

- D2. demonstrate an understanding of different types of systems and the factors that contribute to their safe and efficient operation Specific expectations

Specifics

D2.1 identify various types of systems

D2.2 describe the purpose, inputs, and outputs of various systems, including systems related to food processing

D2.3 identify the various processes and components of a system that allow it to perform its function efficiently and safely