

# How to Preserve Okra

## 10th-12th Grade Food Science



### Overview

This lesson will challenge students to use food preservation techniques to safely and deliciously preserve okra.

Time needed: 2-3 class periods with option to do additional work outside of class.

### Standards:

- HUM-FS-14 Compare and contrast different food preservation methods and the resultant quality of preserved food.
  - 14.1 Describe and provide examples of the continuum of processed foods.
  - 14.2 Identify the major functions of packaging used for food products, differentiating between the functions of primary, secondary, and tertiary packaging.
  - 14.3 Identify common types of packaging materials, and compare and contrast the properties of containers made from different packaging materials and selection criteria.
  - 14.4 Discuss reduced oxygen packaging and the effects on product quality and availability of products in the marketplace.
  - 14.5 Explain the importance of product pH and final water activity of the processed product to preservation of foods.
  - 14.6 Examine the factors to be considered in the selection and use of successful thermal-processing techniques (canning, freezing and pasteurization) and describe commercial thermal-processing methods.
  - 4.7 Examine the processes of curing, dehydration, freeze-drying, and extended shelf life of fresh products (refrigeration, modified atmosphere packaging and irradiation).
  - 14.8 Compare and contrast processes used for home and commercial preservation and evaluate the resulting quality of the products preserved using different commercial and/or home methods.

### Objectives:

- Students will understand the nutritional benefits of okra.
- Students will evaluate the best ways to preserve okra.
- Students will test two different food preservation recipes.
- Students will create an infographic about the food preservation method they used.



### Materials:

- [Okra Nutrition](#)
- [PowerPoint](#)
- Water bath canner
- [Put It Up! Curriculum](#)
- Jars, lids, rings
- [Pickled Okra Recipe](#)
- Okra recipe ingredients
- [Pickled Spicy Okra Recipe](#)

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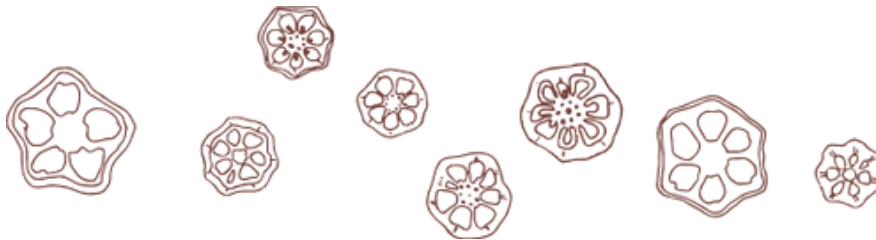


## Outline:

- Engage: Students will read the [Dr. Axe article](#) on the health benefits of okra and decide if they think it is or is not a functional food.
- Explore: Students will explore various forms of food preservation using the PPT.
- Explain: Teacher will explain the key concepts of food preservation and cover safe canning practices using the NCHFP website.
- Extend: Students will preserve okra using the two recipes above and they will vote on which they feel is the better recipe and why.

## Lesson Plan:

- Engage: Students will read the [Dr. Axe article](#) on the health benefits of okra and decide if they think it is or is not a functional food. Teacher will explain that when okra crops ripen, gardeners and chefs try different ways to preserve the harvest.
- Explore: Let the students explore different forms of food preservation through the powerpoint and lecture.
- Explain: Teacher will explain that students will be creating their own preserved okra recipe to share with the class. All safety measures must be followed to create a safe product to eat.
- Extend: Students will be in groups and make one of the two recipes above.
- Evaluate: Students will evaluate the success of their project based on which is voted the best tasting. They will also brainstorm ideas on how restaurants could use these recipes on their menus to extend their crops.



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