



YALE NATIONAL INITIATIVE

to strengthen teaching in public schools®

Curriculum Units by Fellows of the National Initiative
2017 Volume IV: Chemistry of Cooking

Best Practices for Food Preservation from Lab to Home Kitchen

Guide for Curriculum Unit 17.04.12, published September 2017

by Thanh-Nhu Tran

Foodborne illnesses affect several million people in the United States each year. This unit focuses on a few commercial food-processing techniques and at home storage methods for students to become aware of the necessities of preserving the shelf life of their food. Food preservation methods such as dehydration, freeze-drying, and pasteurization are explained to show the common purpose of preventing biological and chemical spoilage. The consumer will need to continue preserving their food through different ways of storage. This unit then describes different storage container materials and how placement of the food in the home continues the preservation process.

The realm of cooking gives common ground to many students as they explore the abstract world of the sciences. This unit is intended for High School students taking Chemistry. Interactions and changes in matter, chemical reactions, stoichiometry, and laboratory etiquette are a few concepts that can be emphasized. This unit allows teachers to modify the activities to meet the needs of students and provides opportunities for students to engineer their own storage methods and understand Chemistry through inquiry-based instructions.

(Developed for Chemistry, grades 10-12; recommended for Introduction to Science or Science Skills, grades K-8)

<https://teachers.yale.edu>

©2023 by the Yale-New Haven Teachers Institute, Yale University, All Rights Reserved. Yale National Initiative®, Yale-New Haven Teachers Institute®, On Common Ground®, and League of Teachers Institutes® are registered trademarks of Yale University.

For terms of use visit https://teachers.yale.edu/terms_of_use