



Curriculum Units by Fellows of the Yale-New Haven Teachers Institute  
2009 Volume III: Science and Engineering in the Kitchen

---

## **It's Alive! Using Microorganisms in Cooking**

Guide for Curriculum Unit 09.03.06  
by Pedro Mendia-Landa

Are all microorganisms harmful? Which are some of the beneficial microorganisms that are used in cooking? What are the differences between starters and yeast? What are some modern alternatives to yeast and how do they work? Which are some of the common bacteria that are used in cooking? How can the use of bacteria and yeast in cooking aid the classroom teacher to introduce some basic principles and ideas about chemistry? These are some of the central questions that this curricular unit begins to answer and attempts to clarify.

In this unit, we explore some basic physical, chemical, and engineering principles as we explore the way that microorganisms (yeast and bacteria) aid us in preparing some simple foods such as pancakes, flat breads, or ginger ale. Students will proceed through a series of hands-on activities that will allow studying the elements of the scientific method, and in the process, the design of a science fair project.

A list of student, teacher, and electronic resources, evaluation rubrics, extension activities and standards is provided for the implementation of the unit.

(Developed for Integrated Science, Language Arts, and Social Studies, grade 7; recommended for Science, grades 5-7)

---

<https://teachersinstitute.yale.edu>

©2021 by the Yale-New Haven Teachers Institute, Yale University  
For terms of use visit <https://teachersinstitute.yale.edu/terms>