



Yale-New Haven
Teachers Institute®

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

Catering Middle-School Science: Monomers, Polymers, and Macromolecules

Guide for Curriculum Unit 09.03.01

by Karen A. Beitler

The primary question and deciding factor about whether an event is fun or not in middle school revolves around what is on the menu. This unit uses food to teach about the transition from small molecules to the complex molecules that make cells and ultimately organisms. Seventh-grade science takes students from the chemistry of the atom through the progression of ever-larger compounds to living organisms, genetics and human systems-chemistry and biology. Eighth-grade curriculum takes the student from simple physics through the solar system, inside the earth and introduces physics, astronomy, earth science and natural disasters. Our school's focus is environmental science which is integrated into all curriculums. This unit attempts to bring the two curriculums together and apply the ideas of monomers to polymers to macromolecules to things students can recognize in their everyday lives. Using standard reagents students recognize the macromolecules in foods, and then build molecular structures that make up those foods. Students are encouraged to formulate their own tests and ask probing questions about how the world is constructed. Through recognition of the connection between the inorganic and organic, students will gain a better understanding of their connection to the earth which will then, hopefully, foster stewardship of the environment.

(Developed for Science, grades 7-8; recommended for Science, grades 7-10)

<https://teachersinstitute.yale.edu>

©2021 by the Yale-New Haven Teachers Institute, Yale University

For terms of use visit <https://teachersinstitute.yale.edu/terms>