



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

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## **Sweet Science: How Sugar Molecules Are Manipulated in Candy Making**

Guide for Curriculum Unit 09.03.05  
by Roberta A. Mazzucco

Imagine making marshmallows, lollipops, caramels, fudge and taffy with your students. This unit will give children an exciting experience with candy making, while teaching them a fundamental principle - that heat has extraordinary effects on sugar molecules, and how that bit of knowledge has led to the world business of candy. It was written for a third-grade class but is appropriate for grades 2 through 5. The unit begins with some background history on sugar and how it found its way into all parts of the world. It then mentions the discovery of sugar beet, and the growth of slavery in the Americas as a result of the growing sugar industry. The unit presents some facts about the structure of the sugar molecule and how it responds to being heated in a water solution. The different cooking stages of candy are reviewed and some recipes that have been tried out are presented. The unit seeks to explore how each temperature of sugar aligns itself to a certain type of candy. Other suggested activities include the construction of a timeline of candy history and research projects for the students. There are also links to useful Web sites and a bibliography.

(Recommended for Science, grades 2-5)

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