

How to Use This Guide

This guide was created to assist teachers in using some of the exhibit's interactives within a classroom setting. Each of these lessons can be used as a stand-alone lesson about oral health or may be grouped together to form a unit.

- Each lesson is divided into a teacher brief and a lesson page.
- The teacher brief includes the purpose of the lesson, online activity links, and background information about the topic of the lesson.
- The lesson page contains a key point, materials, procedure, and questions to aid in discussion.
- The activities were designed to meet the National Science Education Standards developed by the National Committee on Science Education Standards and Assessment and the National Research Council.
- After completing these lessons, consider inviting an odontologist, geneticist, or bioengineer to speak to your class about their profession.

Links to National Science Education Standards

Grades 6-8

Content Standard	Student Understanding
<p>Content Standard A Abilities Necessary to Do Scientific Inquiry</p>	<ul style="list-style-type: none"> • Identify questions that can be answered through scientific investigations. • Think critically and logically to make the relationships between evidence and explanations.
<p>Content Standard A Understandings About Scientific Inquiry</p>	<ul style="list-style-type: none"> • Current scientific knowledge and understanding guide scientific investigations. • Scientific investigations sometimes result in new ideas and phenomena for study, generate new methods or procedures for an investigation, or develop new technologies to improve the collection of data.
<p>Content Standard C Reproduction and Heredity</p>	<ul style="list-style-type: none"> • Every organism requires a set of instructions for specifying its traits. • Hereditary information is contained in genes, located in the chromosomes of each cell.
<p>Content Standard C Structure and Function in Living Systems</p>	<ul style="list-style-type: none"> • All organisms are composed of cells—the fundamental unit of life. • Specialized cells perform specialized functions in multicellular organisms.
<p>Content Standard E Understandings About Science and Technology</p>	<ul style="list-style-type: none"> • Many different people in different cultures have made and continue to make contributions to science and technology.
<p>Content Standard G Science as a Human Endeavor</p>	<ul style="list-style-type: none"> • Women and men of various social and ethnic backgrounds—and with diverse interests, talents, qualities, and motivations—engage in the activities of science, engineering, and related fields such as the health professions.

Links to National Science Education Standards

Grades 9-12

Content Standard	Student Understanding
Content Standard A Abilities Necessary to Do Scientific Inquiry	<ul style="list-style-type: none">• Identify questions and concepts that guide scientific investigations.• Design and conduct investigations.
Content Standard A Understandings About Scientific Inquiry	<ul style="list-style-type: none">• Scientists conduct investigations for a wide variety of reasons.• Results of scientific inquiry—new knowledge and methods—emerge from different types of investigations and public communication among scientists.
Content Standard C The Cell	<ul style="list-style-type: none">• Cells store and use information to guide their functions.
Content Standard C The Molecular Basis of Heredity	<ul style="list-style-type: none">• In all organisms, the instructions for specifying the characteristics of the organism are carried in DNA, a large polymer formed from subunits of four kinds (A, G, C, and T).• Changes in DNA (mutations) occur spontaneously at low rates.
Content Standard E Understandings About Science and Technology	<ul style="list-style-type: none">• Science often advances with the introduction of new technologies.
Content Standard G Science as a Human Endeavor	<ul style="list-style-type: none">• Individuals and teams have contributed to the scientific enterprise.