



For Teachers:

Alignment to Curriculum Frameworks

Note: All Lesson Plans in this series are aligned to the U.S. National Science Education Standards (produced by the National Research Council and endorsed by the National Science Teachers Association), and if applicable, to the International Technology Education Association's Standards for Technological Literacy and the National Council of Teachers of Mathematics' Principles and Standards for School Mathematics.

◆ National Science Education Standards Grades K-4 (ages 4-9)

CONTENT STANDARD E: Science and Technology

As a result of activities in grades 5-8, all students should develop

- ✦ Abilities of technological design
- ✦ Understandings about science and technology

CONTENT STANDARD F: Science in Personal and Social Perspectives

As a result of activities, all students should develop understanding of

- ✦ Risks and benefits
- ✦ Science and technology in society

CONTENT STANDARD G: History and Nature of Science

As a result of activities, all students should develop understanding of

- ✦ History of science

◆ National Science Education Standards Grades 5-8 (ages 10-14)

CONTENT STANDARD E: Science and Technology

As a result of activities in grades 5-8, all students should develop

- ✦ Abilities of technological design
- ✦ Understandings about science and technology

CONTENT STANDARD F: Science in Personal and Social Perspectives

As a result of activities, all students should develop understanding of

- ✦ Personal health
- ✦ Risks and benefits
- ✦ Science and technology in society

CONTENT STANDARD G: History and Nature of Science

As a result of activities, all students should develop understanding of

- ✦ Nature of science
- ✦ History of science

◆ National Science Education Standards Grades 9-12 (ages 14-18)

CONTENT STANDARD E: Science and Technology

As a result of activities, all students should develop

- ✦ Abilities of technological design
- ✦ Understandings about science and technology

CONTENT STANDARD F: Science in Personal and Social Perspectives

As a result of activities, all students should develop understanding of

- ✦ Personal and community health
- ✦ Science and technology in local, national, and global challenges

CONTENT STANDARD G: History and Nature of Science

As a result of activities, all students should develop understanding of

- ✦ Nature of scientific knowledge
- ✦ Historical perspectives



For Teachers: Alignment to Curriculum Frameworks (continued)

◆Standards for Technological Literacy - All Ages

The Nature of Technology

- ✦ Standard 1: Students will develop an understanding of the characteristics and scope of technology.
- ✦ Standard 3: Students will develop an understanding of the relationships among technologies and the connections between technology and other fields of study.

Technology and Society

- ✦ Standard 4: Students will develop an understanding of the cultural, social, economic, and political effects of technology.
- ✦ Standard 6: Students will develop an understanding of the role of society in the development and use of technology.
- ✦ Standard 7: Students will develop an understanding of the influence of technology on history.

Design

- ✦ Standard 10: Students will develop an understanding of the role of troubleshooting, research and development, invention and innovation, and experimentation in problem solving.

Abilities for a Technological World

- ✦ Standard 13: Students will develop abilities to assess the impact of products and systems.

The Designed World

- ✦ Standard 17: Students will develop an understanding of and be able to select and use information and communication technologies.

◆Principles and Standards for School Mathematics

Understand meanings of operations and how they relate to one another

- ✦ understand the effects of multiplying and dividing whole numbers;
- ✦ identify and use relationships between operations

Data Analysis and Probability Standard

- ✦ select, create, and use appropriate graphical representations of data, including histograms, box plots, and scatterplots

Problem Solving

- ✦ Solve problems that arise in mathematics and in other contexts

Connections

- ✦ Recognize and apply mathematics in contexts outside of mathematics