

National Science Standards Addressed

Physical Science

Grades K-4

- Properties of objects and materials
- Position and motion of objects

Grades 5-8

- Properties and changes of properties in matter
- Motions and forces
- Transfer of energy

Science and Technology

Grades K-4

- Abilities to distinguish between natural objects and objects made by humans
- Abilities of technological design

Grades 5-8

- Abilities of technological design
- Understandings about science and technology

Science in Personal and Social Perspectives

Grades K-4

- Personal health
- Characteristics and changes in populations
- Types of resources
- Changes in environments

Grades 5-8

- Personal health
- Populations, resources, and environments
- Natural hazards
- Risks and benefits
- Science and technology in society

History and Nature of Science

Grades K-4

- Science as a human endeavor

Grades 5-8

- Science as a human endeavor
- Nature of science
- History of science



National Science Content Standards Addressed

Unifying Concepts and Processes in Science

Grades K-4

- Systems, order, and organization
- Evidence, models, and explanation
- Change, constancy, and measurement
- Evolution and equilibrium
- Form and function

Grades 5-8

- Systems, order, and organization
- Evidence, models, and explanation
- Change, constancy, and measurement

Science as Inquiry

Grades K-4

- Abilities necessary to do scientific inquiry
- Understandings about scientific inquiry

Grades 5-8

- Abilities necessary to do scientific inquiry
- Understandings about scientific inquiry

Physical Science

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- Properties and changes of properties in matter
- Motions and forces



National Science Standards Correlations

Physical Science

Position and motion of objects

- An object's motion can be described by tracing and measuring its position over time. (velocity)

Motion and forces

- Unbalanced forces will cause changes in the speed or direction of an object's motion. (acceleration)
- The motion of an object can be described by its position, direction of motion, and speed.
- An object that is not being subjected to a force will continue to move at a constant speed and in straight line. (inertia)

Position and motion of objects

- An object's motion can be described by tracing and measuring its position over time. (velocity)
- The position and motion of objects can be changed by pushing or pulling.

Science as Inquiry

Abilities necessary to do scientific inquiry

- Ask a question about objects, organisms, and events in the environment.
- Plan and conduct a simple investigation.
- Employ simple equipment and tools to gather data and extend the senses.
- Use data to construct a reasonable explanation.
- Communicate investigations and explanations.
- Design and conduct a scientific investigation.
- Develop descriptions, explanations, predictions, and models using evidence.
- Think critically and logically to make the relationships between evidence and explanations.

Science and Technology

Abilities of technological design

- Identify a simple problem.
- Propose a solution.
- Implementing proposed solutions.
- Evaluate a product or design

Understanding about science and technology

- People have always had problems and invented tools and techniques to solve problems.
- Trying to determine the effects of solutions helps people avoid some new problems.



History and Nature of Science

Science as a human endeavor

- Science and technology have been practiced by people for a long time.
- Many people choose science as a career and devote their entire lives to studying it.
- Many people derive great pleasure from doing science.



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National Science Teaching Standards Correlations

Teaching Standards

Teachers of science plan an inquiry-based science program for their students. In doing this, teachers:

- Select science content and adapt and design curricula to meet the interests, knowledge, understanding, abilities, and experiences of students.
- Select teaching and assessment strategies that support the development of student understanding and nurture a community of science learners.

Teachers of science guide and facilitate learning. In doing this, teachers:

- Encourage and model the skills of scientific inquiry as well as the curiosity, openness to new ideas and data, and skepticism that characterize science.

Teachers provide students with the time, space and resources needed to learn science. In doing this, teachers:

- Create a setting for student work that is flexible and supportive of science inquiry.
- Make the available science tools, materials, media, and technological resources accessible to students.

