

National Science Standards Matrix

based on *National Science Education Standards*, 1996, National Academy Press: Washington, D.C.

Content Standards

| Chapter | A | B | C | D | E | F | G | H |
|----------------------|---|---|---|---|---|---|---|---|
| Geologic History | ■ | ■ | ■ | | ■ | | | ■ |
| Rocks | ■ | ■ | ■ | | ■ | | | |
| Fossils | ■ | ■ | ■ | ■ | ■ | | | |
| Topography | ■ | ■ | ■ | | ■ | | | |
| Mineral Resources | ■ | ■ | ■ | | ■ | ■ | ■ | ■ |
| Rock Resources | ■ | ■ | ■ | | ■ | ■ | ■ | ■ |
| Fuel Resources | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Soil | ■ | ■ | ■ | | ■ | | ■ | |
| Environmental Issues | ■ | ■ | ■ | | ■ | | ■ | |

Content Standards

k-4th grade

5-8th grade

9-12th grade

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|----------|---|--|---|--|
| A | Unifying Concepts & Processes | <ul style="list-style-type: none"> Systems, order and organization Evidence, models, explanation Change, constancy and measurement Evolution and equilibrium Form and function | <ul style="list-style-type: none"> Systems, order and organization Evidence, models, explanation Change, constancy and measurement Evolution and equilibrium Form and function | <ul style="list-style-type: none"> Systems, order and organization Evidence, models, explanation Change, constancy and measurement Evolution and equilibrium Form and function |
| B | Science As Inquiry | <ul style="list-style-type: none"> Abilities necessary to do scientific inquiry Understanding about scientific inquiry | <ul style="list-style-type: none"> Abilities necessary to do scientific inquiry Understanding about scientific inquiry | <ul style="list-style-type: none"> Abilities necessary to do scientific inquiry Understanding about scientific inquiry |
| C | Physical Science | <ul style="list-style-type: none"> Properties and changes of properties in matter Motions and forces Transfer of energy | <ul style="list-style-type: none"> Properties and changes of properties in matter Motions and forces Transfer of energy | <ul style="list-style-type: none"> Structure of atoms Structure and properties of matter Chemical reactions Motions and forces Conservation of energy and increase in disorder Interactions of energy and matter |
| D | Life Science | <ul style="list-style-type: none"> Characteristics of organisms Life cycles of organisms Organisms and environments | <ul style="list-style-type: none"> Structure and function in living systems Reproduction and heredity Regulation and behavior Populations and ecosystems Diversity and adaptation of organisms | <ul style="list-style-type: none"> The cell Molecular basis of heredity Biological evolution Interdependence of organisms in living systems Behavior of organisms |
| E | Earth & space science | <ul style="list-style-type: none"> Properties of Earth materials Objects in the sky Changes in Earth and sky | <ul style="list-style-type: none"> Structure of Earth system Earth's history Earth in the solar system | <ul style="list-style-type: none"> Energy in the Earth system Geochemical cycles Origin & evolution of the Earth Origin & evolution of the universe |
| F | Science & Technology | <ul style="list-style-type: none"> Abilities of technological design Understandings about science and technology Abilities to distinguish between natural objects and objects made by humans | <ul style="list-style-type: none"> Abilities of technological design Understandings about science and technology | <ul style="list-style-type: none"> Abilities of technological design Understandings about science and technology |
| G | Science in Personal & Social Perspective | <ul style="list-style-type: none"> Personal health Characteristics and changes in populations Types of resources Changes in environments Science and technology in local challenges | <ul style="list-style-type: none"> Personal health Populations, resources and environments Natural hazards Risks and benefits Science and technology in society | <ul style="list-style-type: none"> Personal and community health Population growth Natural resources Environmental quality Natural and human induced hazards Science and technology in local, national and global challenges |
| H | History & Nature of Science | <ul style="list-style-type: none"> Science as a human endeavor | <ul style="list-style-type: none"> Science as a human endeavor Nature of science History of science | <ul style="list-style-type: none"> Science as a human endeavor Nature of scientific knowledge Historical perspectives |

