

Strand:

S1 Scientific Inquiry

The student demonstrates abilities necessary to do scientific inquiry and an understanding about scientific inquiry; that is, the student:

Standards:

- S1a:** asks questions about objects, organisms, events, and relationships in the environment.
- S1b:** accesses and uses information from a variety of sources.
- S1c:** plans and conducts explorations and investigations.
- S1d:** employs equipment and tools to systematically gather and record data.
- S1e:** uses recorded data to construct reasonable explanations and make predictions.
- S1f:** communicates scientific explorations, investigations and explanations through speaking, drawing, and writing.

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S2 History and Nature of Science

The student demonstrates an understanding of science as a human endeavor; that is, the student:

Standards:

- S2a:** demonstrates curiosity, initiative, and persistence in thinking about and doing science.
- S2b:** works alone and together as a team member when engaged in science and communicates findings to others.
- S2c:** recognizes that people of all ages, backgrounds, and groups make contributions to science and technology.

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S3 Science in Personal and Social Perspectives

The student demonstrates an understanding of safety, types of resources, and changes in the environment; that is, the student:

Standards:

- S3a:** practices personal and group safety when engaged in science at school.
- S3b:** compares the needs of a population with the sources and quantities of resources.
- S3c:** practices conservation of resources.

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S4: Science and Technology

The student demonstrates an understanding of science and technology and the nature of technological design; that is, the student:

Standards:

- S4a:** knows that people use science and technology to answer questions and solve problems.
- S4b:** explains areas in which technology has impacted human lives.
- S4c:** explains that people are always inventing new tools and ways of doing things.

Strand:
S5 Physical Science

The student demonstrates a conceptual understanding of matter, motion and energy; that is, the student:

- Standard: **S5a:** compares and contrasts observable properties and changes in states of matter.
- Components: **S5a.1:** Matter can sometimes change state.
S5a.2: The changes in properties that occur when matter interacts can be observed, described, and measured over time.
S5a.2: Mixing, heating, cutting, and bending of matter may or may not change some of its properties.
- Standard: **S5b:** describes positions and motion of objects and explains relationships between motion and applied forces.
- Components: **S5b.1:** The position and motion of objects can be changed by pushing or pulling.
S5b.2: Forces can act at a distance with no perceivable substance in between.
- Standard: **S5c:** examines production of light and heat as forms of energy.
- Components: **S5c.1:** Light, a form of radiant energy, is produced naturally by stars and fires, and artificially by lights and candles.
S5c.2: Heat can be produced by burning, rubbing, or mixing one substance with another.

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S6 Life Science

The student demonstrates a conceptual understanding of the characteristics of organisms, their life cycles, and their environments; that is, the student:

- Standard: **S6a:** describes and compares the basic needs of plants and animals in different environments.
- Components: **S6a.1:** Organisms in general have basic needs: air, water, food (light, in the case of plants) and a place to live.
S6a.2: Organisms can survive only in environments which provide for their needs.
- Standard: **S6b:** explores the environmental factors that impact the life spans and life cycles of organisms.
- Component: **S6b.1:** The supply and access to factors such as food, water, air, habitat, and light can affect the growth, development and reproduction of organisms.
- Standard: **S6c:** identifies the needs/behaviors of organisms and suggests how organisms can adapt to their particular environment (e.g., fresh water, marine, forest, desert, grassland, etc.)
- Components: **S6c.1:** Living things are found almost everywhere in the world. Different kinds of organisms live in different places.
S6c.2: Different plants and animals have external features that help them thrive in different kinds of places.
S6c.3: Organisms respond to variations in their environment.

Strand:

S7: Earth and Space Sciences The student demonstrates a conceptual understanding of Earth materials, objects in the sky, and changes in Earth and sky; that is, the student:

Standard:

S7a: compares and contrasts Earth materials, atmospheric gases, and water, and explores their role as natural resources.

Components:

S7a.1: Natural resources include Earth materials, atmospheric gases, and water. Some resources are renewable and others are not.

S7a.2: Rocks and soils may vary by color, texture, use, size, shape and composition.

S7a.3: Atmospheric gases may vary according to location, composition, and presence of pollutants.

S7a.4: Water may vary by the presence of other dissolved substances and by its use.

Standard:

S7b: explains how changes in the Earth and the sky cause weather and seasonal changes.

Components:

S7b.1: The sun provides the light and heat necessary to maintain the temperature of the Earth.

S7b.2: The amount of cloud cover creates variations in the amount of sunlight reaching the surface of the Earth. These variations cause weather.

S7b.3: Weather can be described in measurable quantities such as temperature, amount of precipitation, level of humidity, wind direction and speed.

S7b.4: Some events in nature have a repeating pattern. The weather changes some from day to day, but things such as temperature and rain (or snow) tend to be high, low, or medium in the same months every year.

Standard:

S7c: identifies patterns of objects in the sky.

Components:

S7c.1: The stars create patterns called constellations.

S7c.2: During the course of a day, the movement of an object's shadow and the positions of the sun and the moon produce patterns of movements.