

Implementing district standards

Because this unit was written to support homeroom instruction on the subject of energy for upper-elementary students by building background knowledge through hands-on and research activities in the Library Media Center during the span of an academic year, many standards are addressed. Of primary interest to Media Coordinators are the Information skills. As in the main body of the curriculum unit, the Information & Technology Standards precede the Science Standards. The Information & Technology areas addressed are: 1) differentiating strategies when using different resources, 2) using a variety of resources, 3) applying a research method and 4) using technology responsibly and ethically.

Grade 4

4.SI.1 Apply criteria to determine appropriate information resources for specific topics and purposes.

4.SI.1.1 Use various types of resources to gather information (including print and online media).

4.SI.1.2 Use relevant sources of information for an assigned task.

4.SI.1.3 Use reliable sources of information.

4.IN.1 Apply appropriate strategies when reading for enjoyment and for information.

4.IN.1.1 Implement appropriate reading strategies when reading for information.

4.TT.1 Use technology tools and skills to reinforce classroom concepts and activities.

4.TT.1.1 Use a variety of technology tools to gather data and information (e.g., Web-based resources, e-books, online communication tools, etc.).

4.TT.1.2 Use a variety of technology tools to organize data and information (e.g., word processor, graphic organizer, audio and visual recording, online collaboration tools, etc.).

4.TT.1.3 Use technology tools to present data and information (multimedia, audio and visual recording, online collaboration tools, etc.).

4.SE.1 Understand issues related to the safe, ethical, and responsible use of information and technology resources

4.SE.1.2 Understand ethical behavior (copyright, not plagiarizing, netiquette) when using resources.

4.P.1 Explain how various forces affect the motion of an object

4.P.1.1 Explain how magnets interact with all things made of iron and with other magnets to produce motion without touching them.

4.P.1.2 Explain how electrically charged objects push or pull on other electrically charged objects and produce motion.

4.P.3 Recognize that energy takes various forms that may be grouped based on their interaction with matter.

4.P.3.1 Recognize the basic forms of energy (light, sound, heat, electrical, and magnetic) as the ability to cause motion or create change.

4.P.3.2 Recognize that light travels in a straight line until it strikes an object or travels from one medium to another, and that light can be reflected, refracted, and absorbed.

4.E.2 Understand the use of fossils and changes in the surface of the earth as evidence of the history of Earth and its changing life forms.

4.SI.1 Apply criteria to determine appropriate information resources for specific topics and purposes.

4.SI.1.1 Use various types of resources to gather information (including print and online media).

4.SI.1.2 Use relevant sources of information for an assigned task.

4.SI.1.3 Use reliable sources of information.

Grade 5

5.SI.1 Apply criteria to determine appropriate information resources for specific topics and purposes

5.SI.1.1 Use various types of resources to gather information (including print and online media).

5.SI.1.2 Use relevant sources of information for an assigned task.

5.IN.1 Analyze appropriate strategies when reading for enjoyment and for information

5.IN.1.1 Differentiate strategies when reading informational text in a variety of formats (e.g., print, online, audio, etc.) to complete assigned tasks.

5.TT.1 Use technology tools and skills to reinforce and extend classroom concepts and activities.

5.TT.1.1 Use a variety of technology tools to gather data and information (e.g., Web-based resources, e-books, online communication tools, etc.).

5.RP.1 Apply a research process as part of collaborative research.

5.RP.1.1 Implement a research process by collaborating effectively with other students.

5.SE.1 Understand issues related to the safe, ethical, and responsible use of information and technology resources.

5.SE.1.2 Understand ethical behavior (e.g., copyright, not plagiarizing, netiquette) when using resources.

5.P.1 Understand force, motion and the relationship between them.

5.P.2 Understand the interactions of matter and energy and the changes that occur.

5.P.2.1 Explain how the sun's energy impacts the processes of the water cycle (including evaporation, transpiration, condensation, precipitation and runoff).

5.P.3 Explain how the properties of some materials change as a result of heating and cooling.

5.P.3.1 Explain the effects of the transfer of heat (either by direct contact or at a distance) that occurs between objects at different temperatures. (conduction, convection or radiation)

5.P.3.2 Explain how heating and cooling affect some materials and how this relates to their purpose and practical applications

5.E.1 Understand weather patterns and phenomena, making connections to the weather in a particular place and time.

5.E.1.3 Explain how global patterns such as the jet stream and water currents influence local weather in measurable terms such as temperature, wind direction and speed, and precipitation.