

MINNESOTA ACADEMIC STANDARDS GRADE 4

SCIENCE

Strand: I. HISTORY AND NATURE OF SCIENCE	Sub-Strand: A. Scientific World View	Standard: The student will understand how science is used to investigate interactions between people and the natural world.	Benchmarks: 1. The student will explore the uses and effects of science in our interaction with the natural world. 2. The student will discuss the responsible use of science. 3. The student will recognize the impact of scientific and technological activities on the natural world.
Strand: I. HISTORY AND NATURE OF SCIENCE	Sub-Strand: B. Scientific Inquiry	Standard: The student will participate in a controlled scientific investigation.	Benchmarks: 1. The student will recognize when comparisons might not be fair because some conditions are not kept the same. 2. The student will collect, organize, analyze and present data from a controlled experiment. 3. The student will recognize that evidence and logic are necessary to support scientific understandings.
Strand: I. HISTORY AND NATURE OF SCIENCE	Sub-Strand: C. Scientific Enterprise	Standard: The student will recognize that science and technology involve different kinds of work and engages men and women of all backgrounds.	Benchmarks: 1. The student will describe different kinds of work done in science and technology. 2. The student will identify men and women of various backgrounds and ages who have been involved in science and technology, both past and present.
Strand: II. PHYSICAL SCIENCE	Sub-Strand: E. Forces of Nature	Standard: The student will understand that a relationship exists between electricity and magnetism.	Benchmarks: 1. The student will demonstrate how a wire and magnet can be used to generate an electric current. 2. The student will demonstrate how an electric current can make an iron object magnetic.
Strand: III. EARTH AND SPACE SCIENCE	Sub-Strand: A. Earth Structure and Processes	Standard: a. The student will investigate the impact humans have on the environment.	Benchmarks: 1. The student will identify and investigate environmental issues and potential solutions.

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<p>Strand: III. EARTH AND SPACE SCIENCE</p>	<p>Sub-Strand: A. Earth Structure and Processes</p>	<p>Standard: b. The student will explore the structures and functions of Earth systems.</p>	<p>Benchmarks:</p> <ol style="list-style-type: none"> 1. The student will recognize the natural processes that cause rocks to break down into smaller pieces and eventually into soil. 2. The student will investigate the formation, composition and properties of soil. 3. The student will describe how waves, wind, water and ice shape and reshape the Earth's surface. 4. The student will describe the impact of floods, tornadoes, earthquakes and volcanoes on the Earth.
<p>Strand: IV. LIFE SCIENCE</p>	<p>Sub-Strand: A. Cells</p>	<p>Standard: The student will know that all organisms are composed of cells, which are the fundamental units of life.</p>	<p>Benchmarks:</p> <ol style="list-style-type: none"> 1. The student will recognize that cells are very small, and that all living things consist of one or more cells. 2. The student will recognize that cells need: food, water and air, a way to dispose of waste, and an environment in which they can live.
<p>Strand: IV. LIFE SCIENCE</p>	<p>Sub-Strand: G. Human Organism</p>	<p>Standard: The student will know the structures that serve various functions in the human body, including protection from disease.</p>	<p>Benchmarks:</p> <ol style="list-style-type: none"> 1. The student will understand that humans have structures that serve functions in growth, survival and reproduction. 2. The student will know that germs entering the body can cause disease, and that the body has defenses against these germs. 3. The student will know that there are many diseases that can be prevented by vaccination.