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**Science Standards  
Grades 1**

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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, and events.

Components:

S1a1. discusses how their questions might be answered.

Standards:

S1b: uses observations to make simple predictions.

S1c: plans and conducts simple explorations and investigations.

Components:

S1c1. gathers materials and/or information needed to conduct investigations.

S1c2. follows logical steps to conduct investigations.

S1c3. uses simple tools such as rulers, magnifiers, and balances to collect data. (u.s. customary units).

S1c4. records data from investigations in an organized and appropriate format (e.g., lab book, log, notebook, t-chart, etc).

Standards:

S1d: identifies patterns based on observations.

S1e: compares objects based on observable and measurable characteristics (e.g., harder/softer, heavier/lighter,)

S1f: analyzes and makes statements about data displayed in a graph.

S1g: communicates scientific explorations through discussions with peers, drawings, graphs, and words.

S1h: identifies examples of safe practices in science.

Components:

S1h1. demonstrates appropriate uses safety goggles, hammers, and hand lenses in science.

Strand:

**S2 History and Nature of Science:** The student demonstrates an understanding of science as a human endeavor; that is, the student:

Standards: S2a: realizes that people have been doing science for a long time.

S2b: expresses that science involves thinking, asking questions about the world, and trying to answer those questions.

S2c: recognizes that in science people share ideas and findings.

S2d: provides examples of how diverse people (children, fathers, mothers, teachers, gardeners, scientists, etc.) participate in doing science.

Components:

S2d1. demonstrates knowledge of some of things geologists study.

Strand:

**S3 Personal & Social Perspectives:** The student demonstrates an understanding of safety, types of resources, and changes in the environment; that is, the student:

Standards: S3a: describes basic resources that are found in their environments, such as soil, water, and trees, and other resources that are produced from these resources, such as building materials.

S3b: identifies ways in which humans use resources obtained from the environment and discusses ways some of those resources can be conserved.

Strand:

**S4 Science and Technology:** The student demonstrates an understanding about science and technology and the nature of technological design; that is, the student:

Standards: S4a: identifies a simple problem, proposes a solution for the problem, and then evaluates the solution in terms of its ability to solve the problem.

S4b: recognizes that technological solutions are human designed.

S4c: recognizes that things found in nature are different from those that are made by humans.

Strand:

**S5 Physical Science:** The student demonstrates an understanding of matter, motion, and energy; that is, the student:

Standards: S5a: examines how properties of objects may differ from the properties of the materials by which they were made.

Components:

S5a1. groups common objects according to the materials of which they are made.

S5a2. compares and contrasts different materials based on properties (e.g., hardness, flexibility, and magnetic attraction).

Standards:

S5b: demonstrates that pushes and pulls can change the motion of objects.

Components:

S5b1. describes how the motion of a variety of objects changes when pushed or pulled.

Standards:

S5c: builds an understanding that the motion of objects is affected by a "pull" towards earth.

Components:

S5c1. demonstrates that things fall towards the ground if not held up.

Standards:

S5d: examines how light travels in a straight line until it reaches an object; and that it can travel through or be reflected off the object.

Components:

S5d1. shows that light travels in a straight line until it reaches an object.

S5d2. demonstrates that light travels through some objects, but not others.

S5d3. demonstrates that light can be reflected off certain objects.

Strand:

**S6 Life Science:** The student demonstrates an understanding of the characteristics of organisms, their life cycles, and their environments; that is, the student:

Standards: S6a: examines characteristics of plants and animals and describes how those characteristics help the organism to live.

Components:

S6a1. observes and describes structures and responses that enable plants to stay alive.

S6a2. observes and describes structures and behaviors that enable animals to stay alive.

S6a3. identifies physical characteristics that enable an organism to survive (e.g., legs for moving, sharp teeth for eating, hard shell for protection).

S6a4. provides examples of diverse structures (e.g., wings, legs, fins) that serve similar functions (e.g., movement).

S6a5. identifies differences in individuals with the same parents.

S6a6. describes ways in which individuals within a population (including humans) can vary.

Standards:

S6b: determines how an organism's habitat provides for its basic needs.

Components:

S6b1. observes and explains that there are a variety of local environments (e.g., field, forest, marsh, river).

S6b2. provides examples of how an organism depends on other organisms

Strand:

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

Standards: S7a: examines how rocks and soils can vary greatly in appearance.

Components:

S7a1. groups rocks by color, texture, size, and other observable properties.

S7a2. observes and describes differences in the physical appearance of sand and soil.

S7a3. identifies the components of soil (i.e., rocks, sand, and the remains of plants and animals).

Standards:

S7b: investigates how weather can cause change.

Components:

S7b1. describes and provides examples of the effects of rain on different materials, based on extended investigations.

S7b2. describes and provides examples of the effects of wind on different materials.

S7b3. observes and describes changes in water that affect materials (e.g., freezing water, hail).

Standards:

S7c: monitors the apparent path of the Sun across the sky.

Components:

S7c1. observes safely and records the path of the Sun's movement during the day.

S7c2. describes how the Sun's changing position in the sky causes shadows to change.