Science Standards
Grade 2

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.

S1a2. Determines which questions might be answered with a "testable" question, those that might be answered through observations, and those that might be answered through research.

Standards: S1b: uses observations to make simple predictions.

S1c: conducts and designs 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 rain gauges, thermometers, anemometers, stopwatches, 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).

S1c5. Records by drawing and dictating.

Standards: S1d: identifies patterns based on observations.

S1e: compares and groups objects based on observable and measurable characteristics (e.g., harder/softer, heavier/lighter,), and justifies the groups based on a logical classification scheme.

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

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

S1h: identifies examples of safe practices in science.

Components:

S1h1: Demonstrates appropriate uses of measuring and construction tools.

S1h2: Demonstrates safe sky viewing procedures

S1h3: Practices appropriate methods for handling plants and animals.

Strand:

S2 History and Nature of Science: The student demonstrates abilities necessary to do scientific inquiry and an understanding about scientific inquiry; that is, the student:

Standards: S2a: builds awareness that science and technology have been practiced for a long time and there is still more to be learned.

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

S2c: recognizes that in science people share and critique new information with others.

S2d: recognizes that people of all ages, backgrounds, and cultures have made and continue to make contributions to science knowledge

Components:

S2d1: Demonstrates knowledge of some of the things meteorologists 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 discuss ways some of these resources can be conserved.

Strand:

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: 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.

S4c: identifies some of the human-made things that aid in scientific inquiry.

Strand:

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

Standards: S5a: begins to understand that materials can exist as solids, liquids, and gases that have describable differences.

Components:

S5a1. compares and contrasts liquids and solids and their properties.

S5a2. identifies air as a gas that surrounds us and takes up space.

Standards: S5b: Investigates changes in the observable properties of materials due to heat, cold, and exposure to weather.

Components:

S5b1. observes and describes changes associated with heat (e.g., materials melting, materials warping, temperature changes), cold (cracking, splitting), and weather (i.e. color changes, change in texture).

Standards: S5c: Investigates how vibrations produce sound and that sound can travel through many materials.

Components:

S5c1. explains that vibrations make sounds.

S5c2. explores the relationship between pitch and rate of vibration.

S5c3. compares a variety of materials that transmit sound (e.g., air, water, solid objects).

Strand:

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

Standards: S6a: describes structures of plants and animals that help them meet basic needs in different environments.

Components:

S6a1. describes structures of animals and how those structures help the animal live in a particular environment.

S6a2. describes structures of plants and how those structures help the plant live in a particular environment.

S6b: determines that the life cycles of living things include birth or germination, growth and development, reproduction, and death.

Components:

S6b1. observes, records and describes how structures change over time in an organism's life cycle (e.g., frog, butterfly, mustard plant).

S6b2. recognizes that the stages of an observed life cycle are predictable.

S6b3. explains that organisms may have different needs (e.g., dependence on a particular type of food and/or environment) during their life cycle.

Standards: S6c: observes how organisms interact with their environments to meet their needs.

Components:

S6c1. describes that some animals eat plants for food, others eat other animals, and some eat both plants and animals.

S6c2. identifies potential sources of food (in the case of animals), shelter, water, air and light within a particular organism's habitat.

S6c3. describes how organisms interact with other organisms and with nonliving components of their habitat.

Standards: S6c4. examines and records how organisms respond to changes in their habitat.

Strand:

S7 Earth & 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:

Standards: S7a: recognizes humans' dependence on earth materials.

Components:

S7a1. indicates how people use earth's resources (i.e., as building materials, as sources of fuel, for growing food and obtaining water).

S7a2. observes and describes that the properties of earth's resources determine how people use them.

S7a3. identifies air as an earth material.

Standards: S7b: identifies patterns of seasonal changes in weather.

Components:

S7b1. observes and records seasonal changes in weather (e.g. temperature, wind, and precipitation).

S7b2. describes changes (if any) in weather patterns over the seasons, after gathering long-term data.

Standards: S7c: compares the apparent path of the Sun and moon across the sky.

Components:

S7c1. observes safely, records, and describes the apparent daily changes in the Sun's and moon's position during the day (i.e. east-west motion, point of rise/set).

S7c2. describes the Sun and moon's apparent daily motion as similar.

S7c3. identifies and compares celestial objects seen in the day/night sky (i.e., Sun, moon, stars).

Standards: S7d: investigates the appearance of stars in the night sky.

Components:

S7d1. describes differences between the day and night sky (e.g. the Sun is only seen during the day, the stars can be seen at night).

S7d2. describes differences in the appearance of stars (i.e. brightness, color).