

Science Grade 1

UNIT I: Earth and Space Science

Goal 1. Exploring Our World- The student will use scientific skills and processes to observe and describe the features and properties of Earth, the Sun, the Moon, and stars.

Objectives - The student will be able to:

- a. Identify and describe a science problem related to the features and properties of Earth, the Sun, the Moon and stars.
- b. Explain that Earth is composed of land, air, and water.
- c. Describe, and compare samples of Earth's composition.
- d. Identify, observe, and describe the physical properties and locations of the Sun, the Moon, and stars.
- e. Identify the Sun as a star, the provider of light and heat necessary to maintain the temperature of the earth.
- f. Explain that the Sun warms the land, air, and water.
- g. Use science knowledge to make decisions and/or devise a plan to solve a problem.

Goal 2. Rocks and Fossils - The student will use scientific skills and processes to describe and classify rocks according to their attributes and explain that fossils provide evidence about life long ago.

Objectives - The student will be able to:

- a. Identify and describe a science problem related to rocks and fossils.
- b. Classify rocks based on sizes and shapes from boulders to grains of sand and even smaller.
- c. Describe, compare, and classify a given set of rocks using texture, color, size, and shape.
- d. Observe and describe fossils.
- e. Explain that extinct organisms are similar to organisms that are alive today.
- f. Explain that fossils provide evidence about plants and animals that lived long ago and the nature of the environment at that time.
- g. Use science knowledge to make decisions and/or devise a plan to solve a problem.

UNIT II: Physical Science (This is an optional unit.)

Goal 1. Properties of Matter - The student will use scientific skills and processes to describe and classify materials according to their properties; and observe and describe changes in the properties of materials.

Objectives - The student will be able to:

- a. Identify and describe a science problem related to the properties of matter.
- b. Describe the physical properties of materials (i.e., color, shape, size, and texture). Measure, describe, and classify materials based on common properties (e.g. color, shape, size, texture, weight).
- c. Discriminate, describe, and compare the odors of various materials.
- d. Identify, describe, classify, and compare materials that differ in composition (e.g. wood, metal, plastic).
- e. Identify processes (e.g. cutting, heating, twisting, crumpling) that can be used to change properties of materials.
- f. Identify, describe, classify, and compare materials through which light passes or which can block light.
- g. Describe and compare properties of liquids and solids.
- h. Identify materials as liquids and solids.
- i. Observe that water can be a liquid or a solid and can be made to go back and forth from one state to the other, but the amount of water stays the same.
- j. Use science knowledge to make decisions and/or devise a plan to solve a problem.

UNIT III: Physical Science

Goal 1. Forces - The student will use scientific skills and processes to explain and compare the forces needed to move objects.

Objectives - The student will be able to:

- a. Identify and describe a science problem related to the forces needed to move an object.
- b. Give examples that demonstrate how to change the motion of an object by giving it a push or pull. Explain that the amount of force of a push or pull changes the amount of motion/movement of an object.
- c. Observe and describe the forces needed to interact on playground equipment.
- d. Give examples of different ways that things move (e.g. straight, round and round, fast, slow).
- e. Observe and demonstrate how the weight of materials will affect the force that is needed to move an object.
- f. Observe and demonstrate that objects move differently on surfaces of various textures and that the force needed to move an object over these surfaces changes.
- g. Give examples to demonstrate that things fall to the ground unless something holds them up.
- h. Compare the forces needed to move different objects on upward and downward slopes.
- i. Investigate and explain that energy is needed to make things go, run, or happen (e.g. batteries in a toy, pedaling a bicycle, electricity).
- j. Design an object that moves in one or more ways (e.g. fast, slow, straight, round and round) and describe the force used to move the object.
- k. Use science knowledge to make decisions and/or devise a plan to solve a problem.

UNIT IV: Life and Environmental Science

Goal 1. Organisms and Habitats - The student will use scientific skills and processes to describe and record the physical characteristics, basic needs, and habitats of organisms.

Objectives - The student will be able to:

- a. Identify and describe a science problem related to organisms and habitats.
- b. Observe and describe the characteristics of a living thing and a habitat.
- c. Explain that all living things can be compared based on similarities and differences (i.e., external features).
- d. Classify various organisms as plants or animals.
- e. Explain that animals need air, water, and food and that plants need air, water, nutrients, and light to survive.
- f. Explain that habitats all over the world provide basic needs for the organisms living in them.
- g. Describe and give examples that show that organisms have special parts (e.g. legs, wings, fins) that allow them to perform certain functions (e.g. swimming, walking, flying).
- h. Observe, describe, and record the changes of organisms over time (e.g. tadpoles, bean seeds).
- i. Describe how offspring are like one another but not exactly like their parents.
- j. Describe the habitats of specific organisms (e.g. tadpoles, bean seeds) and explain how these habitats meet the basic needs of the organisms.
- k. Use science knowledge to make decisions and/or devise a plan to solve a problem.

