

FLINT RIVER ACADEMY SCIENCE STANDARDS

Kindergarten

Earth Science

1. Students will describe time patterns (such as day to night and night to day) and objects (such as sun, moon, stars) in the day and night sky.

- a. Describe changes that occur in the sky during the day, as day turns into night, during the night, and as night turns into day.
- b. Classify objects according to those seen in the day sky and those seen in the night sky.
- c. Recognize that the Sun supplies heat and light to Earth.

2. Students will describe the physical attributes of rocks and soils.

- a. Use senses to observe and group rocks by physical attributes such as large/small, heavy/light, smooth/rough, dark/light, etc.
- b. Use senses to observe soils by physical attributes such as smell, texture, color, particle/grain size.
- c. Recognize earth materials— soil, rocks, water, air, etc.

Physical Science

1. Students will describe objects in terms of the materials they are made of and their physical properties.

- a. Compare and sort materials of different composition (common materials include clay, cloth, paper, plastic, etc.).
- b. Use senses to classify common materials, such as buttons or swatches of cloth, according to their physical attributes (color, size, shape, weight, texture, buoyancy, flexibility).

2. Students will investigate different types of motion.

- a. Sort objects into categories according to their motion. (straight, zigzag, round and round, back and forth, fast and slow, and motionless)
- b. Push, pull, and roll common objects and describe their motions.

3. Students will observe and communicate effects of gravity on objects.

- a. Recognize that some things, such as airplanes and birds, are in the sky, but return to earth.
- b. Recognize that the sun, moon, and stars are in the sky, but don't come down.
- c. Explain why a book does not fall down if it is placed on a table, but will fall down if it is dropped.

Life Science

1. Students will sort living organisms and non-living materials into groups by observable physical attributes.

- a. Recognize the difference between living organisms and nonliving materials.
- b. Group animals according to their observable features such as appearance, size, motion, where it lives, etc. (Example: A green frog has four legs and hops. A rabbit also hops.)
- c. Group plants according to their observable features such as appearance, size, etc.

2. Students will compare the similarities and differences in groups of organisms.

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- a. Explain the similarities and differences in animals. (color, size, appearance, etc.)
- b. Explain the similarities and differences in plants. (color, size, appearance, etc.)
- c. Recognize the similarities and differences between a parent and a baby.
- d. Match pictures of animal parents and their offspring explaining your reasoning. (Example: dog/puppy; cat/kitten; cow/calf; duck/ducklings, etc.)
- e. Recognize that you are similar and different from other students. (senses, appearance)

Investigation and Experimentation

1. Students will be aware of the importance of curiosity, honesty, openness, and skepticism in science and will exhibit these traits in their own efforts to understand how the world works.

- a. Raise questions about the world around you and be willing to seek answers to some of the questions by making careful observations (5 senses) and trying things out.

2. Students will have the computation and estimation skills necessary for analyzing data and following scientific explanations.

- a. Use whole numbers for counting, identifying, and describing things and experiences.
- b. Make quantitative estimates of nonstandard measurements (blocks, counters) and check by measuring.

3. Students will use tools and instruments for observing, measuring, and manipulating objects in scientific activities.

- a. Use ordinary hand tools and instruments to construct, measure (for example: balance scales to determine heavy/light, weather data, nonstandard units for length), and look at objects (for example: magnifiers to look at rocks and soils).
- b. Make something that can actually be used to perform a task, using paper, cardboard, wood, plastic, metal, or existing objects. (For example: paper plate day and night sky models)

4. Students will use the ideas of system, model, change, and scale in exploring scientific and technological matters.

- a. Use a model—such as a toy or a picture—to describe a feature of the primary thing.
- b. Describe changes in size, weight, color, or movement, and note which of their other qualities remains the same. (For example, playing “Follow the Leader” and noting the changes.)
- c. Compare very different sizes (large/small), ages (parent/baby), speeds (fast/slow), and weights (heavy/light) of both manmade and natural things.

5. Students will communicate scientific ideas and activities clearly.

- a. Describe and compare things in terms of number, shape, texture, size, weight, color, and motion.
- b. Begin to draw pictures that portray features of the thing being described.

6. Students will understand the important features of the process of scientific inquiry.

Students will apply the following to inquiry learning practices:

- a. In doing science, it is often helpful to work with a team and to share findings with others.

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- b. Tools such as rulers, magnifiers, and balance scales often give more information about things than can be obtained by just observing things without help.
- c. Much can be learned about plants and animals by observing them closely, but care must be taken to know the needs of living things and how to provide for them (classroom pets).

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