Florida Science

Grade 4

Adopted 2008

The Practice of Science

1. **Raise questions about the natural world, use appropriate reference materials that support understanding to obtain information (identifying the source), conduct both individual and team investigations through free exploration and systematic investigations, and generate appropriate explanations based on those explorations.** SC.4.N.1.1
2. **Compare the observations made by different groups using multiple tools and seek reasons to explain the differences across groups.** SC.4.N.1.2
3. **Explain that science does not always follow a rigidly defined method ("the scientific method") but that science does involve the use of observations and empirical evidence.** SC.4.N.1.3
4. **Attempt reasonable answers to scientific questions and cite evidence in support.** SC.4.N.1.4
5. **Compare the methods and results of investigations done by other classmates.** SC.4.N.1.5
6. **Keep records that describe observations made, carefully distinguishing actual observations from ideas and inferences about the observations.** SC.4.N.1.6
7. **Recognize and explain that scientists base their explanations on evidence.** SC.4.N.1.7
8. **Recognize that science involves creativity in designing experiments.** SC.4.N.1.8

Access Point for Students with Significant Cognitive Disabilities

Independent

a. Ask a question about the natural world and use selected reference material to find information, observe, explore, and identify findings. SC.4.N.1.IN.A
b. Compare own observations with observations of others. SC.4.N.1.IN.B
c. Relate findings to predefined science questions. SC.4.N.1.IN.C
d. Communicate observations and findings through the use of pictures, writing, or charts. SC.4.N.1.IN.D
e. Recognize that scientists perform experiments, make observations, and gather evidence. SC.4.N.1.IN.E

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Supported

a. Ask a question about the natural world, explore materials, observe, and share information. SC.4.N.1.SU.A

b. Identify information based on observations of self and others. SC.4.N.1.SU.B

c. Answer questions about objects and actions related to science. SC.4.N.1.SU.C

d. Record observations using drawings, dictation, or pictures. SC.4.N.1.SU.D

e. Recognize ways that scientists collect evidence, such as by observations or measuring. SC.4.N.1.SU.E

Participatory

a. Explore, observe, and select an object or picture to solve a simple problem. SC.4.N.1.PA.A

b. Recognize differences in objects or pictures. SC.4.N.1.PA.B

c. Select an object or picture to represent observed events. SC.4.N.1.PA.C

d. Recognize that people share information about science. SC.4.N.1.PA.D

The Characteristics of Scientific Knowledge

1. **Explain that science focuses solely on the natural world.** SC.4.N.2.1

Access Point for Students with Significant Cognitive Disabilities

Independent

a. Identify that science focuses on the natural world. SC.4.N.2.IN.A

Supported

a. Recognize that science focuses on the natural world. SC.4.N.2.SU.A

Participatory

a. Associate science with the natural world in the local environment. SC.4.N.2.PA.A

The Role of Theories, Laws, Hypotheses, and Models

1. **Explain that models can be three dimensional, two dimensional, an explanation in your mind, or a computer model.** SC.4.N.3.1

Access Point for Students with Significant Cognitive Disabilities

Independent

a. Identify different types of models, such as a replica, a picture, or an animation. SC.4.N.3.IN.A

Supported

a. Recognize different types of models, such as a replica or a picture. SC.4.N.3.SU.A

Participatory

a. Match a model that is a replica to a real object. SC.4.N.3.PA.A

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Earth in Space and Time

1. **Observe that the patterns of stars in the sky stay the same although they appear to shift across the sky nightly, and different stars can be seen in different seasons.** SC.4.E.5.1

2. **Describe the changes in the observable shape of the moon over the course of about a month.** SC.4.E.5.2

3. **Recognize that Earth revolves around the Sun in a year and rotates on its axis in a 24-hour day.** SC.4.E.5.3

4. **Relate that the rotation of Earth (day and night) and apparent movements of the Sun, Moon, and stars are connected.** SC.4.E.5.4

5. **Investigate and report the effects of space research and exploration on the economy and culture of Florida.** SC.4.E.5.5

Access Point for Students with Significant Cognitive Disabilities

Independent

a. Identify that there are many stars in the sky with some that create patterns. SC.4.E.5.IN.A

b. Label three phases of the moon, including full, half (quarter), and crescent. SC.4.E.5.IN.B

c. Recognize that Earth revolves around the Sun. SC.4.E.5.IN.C

d. Recognize that the Sun appears to rise and set because of Earth's rotation in a 24-hour day. SC.4.E.5.IN.D

e. Identify objects and people related to the space program in Florida. SC.4.E.5.IN.E

Supported

a. Recognize a pattern of stars in the sky, such as the Big Dipper. SC.4.E.5.SU.A

b. Identify a full moon and a half (quarter) moon. SC.4.E.5.SU.B

c. Recognize that Earth is always turning (rotating). SC.4.E.5.SU.C

d. Recognize that the side of Earth facing the Sun has daylight. SC.4.E.5.SU.D

e. Recognize an object or person related to the space program in Florida. SC.4.E.5.SU.E

Participatory

a. Recognize that there are many stars in the sky. SC.4.E.5.PA.A

b. Recognize a full moon as a circle. SC.4.E.5.PA.B

c. Identify morning, noon, and night. SC.4.E.5.PA.C

d. Recognize a space-related object. SC.4.E.5.PA.D

Ea Skip to main content **Identify the three categories of rocks: igneous, (formed from molten rock); sedimentary (pieces of other rocks and fossilized organisms); and metamorphic**

(formed from heat and pressure). SC.4.E.6.1

2. **Identify the physical properties of common earth-forming minerals, including hardness, color, luster, cleavage, and streak color, and recognize the role of minerals in the formation of rocks.** SC.4.E.6.2

3. **Recognize that humans need resources found on Earth and that these are either renewable or nonrenewable.** SC.4.E.6.3

4. **Describe the basic differences between physical weathering (breaking down of rock by wind, water, ice, temperature change, and plants) and erosion (movement of rock by gravity, wind, water, and ice).** SC.4.E.6.4

5. **Investigate how technology and tools help to extend the ability of humans to observe very small things and very large things.** SC.4.E.6.5

6. **Identify resources available in Florida (water, phosphate, oil, limestone, silicon, wind, and solar energy).** SC.4.E.6.6

Access Point for Students with Significant Cognitive Disabilities

Independent

a. Recognize that rocks are classified by the way they are formed, such as sedimentary. SC.4.E.6.IN.A

b. Identify physical properties (hardness, streak color, and luster) of common minerals, such as rock salt, talc, gold, and silver. SC.4.E.6.IN.B

c. Recognize that some natural resources used by humans are non-renewable, such as oil. SC.4.E.6.IN.C

d. Identify that wind and water cause physical weathering and erosion of rocks. SC.4.E.6.IN.D

e. Identify tools used to observe things that are far away and things that are very small. SC.4.E.6.IN.E

f. Identify natural resources found in Florida, including solar energy, water, and limestone. SC.4.E.6.IN.F

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Supported

a. Sort rocks according to observable characteristics, including color, shape, and size. SC.4.E.6.SU.A

b. Sort common minerals, such as rock salt, talc, gold, and silver, by their physical properties (luster and color). SC.4.E.6.SU.B

c. Recognize that some natural resources can run out (non-renewable). SC.4.E.6.SU.C

d. Recognize examples of weathering or erosion in the environment. SC.4.E.6.SU.D

e. Recognize tools that will make things look larger, such as a telescope and a magnifier. SC.4.E.6.SU.E

f. Recognize natural resources found in Florida, such as solar energy and water. SC.4.E.6.SU.F

Participatory

a. Distinguish rocks from other substances found on the Earth's surface. SC.4.E.6.PA.A

b. Recognize common minerals, such as rock salt, talc, gold, and silver. SC.4.E.6.PA.B

c. Recognize the universal symbol for recycling. SC.4.E.6.PA.C

d. Recognize the effect of weathering on an object. SC.4.E.6.PA.D

e. Recognize that something has been magnified. SC.4.E.6.PA.E

f. Recognize water as a resource in Florida. SC.4.E.6.PA.F

Properties of Matter

1. **Measure and compare objects and materials based on their physical properties including: mass, shape, volume, color, hardness, texture, odor, taste, attraction to magnets.** SC.4.P.8.1

2. **Identify properties and common uses of water in each of its states.** SC.4.P.8.2

3. **Explore the Law of Conservation of Mass by demonstrating that the mass of a whole object is always the same as the sum of the masses of its parts.** SC.4.P.8.3

4. **Investigate and describe that magnets can attract magnetic materials and attract and repel other magnets.** SC.4.P.8.4

Access Point for Students with Significant Cognitive Disabilities

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Independent

a. Compare objects and materials based on physical properties, such as size, shape, color, texture, weight, hardness, odor, taste, and temperature. SC.4.P.8.IN.A

b. Identify properties and uses of water in solid and liquid states. SC.4.P.8.IN.B

c. Identify that a whole object weighs the same as all of its parts together. SC.4.P.8.IN.C

d. Identify objects a magnet will attract. SC.4.P.8.IN.D

Supported

a. Sort objects by physical properties, such as size, shape, color, texture, weight (heavy or light), and temperature (hot or cold). SC.4.P.8.SU.A

b. Identify uses of water in solid or liquid states. SC.4.P.8.SU.B

c. Recognize that the parts of an object can be put together to make a whole. SC.4.P.8.SU.C

d. Demonstrate that magnets can attract other magnets. SC.4.P.8.SU.D

Participatory

a. Match objects with similar observable properties, such as size, shape, color, or texture. SC.4.P.8.PA.A

b. Identify ice as a solid. SC.4.P.8.PA.B

c. Recognize that some objects have parts. SC.4.P.8.PA.C

d. Recognize that objects can stick together. SC.4.P.8.PA.D

Changes in Matter

1. **Identify some familiar changes in materials that result in other materials with different characteristics, such as decaying animal or plant matter, burning, rusting, and cooking.** SC.4.P.9.1

Access Point for Students with Significant Cognitive Disabilities

Independent

a. Observe and describe properties of materials that have been changed into other materials, such as decayed leaves of a plant. SC.4.P.9.IN.A

Supported

a. Indicate differences in materials that have been changed into other materials, such as rust on a can. SC.4.P.9.SU.A

Participatory

a. Recognize changes in observable properties of materials. SC.4.P.9.PA.A

Forms of Energy

1. **Observe and describe some basic forms of energy, including light, heat, sound, electrical, and the energy of motion.** SC.4.P.10.1

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Investigate and describe that energy has the ability to cause motion or create change. SC.4.P.10.2

3. **Investigate and explain that sound is produced by vibrating objects and that pitch depends on how fast or slow the object vibrates.** SC.4.P.10.3

4. **Describe how moving water and air are sources of energy and can be used to move things.** SC.4.P.10.4

Access Point for Students with Significant Cognitive Disabilities

Independent

a. Identify forms of energy, such as light, heat, electrical, and energy of motion. SC.4.P.10.IN.A

b. Describe the results of applying electrical energy (turn on lights, make motors run); heat energy (burn wood, change temperature); and energy of motion (go faster, change direction). SC.4.P.10.IN.B

c. Recognize that vibrations cause sound and identify sounds as high or low (pitch). SC.4.P.10.IN.C

d. Identify machines that use energy from moving water or air, including a windmill and a waterwheel. SC.4.P.10.IN.D

Supported

a. Recognize uses of different forms of energy, including electricity (computer, freezer); heat (camp fire, stove); and energy of motion (rollercoaster, pinball machine). SC.4.P.10.SU.A

b. Recognize the results of using electrical energy (turning on television); heat energy (burning wood); and energy of motion (rolling ball). SC.4.P.10.SU.B

c. Recognize sounds as high or low (pitch). SC.4.P.10.SU.C

d. Identify objects that use energy from moving air, such as a pinwheel or sailboat. SC.4.P.10.SU.D

Participatory

a. Recognize a source of heat energy (fire, heater). SC.4.P.10.PA.A

b. Recognize objects that create sounds. SC.4.P.10.PA.B

c. Recognize that moving air can move objects. SC.4.P.10.PA.C

Energy Transfer and Transformations

1. **Recognize that heat flows from a hot object to a cold object and that heat flow may cause materials to change temperature.** SC.4.P.11.1

2. **Identify common materials that conduct heat well or poorly.** SC.4.P.11.2

Access Point for Students with Significant Cognitive Disabilities

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Independent

a. Identify that a hot object will make a cold object warm when they touch. SC.4.P.11.IN.A

b. Identify materials that are strong conductors of heat, such as metal. SC.4.P.11.IN.B

Supported

a. Recognize that a hot object can make a cold object warm when they touch. SC.4.P.11.SU.A

b. Recognize a common material that is a strong conductor of heat, such as metal. SC.4.P.11.SU.B

Participatory

a. Recognize a temperature change from cold to warm. SC.4.P.11.PA.A

b. Recognize common objects that conduct heat. SC.4.P.11.PA.B

Motion of Objects

1. **Recognize that an object in motion always changes its position and may change its direction.** SC.4.P.12.1

2. **Investigate and describe that the speed of an object is determined by the distance it travels in a unit of time and that objects can move at different speeds.** SC.4.P.12.2

Access Point for Students with Significant Cognitive Disabilities

Independent

a. Identify that the position of an object changes when the object is in motion. SC.4.P.12.IN.A

b. Identify speed as how long it takes to travel a certain distance. SC.4.P.12.IN.B

Supported

a. Recognize that movement causes an object to change position. SC.4.P.12.SU.A

b. Identify objects that move at different speeds. SC.4.P.12.SU.B

Participatory

a. Recognize that an object can move in different directions, such as left to right, straight line, and zigzag. SC.4.P.12.PA.A

b. Recognize an object as moving fast or slow. SC.4.P.12.PA.B

Heredity and Reproduction

1. **Identify processes of sexual reproduction in flowering plants, including pollination, fertilization (seed production), seed dispersal, and germination.** SC.4.L.16.1

2. **Explain that although characteristics of plants and animals are inherited, some characteristics can be affected by the environment.** SC.4.L.16.2

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3. **Recognize that animal behaviors may be shaped by heredity and learning.** SC.4.L.16.3

4. **Compare and contrast the major stages in the life cycles of Florida plants and animals, such as those that undergo incomplete and complete metamorphosis, and flowering and nonflowering seed-bearing plants.** SC.4.L.16.4

Access Point for Students with Significant Cognitive Disabilities

Independent

a. Identify that insects spread pollen to help flowering plants make seeds. SC.4.L.16.IN.A

b. Identify behaviors that animals have naturally (inherit) and behaviors that animals learn. SC.4.L.16.IN.B

c. Identify similarities in the major stages in the life cycles of common Florida plants and animals. SC.4.L.16.IN.C

Supported

a. Recognize that many flowering plants grow from their own seeds. SC.4.L.16.SU.A

b. Recognize behaviors of common animals. SC.4.L.16.SU.B

c. Recognize the major stages in life cycles of common plants and animals. SC.4.L.16.SU.C

Participatory

a. Recognize that many plants have flowers and leaves. SC.4.L.16.PA.A

b. Recognize similarities between self and parents. SC.4.L.16.PA.B

c. Match offspring of animals with parents. SC.4.L.16.PA.C

Interdependence

1. **Compare the seasonal changes in Florida plants and animals to those in other regions of the country.** SC.4.L.17.1

2. **Explain that animals, including humans, cannot make their own food and that when animals eat plants or other animals, the energy stored in the food source is passed to them.** SC.4.L.17.2

3. **Trace the flow of energy from the Sun as it is transferred along the food chain through the producers to the consumers.** SC.4.L.17.3

4. **Recognize ways plants and animals, including humans, can impact the environment.** SC.4.L.17.4

Access Point for Students with Significant Cognitive Disabilities

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Independent

a. Identify seasonal changes in Florida plants and animals. SC.4.L.17.IN.A

b. Recognize that animals cannot make their own food and they must eat plants or other animals to survive. SC.4.L.17.IN.B

c. Recognize that plants (producers) use energy from the Sun to make their food and animals (consumers) eat plants or other animals for their food. SC.4.L.17.IN.C

d. Recognize things that people do to help or hurt the environment, such as recycling and pollution. SC.4.L.17.IN.D

Supported

a. Recognize seasonal changes in some Florida plants, such as the presence of flowers and change in leaf color. SC.4.L.17.SU.A

b. Recognize that animals (consumers) eat plants or other animals for their food. SC.4.L.17.SU.B

c. Recognize ways that people can help improve the environment, such as cleaning up trash. SC.4.L.17.SU.C

Participatory

a. Recognize a seasonal change in the appearance of a common plant. SC.4.L.17.PA.A

b. Recognize that animals eat food. SC.4.L.17.PA.B

c. Recognize ways that people can help improve the immediate environment, such as cleaning up trash. SC.4.L.17.PA.C