Florida FSA 2020 Grade 5 Science Practice

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NGSSS
Science & Social Studies
Assessments

Grade 5

Florida Statewide Science Assessment Practice Test Questions

The purpose of these practice test materials is to orient teachers and students to the types of questions on paper-based Florida Statewide Science Assessments. By using these materials, students will become familiar with the types of items and response formats that they may see on a paper-based test. The practice questions and answers are not intended to demonstrate the length of the actual test, nor should student responses be used as an indicator of student performance on the actual test. The practice test is not intended to guide classroom instruction.

Directions for Answering the Science Practice Test Questions

Mark your answers on the Grade 5 Science Practice Test Answer Sheet on page 9. If you don't understand a question, ask your teacher to explain it to you. Your teacher has the answers to the practice test questions.

Use the space in this booklet to do your work on the multiple-choice questions, but be sure to put your answers on the Answer Sheet.

1 Ariana uses balloons to investigate static electricity. Which of the following **best** explains what will happen when she brings two positively charged balloons close to each other?

A. The balloons will move apart.

B. One balloon will lose its charge.

C. The balloons will come together.

D. One balloon will gain a negative charge.

2 The stem is an important part of many plants. Which of the following is **most** similar to the role performed by the stem of a plant?

F. an anchor holding a boat in place

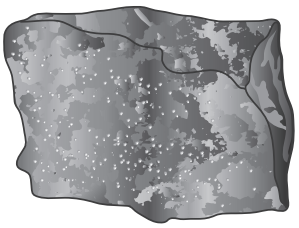
G. a snack company producing energy bars

H. a colorful sign attracting people into a store

I. an elevator transporting supplies from one floor to another

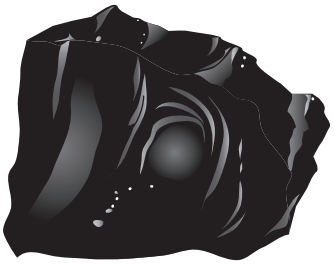
3 Roger collected four rock samples and wrote a description of how each was formed. Which of the following rocks that Roger collected is a metamorphic rock?

A.



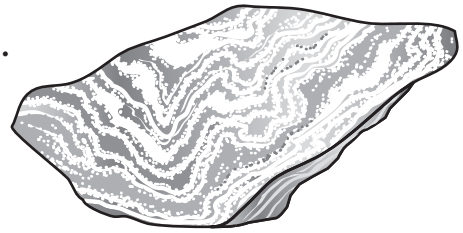
Formed from magma that cooled slowly

C.



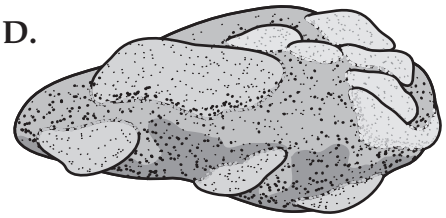
Formed from lava that cooled quickly

B.



Formed by pressure and heat over time

D.

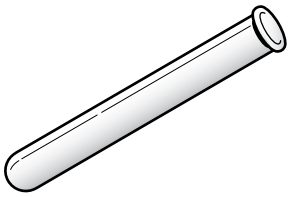


Formed by pieces of rock cemented together

4 Mr. Washington mixed iron filings with sand. Then, he asked his students to separate the iron filings from the sand. Which of the following is the **best** tool to use to separate the iron filings from the sand?

Hand Lens

F.



Test Tube

H.

Bar Magnet

G.

Eyedropper

I.

5 Jenny measures the outside temperature as 16 degrees Celsius (°C), 61 degrees Fahrenheit (°F). She observes precipitation falling from the clouds in a solid form. What type of precipitation is Jenny **most likely** observing?

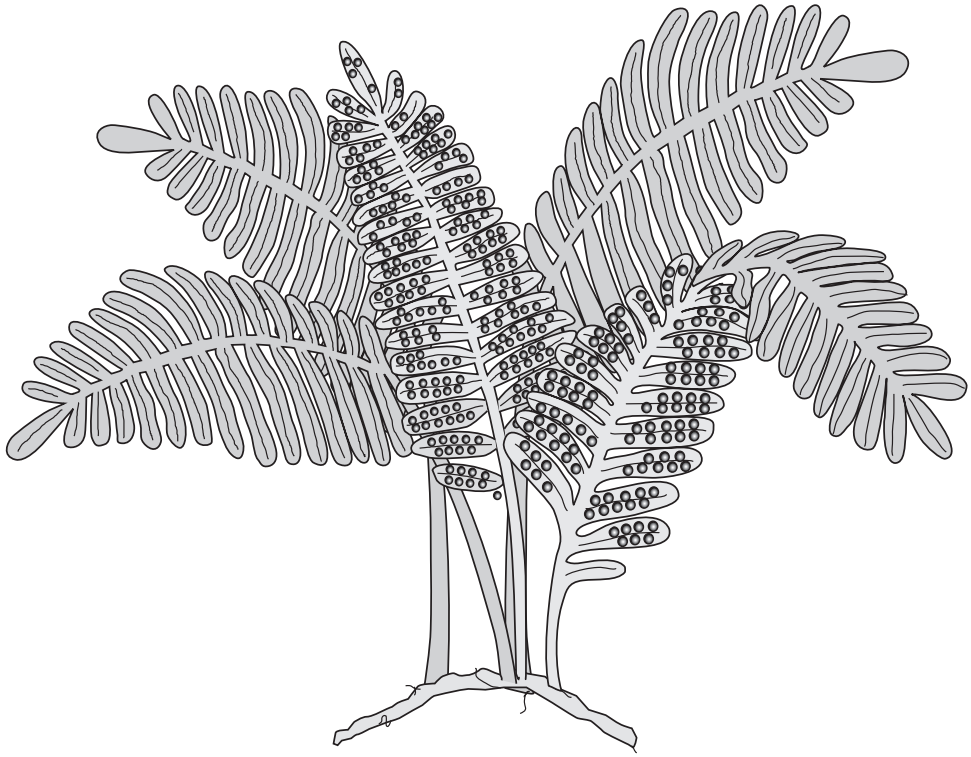
A. hail

B. rain

C. sleet

D. snow

6 Plants are classified according to their structures. The plant pictured below reproduces without seeds and has simple tubes for transporting water.



In which group of plants would this plant be classified?

F. spore-producing plants with many leaves

G. plants that produce fruit on their leaves

H. plants that carry seeds on their leaves

I. flowering plants with many leaves

7 Erosion and weathering can both cause changes to the surface of Earth. Which of the following happens **only** because of erosion and NOT because of weathering?

A. Rocks form deep underground.

B. Rocks become smooth and round.

C. Rocks are broken apart into small pieces.

D. Rocks are moved from one place to another.

8 Astronomers study many different kinds of objects in our Solar System. Which of the following **best** describes a difference between comets and asteroids?

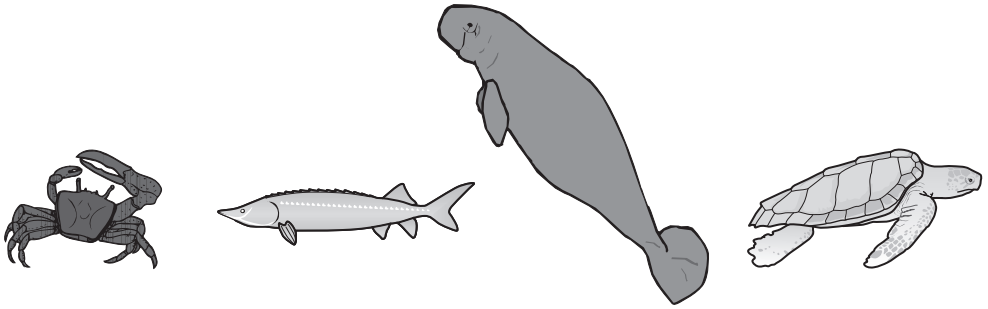
F. Comets orbit planets, and most asteroids orbit the Sun.

G. Comets are hot balls of gas, and asteroids are made mostly of ice.

H. Comets are made mostly of ice, and asteroids are made mostly of rocks.

I. Comets orbit the Sun between Mars and Jupiter, and asteroids form patterns in the sky.

9 The organisms shown below live in or near bodies of water. Some are classified as vertebrates and some as invertebrates.



Crab **Fish** **Manatee** **Turtle**

not to scale

Which organism is classified as an invertebrate?

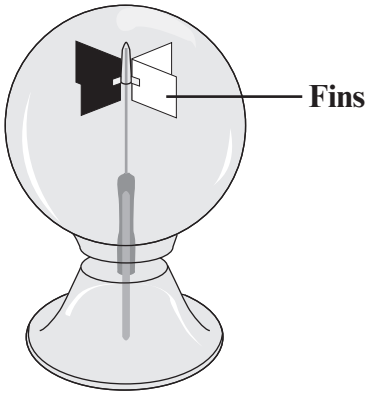
A. crab

B. fish

C. manatee

D. turtle

10 A radiometer is a device with fins that spin when light energy strikes them. A picture of a radiometer is shown below. As part of an experiment, a light source was placed 50 centimeters (cm) from a radiometer. The light source gave off four different-colored lights for 30 seconds (s) each. After each color of light was turned off, the amount of time the fins on the radiometer spun was recorded. The results are shown in the table below.



Radiometer

RADIOMETER DATA

Color of Light	Spinning Time (s)
Red	46
Green	55
Blue	72
White	75

Which color of light provided the **greatest** amount of light energy according to the data in the table?

F. red

G. green

H. blue

I. white

Name _____

Answer all the Science Sample Questions on this Sample Answer Sheet.

1	Ⓐ	Ⓑ	Ⓒ	Ⓓ		6	Ⓕ	Ⓖ	Ⓗ	Ⓘ
2	Ⓕ	Ⓖ	Ⓗ	Ⓘ		7	Ⓐ	Ⓑ	Ⓒ	Ⓓ
3	Ⓐ	Ⓑ	Ⓒ	Ⓓ		8	Ⓕ	Ⓖ	Ⓗ	Ⓘ
4	Ⓕ	Ⓖ	Ⓗ	Ⓘ		9	Ⓐ	Ⓑ	Ⓒ	Ⓓ
5	Ⓐ	Ⓑ	Ⓒ	Ⓓ		10	Ⓕ	Ⓖ	Ⓗ	Ⓘ

Grade 5

Florida Statewide Science Assessment Answer Key

NGSSS
Science & Social Studies Assessments

This booklet contains answers to the Florida Statewide Science Assessment practice test questions, as well as explanations for the correct answers and rationales for the incorrect answers (distractor rationales). It also gives the Next Generation Sunshine State Standards (NGSSS) benchmark assessed by each item. In February 2008, the State Board of Education adopted updated benchmarks. These new benchmarks are included in this booklet to provide teachers with additional information.

Multiple-choice items in Florida Statewide Science Assessments are scored by awarding one point for each correct answer.

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1 **The correct answer is A (The balloons will move apart).**

Reporting Category: Physical Science

Big Idea 10: Forms of Energy

Benchmark SC.5.P.10.3 Investigate and explain that an electrically-charged object can attract an uncharged object and can either attract or repel another charged object without any contact between the objects.

An understanding of the behavior of charged and uncharged objects is needed to answer this question.

Distractor Rationales

B. Neither balloon will lose its charge.

C. The balloons will not come together.

D. Neither balloon will change its charge.

2 **The correct answer is I (an elevator transporting supplies from one floor to another).**

Reporting Category: Life Science

Big Idea 14: Organization and Development of Living Organisms

Benchmark: SC.3.L.14.1 Describe structures in plants and their roles in food production, support, water and nutrient transport, and reproduction.

An understanding of the functions of plant structures is needed to answer this question.

Distractor Rationales

F. The stem does not hold a plant in place. The roots of a plant hold a plant in place, similar to an anchor holding a boat in place.

G. The stem does not produce energy for the plant. Plants get energy from food they produce using air, water, and energy from the Sun.

H. The stem does not attract insects to the plant. The flower attracts insects to the plant.

3 **The correct answer is B (Formed by pressure and heat over time).**

Reporting Category: Earth and Space Science

Big Idea 6: Earth Structures

Benchmark: SC.4.E.6.1 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).

An understanding of the three types of rocks and how they are formed is needed to answer this question.

Distractor Rationales

A. This rock is not a metamorphic rock; it is an igneous rock.

C. This rock is not a metamorphic rock; it is an igneous rock.

D. This rock is not a metamorphic rock; it is a sedimentary rock.

4 **The correct answer is G (Bar Magnet).**

Reporting Category: Physical Science

Big Idea 8: Properties of Matter

Benchmark: SC.5.P.8.3 Demonstrate and explain that mixtures of solids can be separated based on observable properties of their parts such as particle size, shape, color, and magnetic attraction.

An understanding of how to separate solids based on their physical properties is needed to answer this question.

Distractor Rationales

F. Although a hand lens could be used to better see the sand particles and iron filings, it would not physically separate the iron filings from the sand.

H. A test tube cannot be used to separate iron filings from sand.

I. An eyedropper cannot be used to separate iron filings from sand.

5 **The correct answer is A (hail).**

Reporting Category: Earth and Space Science

Big Idea 7: Earth Systems and Patterns

Benchmark: SC.5.E.7.4 Distinguish among the various forms of precipitation (rain, snow, sleet, and hail), making connections to the weather in a particular place and time.

An understanding of the different forms of precipitation and the weather conditions that can produce each type of precipitation is needed to answer this question. Hail forms higher in the atmosphere where the temperature is below freezing even though the surface temperature is above freezing.

Distractor Rationales

B. Rain is a liquid form of precipitation.

C. Although sleet is a solid form of precipitation, it occurs when the air temperature at the surface is below freezing.

D. Although snow is a solid form of precipitation, it occurs when the air temperature is near or below freezing.

6 **The correct answer is F (spore-producing plants with many leaves).**

Reporting Category: Life Science

Big Idea 15: Diversity and Evolution of Living Organisms

Benchmark: SC.3.L.15.2 Classify flowering and nonflowering plants into major groups such as those that produce seeds, or those like ferns and mosses that produce spores, according to their physical characteristics.

An understanding of the physical characteristics of flowering and nonflowering plants is needed to answer this question. All flowering plants and some nonflowering plants produce seeds. Other nonflowering plants, such as ferns, reproduce by using spores.

Distractor Rationales

G. This plant does not produce fruit on its leaves. Fruit is associated with seed-bearing plants, and this plant has spores.

H. This plant does not carry seeds on its leaves. Seeds are not carried on the leaves of a plant.

I. This plant does not have seeds; flowering plants have seeds. Therefore, this plant is not a flowering plant.

7 **The correct answer is D (Rocks are moved from one place to another).**

Reporting Category: Earth and Space Science

Big Idea 6: Earth Structures

Benchmark: SC.4.E.6.4 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).

An understanding of the events that cause physical weathering and the events that cause erosion is necessary to answer this question. Physical weathering is a breakdown of rock caused by wind, water, ice, temperature change, or plants. Erosion is the movement of rock caused by gravity, wind, water, or ice.

Distractor Rationales

A. Neither erosion nor weathering influences the formation of rocks underground.

B. Rocks can also become smooth and round by weathering. Rocks on a riverbed can become smooth because of water flowing over them.

C. Rocks can be broken into smaller pieces by weathering and not be moved from one place to another.

8 **The correct answer is H (Comets are made mostly of ice, and asteroids are made mostly of rocks).**

Reporting Category: Earth and Space Science

Big Idea 5: Earth in Space and Time

Benchmark SC.5.E.5.3 Distinguish among the following objects of the Solar System—Sun, planets, moons, asteroids, comets—and identify Earth's position in it.

An understanding of the characteristics of the objects in our Solar System is needed to answer this question.

Distractor Rationales

F. Both comets and asteroids orbit the Sun. The orbits of comets are more elongated than the orbits of asteroids.

G. Comets are made mostly of rocks, dust, ice, and frozen gases. Asteroids are made from a collection of minerals and irregularly shaped rocks.

I. Comets do not orbit between Mars and Jupiter. Most asteroids in our Solar System orbit the Sun between Mars and Jupiter and do not form patterns in the sky.

9 **The correct answer is A (crab).**

Reporting Category: Life Science

Big Idea 15: Diversity and Evolution of Living Organisms

Benchmark SC.3.L.15.1 Classify animals into major groups (mammals, birds, reptiles, amphibians, fish, arthropods, vertebrates and invertebrates, those having live births and those which lay eggs) according to their physical characteristics and behaviors.

An understanding of how to classify vertebrates and invertebrates based on their characteristics is necessary to answer this question.

Distractor Rationales

B. The fish is not an invertebrate because it has a backbone.

C. The manatee is not an invertebrate because it has a backbone.

D. The turtle is not an invertebrate because it has a backbone.

10 **The correct answer is I (white).**

Reporting Category: Nature of Science

Big Idea 1: The Practice of Science

Benchmark: SC.5.N.1.1 Define a problem; use appropriate reference materials to support scientific understanding; plan and carry out scientific investigations of various types such as: systematic observations, experiments requiring the identification of variables, collecting and organizing data, and interpreting data in charts, tables, and graphics; analyze information; make predictions; and defend conclusions.

An understanding of how to design a scientific investigation and of how to interpret data is needed to answer this question.

Distractor Rationales

F. The red light did not provide the greatest amount of energy because the radiometer did not spin for the longest amount of time.

G. The green light did not provide the greatest amount of energy because the radiometer did not spin for the longest amount of time.

H. The blue light did not provide the greatest amount of energy because the radiometer did not spin for the longest amount of time.