



Grade 5

Science

Sample Test Materials

The purpose of these sample test materials is to orient teachers and students to the types of paper-based Grade 5 Science questions. By using these materials, students will become familiar with the types of items and response formats they may see on a paper-based test. The sample items 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 sample test materials are not intended to guide classroom instruction.

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Grade 5 Science Sample Items

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?
- Ⓐ The balloons will move apart.
 - Ⓑ One balloon will lose its charge.
 - Ⓒ The balloons will come together.
 - Ⓓ 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?
- Ⓐ an anchor holding a boat in place
 - Ⓑ a snack company producing energy bars
 - Ⓒ a colorful sign attracting people into a store
 - Ⓓ an elevator transporting supplies from one floor to another

Grade 5 Science Sample Items

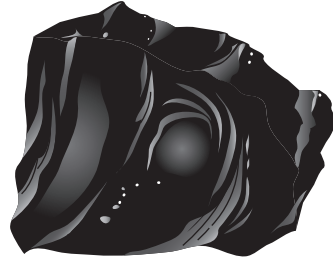
3. Roger collected four rock samples and wrote a description of how each was formed. Which of the following rocks that Roger collected is a metamorphic rock?

(A)



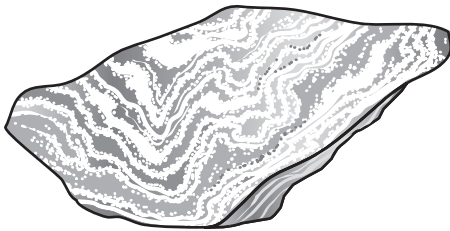
**Formed from magma
that cooled slowly**

(C)



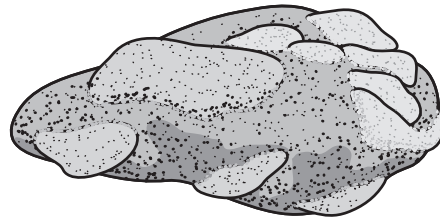
**Formed from lava
that cooled quickly**

(B)



**Formed by pressure
and heat over time**

(D)



**Formed by pieces of rock
cemented together**

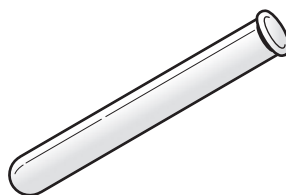
4. Mr. Washington mixed iron filings with sand. Then, he asked his students to separate the iron filings from the sand. Which of the following is the **best** tool to use to separate the iron filings from the sand?

(A)



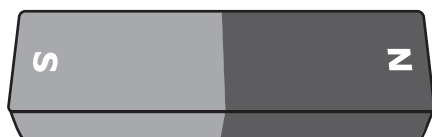
Hand Lens

(C)



Test Tube

(B)



Bar Magnet

(D)

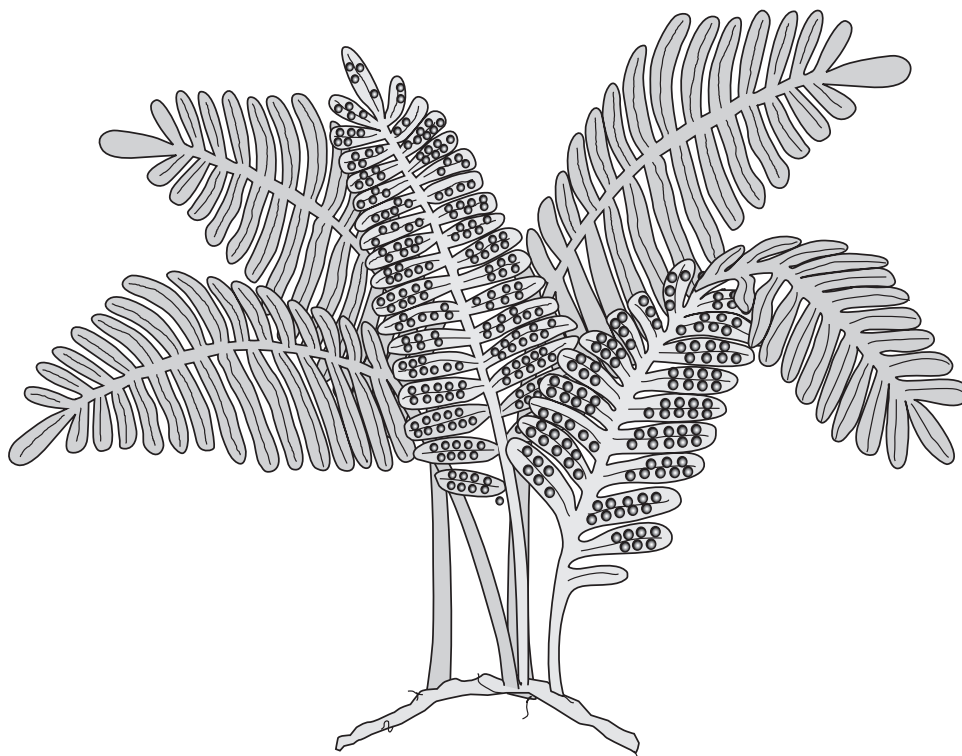


Eyedropper

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5. Jenny measures the outside temperature as 16 degrees Celsius ($^{\circ}\text{C}$), 61 degrees Fahrenheit ($^{\circ}\text{F}$). She observes precipitation falling from the clouds in a solid form. What type of precipitation is Jenny **most likely** observing?
- Ⓐ hail
 - Ⓑ rain
 - Ⓒ sleet
 - Ⓓ snow

6. Plants are classified according to their structures. The plant pictured below has simple tubes for transporting water.



In which group of plants would this plant be classified?

- Ⓐ spore-producing plants with many leaves
- Ⓑ plants that produce fruit on their leaves
- Ⓒ plants that carry seeds on their leaves
- Ⓓ flowering plants with many leaves

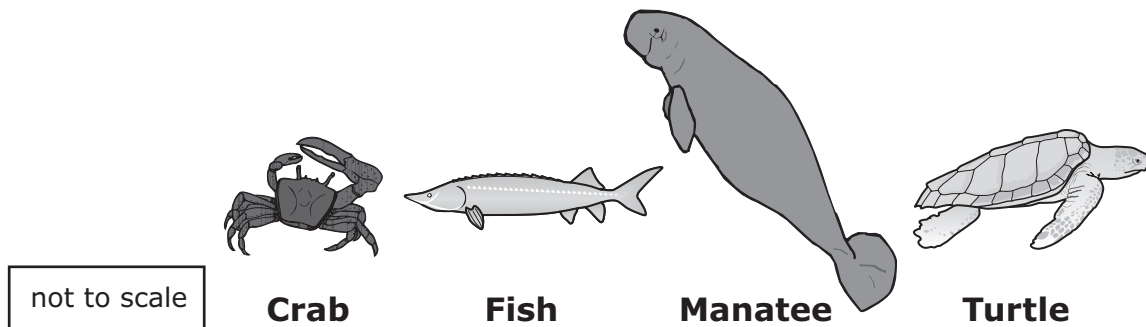
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7. Erosion and weathering can both cause changes to the surface of Earth. Which of the following happens only because of erosion?
- Ⓐ Rocks form deep underground.
 - Ⓑ Rocks become smooth and round.
 - Ⓒ Rocks are broken apart into small pieces.
 - Ⓓ 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?
- Ⓐ Comets orbit planets, and most asteroids orbit the Sun.
 - Ⓑ Comets are hot balls of gas, and asteroids are made mostly of ice.
 - Ⓒ Comets are made mostly of ice, and asteroids are made mostly of rocks.
 - Ⓓ Comets orbit the Sun between Mars and Jupiter, and asteroids form patterns in the sky.

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

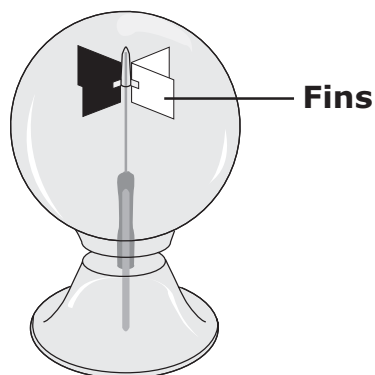


Which organism is classified as an invertebrate?

- Ⓐ crab
- Ⓑ fish
- Ⓒ manatee
- Ⓓ turtle

Light Energy

A radiometer is a device with fins that spin when light energy comes in contact with them. A diagram 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 spinning time of the fins on the radiometer 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 |

To answer this question, refer to the “Light Energy” passage, diagram, and table.

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

- Ⓐ red
- Ⓑ green
- Ⓒ blue
- Ⓓ white



Office of Assessment
Florida Department of Education, Tallahassee, Florida
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