

New England Common Assessment Program

Released Items 2013

Grade 4 Science

Science

- 1 A student turns on a lightbulb for 20 minutes and then turns it off. Which statement describes the lightbulb soon after it is turned off?
 - A. The lightbulb is warm.
 - B. The lightbulb continues to give off light.
 - C. The lightbulb gives off an electrical shock.
 - D. The lightbulb flickers on and off until it burns out.
- **2** Why do people in hot climates often wear white clothing instead of black clothing?
 - A. White clothing reflects more sunlight than black clothing and helps the people keep cool.
 - B. Black clothing reflects more sunlight than white clothing and helps the people keep warm.
 - C. White clothing absorbs less sunlight than black clothing and helps the people keep warm.
 - D. Black clothing absorbs less sunlight than white clothing and helps the people keep cool.

3 Kelly and Jane are being pushed on swings. The girls weigh the same, but Kelly swings much higher than Jane.

How are the girls being pushed?

- A. Kelly is being pushed harder than Jane.
- B. Kelly is being pushed more gently than Jane.
- C. Kelly and Jane are being pushed equally.
- D. Kelly is being pushed in a different direction than Jane.

4 The table below lists physical characteristics of three objects.

Physical Characteristics of Three Objects

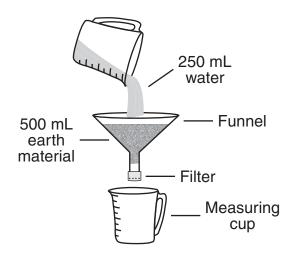
Object	Bending	Attracted to Magnet	Catches on Fire Easily	
1	Bends	No	No	
2	Bends	No	Yes	
3	Bends	Yes	No	

- a. The objects in the table are a metal paper clip, a piece of paper, and a rubber eraser.
 - Tell which object is the metal paper clip.
 - Tell which object is the piece of paper.
 - Tell which object is the rubber eraser.

Use data in the table to explain your answers.

b. Sort the metal paper clip, piece of paper, and rubber eraser into two groups using a physical characteristic **not** listed in the table. Explain why you sorted the objects this way.

5 A teacher tests four different earth materials to see how well each material drains water. The setup for the test is shown below.



The teacher follows the steps listed below for each earth material.

- Collect the water that flows through the earth material for 2 minutes.
- Measure the amount of water collected.

Which measuring cup shows the results for the earth material that drains water **most slowly**?









- 6 How are the effects of wind similar to the effects of running water?
 - A. Both form rocks.
 - B. Both form valleys.
 - C. Both carry small pieces of earth material from one place to another.
 - D. Both break apart rocks by getting into cracks and freezing.

7 Fog is a cloud that touches the ground. The table below lists several weather conditions and tells if fog forms in these conditions.

Weather Conditions

Air Temperature Near Ground	Ground Temperature	Air	Does Fog Form?
50°F	35°F	Moist	Yes
50°F	70°F	Moist	No
40°F	60°F	Dry	No
35°F	25°F	Moist	Yes
5°F	35°F	Dry	No

Based on the information in the table, what weather conditions are needed for fog to form?

- A. The air must be dry and cooler than the ground.
- B. The air must be dry and warmer than the ground.
- C. The air must be moist and cooler than the ground.
- D. The air must be moist and warmer than the ground.

- **8** A mouse lives in a very dry area. What will be **hardest** for the mouse to find?
 - A. air
 - B. food
 - C. space
 - D. water
- **9** Skunks eat mostly insects during the spring, summer, and fall. During the winter, however, skunks eat mostly seeds and nuts.

Why do skunks eat seeds and nuts instead of insects during the winter?

- A. Skunks cannot find seeds and nuts during spring, summer, or fall.
- B. Skunks cannot find insects during the winter.
- C. Skunks live outside in the summer and in underground dens in the winter.
- D. Skunks move quickly in the summer and slowly in the winter.

- ① A young boy has brown eyes. What is the **most likely** reason he has brown eyes?
 - A. The boy has an older sister who has brown eyes.
 - B. The boy lives in a cold climate.
 - C. The boy inherited brown eyes from his birth parents.
 - D. The boy has brown hair.