New England Common Assessment Program

Released Items
2015

Grade 8
Science

1 A student puts 5 g of sodium bicarbonate into a balloon. The student then fills a test tube with 10 mL of a weak acetic acid. Finally, the student carefully places the balloon tightly over the test tube and empties its contents into the test tube.

Carbon dioxide gas is produced in the test tube. Which prediction about what will happen to the test tube and balloon is the **most likely**?

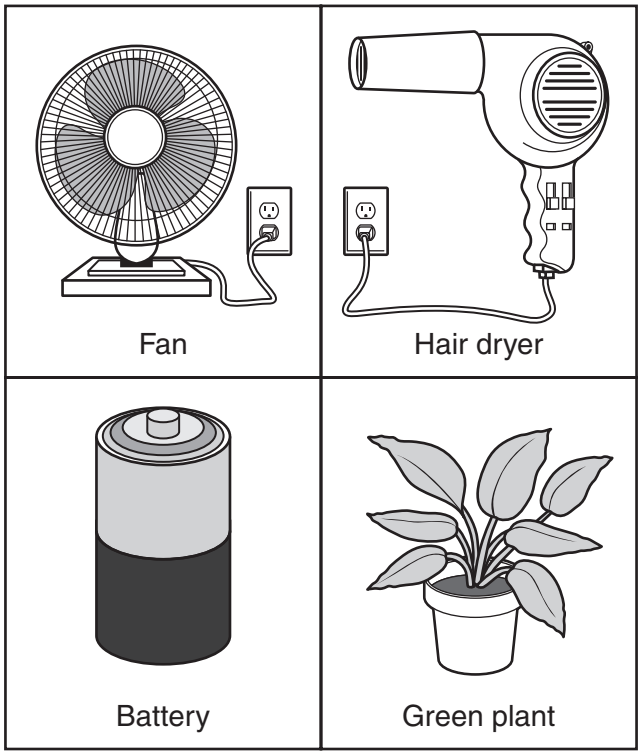
A. The gas molecules inside the test tube and balloon will grow larger, and the balloon will expand.

B. The gas molecules inside the test tube and balloon will move farther apart, and the balloon will expand.

C. The gas molecules inside the test tube and balloon will move closer together, and the balloon will be sucked into the test tube.

D. The gas molecules inside the test tube and balloon will grow smaller, and the balloon will be sucked into the test tube.

2 The picture below shows four objects.



What do all four objects have in common?

A. They store energy.

B. They make energy on their own.

C. They produce the same amount of energy.

D. They change energy from one form to another.

3 The diagram below shows a car experiencing unbalanced forces.

There is greater force in the forward direction than in the opposite direction. Which statement **best** describes how these unbalanced forces will affect the motion of the car?

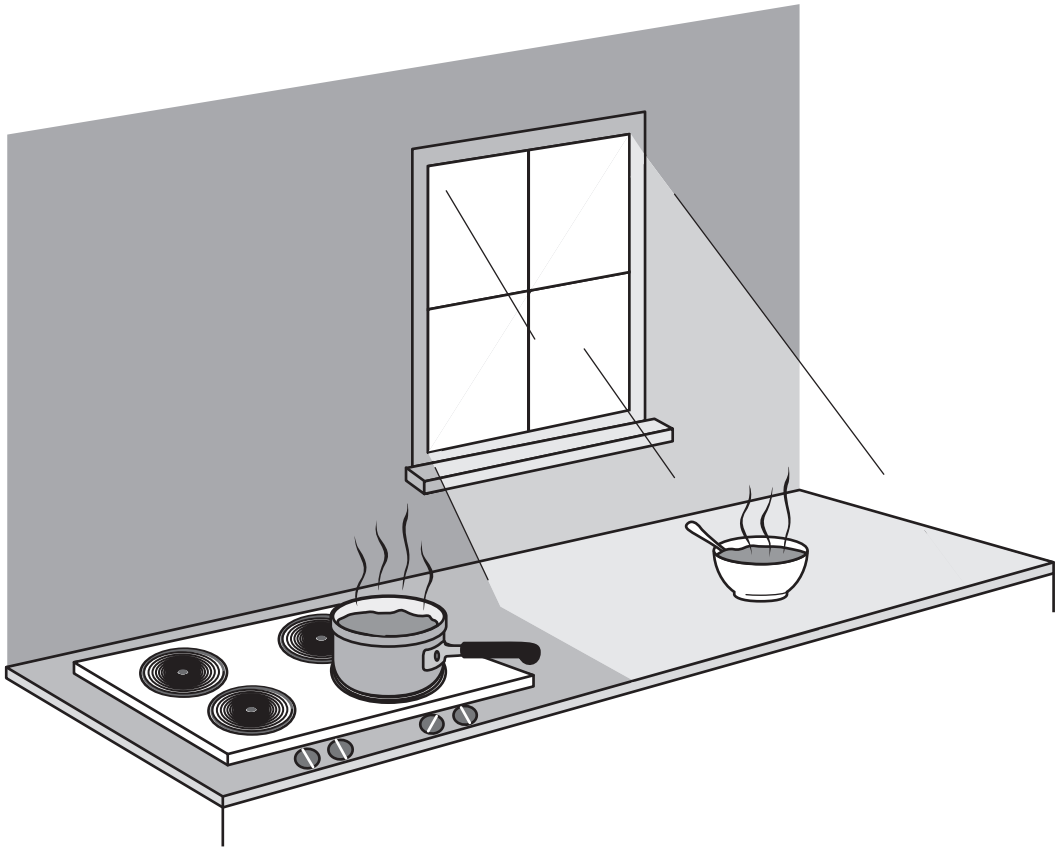
A. The car will speed up.

B. The car will slow down.

C. The car will come to a stop.

D. The car will slowly go backward.

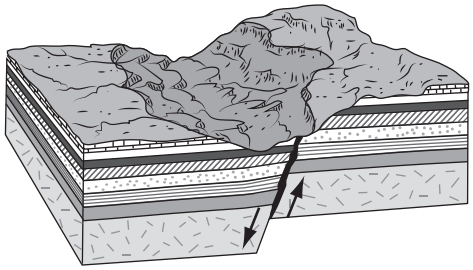
4 The picture below shows part of a kitchen. Sunlight is shining through the window. A metal pot contains soup that is being heated on the stove. A metal spoon is in a bowl of hot soup on the countertop.



a. Identify **two** types of heat transfer occurring in the kitchen. Using specific details from the picture, describe **one** example of **each** type of heat transfer you identified.

b. Explain how the motion of molecules causes **one** type of heat transfer occurring in the kitchen.

5 The diagram below shows rock layers that have moved.



Which of the following was **directly** responsible for moving these layers?

A. weathering
B. sedimentation
C. an earthquake
D. a volcanic eruption

6 The table below lists the weight of an object on different planets.

Weight of the Same Object on Different Planets

Planet	Weight (N)
Earth	100.0
Mercury	37.8
Venus	90.7
Mars	37.7
Jupiter	236.4
Saturn	106.4
Uranus	88.9
Neptune	112.5

A different object has a weight of 200 N on Earth. On which planet would the weight of the same object be approximately 200 N?

A. Venus
B. Mars
C. Saturn
D. Neptune

7 Why do most locations on Earth experience day and night?

A. Earth travels around the Sun.
B. Earth rotates on its axis.
C. The Moon has a gravitational pull on Earth.
D. The Moon travels between Earth and the Sun.

8 New sea stars can grow from pieces of a sea star that is torn apart. How are sea stars produced this way different from sea stars produced by sexual reproduction?

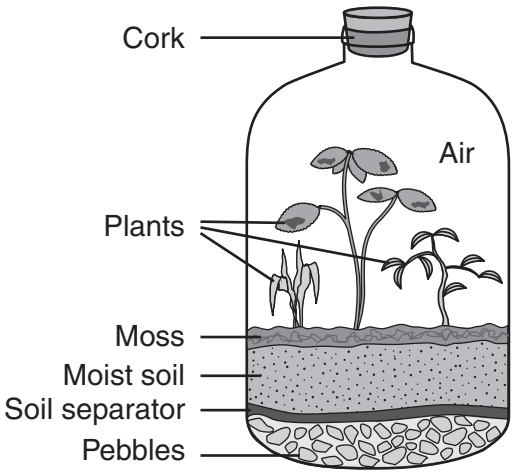
A. New sea stars grown from pieces cannot reproduce.

B. New sea stars grown from pieces are genetically identical.

C. New sea stars grown from pieces are genetically different.

D. New sea stars grown from pieces can regrow new organs but not new arms.

9 A student built the terrarium shown below to model the water cycle.



What role in the water cycle do the plants in the terrarium play?

A. The plants use up water in the air and then use the water to dissolve the soil.

B. The plants make water in their leaves and then precipitate the water onto the moss.

C. The plants transport water from the moss and then help the soil retain the water.

D. The plants take in water from the soil and then release the water from their leaves.

10 Over the past several decades, the ozone layer over Australia has been thinning, causing increased levels of UV radiation to reach Earth's surface.

What is the **most likely** health consequence of increased radiation?

A. People in Australia need more vitamin D in their diets.

B. People in Australia have an increased risk of skin cancer.

C. People in Australia have an increased sensitivity to cold.

D. People in Australia are more resistant to respiratory diseases.