UNIT 6
Benchmark Review

Name _____

Vocabulary Review

Use the terms in the box to complete the sentences.

kinetic
energy
chemical

1. The batteries of a flashlight contain _____ energy

2. The ability to cause changes in matter is known as _____.

3. Sound energy and thermal energy are both types of _____ energy.

Science Concepts

Fill in the letter of the choice that best answers the question.

4. Olivia is combing her hair. After a while, she notices that the comb attracts the hairs on her head as shown below.

Which explanation best describes why the hairs are attracted to the comb?

(A) Combing the hairs caused them to lose their static charge.

(B) Combing the hairs caused the comb to lose its static charge.

(C) Combing the hairs gave them a charge that is opposite the charge on the comb.

(D) Combing the hairs gave them a charge that is the same as the charge on the comb.

5. You rub two balloons on your hair on a dry day. Your hair is attracted to both balloons. Then you bring the balloons near one another. How would you describe what happens to the balloons?

(F) They repel one another.

(G) They attract one another.

(H) They neither attract nor repel one another.

(I) Opposite charges make one balloon become larger and one become smaller.

6. Imagine you bring a negatively charged rod near a piece of metal. What happens within the metal?

   (A) Protons in the metal move toward the rod.

   (B) Electrons in the metal move toward the rod.

   (C) Protons in the metal move away from the rod.

   (D) Electrons in the metal move away from the rod.

7. When an electric current runs through a doorbell buzzer, a mechanism inside vibrates back and forth and makes the doorbell work. Which energy transformation occurs when someone pushes the button on a doorbell?

   (F) electrical energy into heat energy and sound energy

   (G) electrical energy into motion energy and sound energy

   (H) motion energy into electrical energy and sound energy

   (I) motion energy and sound energy into electrical energy

8. Joe had two toy cars. One car had a spring which he wound up before the car would move. The other car did not have a spring, but it needed a battery to work. How are the two cars different?

   (A) The two cars transform different kinds of energy into motion.

   (B) One car works only on a level surface, and the other can move up a ramp.

   (C) There is no difference between the two cars because they both move forward on a surface.

   (D) The two cars both transform electrical energy into motion, but they get the electrical energy in different ways.

9. When Tishana left her bedroom, she flipped the light switch. The light bulb on her lamp stopped giving off light. What caused the light bulb to go out?

   (F) The filament in the bulb stopped moving, so it could not make light.

   (G) The electric current stopped, so no more electrical energy was converted into light.

   (H) The bulb became cooler, so the light bulb stopped converting heat energy into light.

   (I) The electric current stopped, so light energy could not be converted into electrical energy.

Name _____

10. Which is **not** something that energy can do?

Ⓐ be completely used up

Ⓑ cause an object to move

Ⓒ change an object's temperature

Ⓓ change into other forms of energy

11. One type of energy is the result of waves that travel through matter and cause particles in the matter to vibrate. Which type of energy is it?

Ⓕ chemical

Ⓖ electrical

Ⓗ potential

Ⓘ sound

12. A thermometer shows that the temperature of the air in a room has increased. Which type of energy has increased?

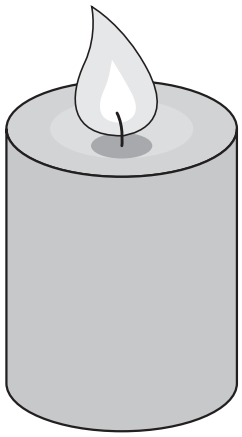
Ⓐ chemical

Ⓑ sound

Ⓒ electrical

Ⓓ thermal

13. The picture below shows a burning candle. A candle burns because of energy stored in the particles of wax.



Which type of energy changes take place when the candle burns?

Ⓕ Chemical energy changes into thermal energy and light energy.

Ⓖ Electrical energy changes into light energy and chemical energy.

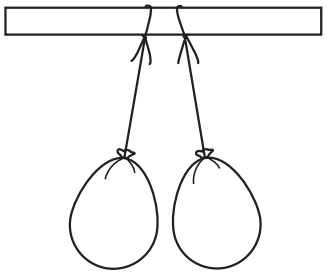
Ⓗ Kinetic energy changes into potential energy and thermal energy.

Ⓘ Potential energy changes into kinetic energy and light energy.

Apply Inquiry and Review the Big Idea

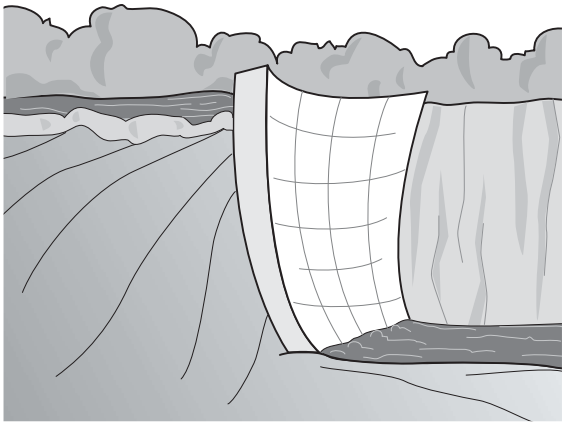
Write the answers to these questions.

14. The balloons shown below are part of Eric's investigation into positive and negative charges. He rubbed both balloons with a wool cloth.



What must be true of the balloons? Explain how you know.

15. The illustration below shows a large dam that is used to produce electricity. Water flows from the lake behind the dam to the river below the dam. It passes through turbines that are connected to generators.



Which energy transformation occurs in this hydroelectric dam? Why is this energy transformation useful?