

Name: \_\_\_\_\_

Date: \_\_\_\_\_

1. The students saw the safety symbol below on the chemistry lab page that described the experiment they were about to do.



What does this experiment use that poses a potential danger of which they should be aware?

- A. fire
- B. electricity
- C. poisonous chemicals
- D. sharp objects

2. In an amusement park a moving bumper car (car 1) collides with a bumper car at rest (car 2) and, after the collision, both cars move. If momentum is conserved, which statement is correct?

- A. The momentum of car 1 increases and the momentum of car 2 decreases.
- B. The momentum of car 1 decreases and the momentum of car 2 increases.
- C. The total momentum of both cars increases.
- D. The total momentum of both cars decreases.

3.

On a cold, winter day, Sheena rubs her hands together. Stored chemical energy is transformed into mechanical energy. Due to the Law of Conservation of Energy some of the energy is also transformed into

- A. heat energy.
- B. light energy.
- C. solar energy.
- D. kinetic energy.

4. Which of the following is an example of kinetic energy?

- A. a child jumping rope
- B. a swimmer ready to dive
- C. a stuffed toy lying on a table
- D. firewood stacked in a fireplace

5. Which represents kinetic energy?

- A. a bear standing in a field of berries
  - B. a salmon resting in still water
  - C. a bear holding a salmon it has caught
  - D. a salmon leaping up a waterfall
- 

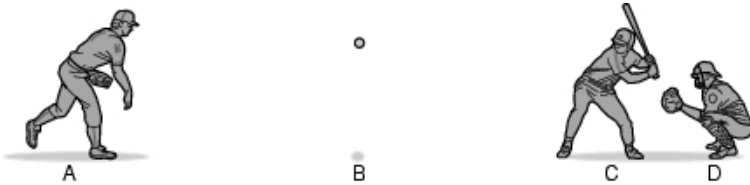
6. A car stopped at the top of a ramp has

- A. heat energy.
  - B. potential energy.
  - C. kinetic energy.
  - D. mechanical energy.
- 

7. Which situation is an example of increasing potential energy?

- A. pulling a wagon uphill
  - B. emptying a bucket of water
  - C. a cat jumping from a tree
  - D. a bicyclist stopping at a stop sign
- 

8. A pitcher throws a baseball as shown in the diagram below.



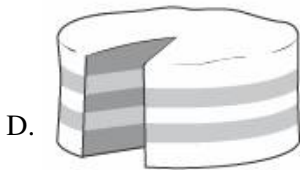
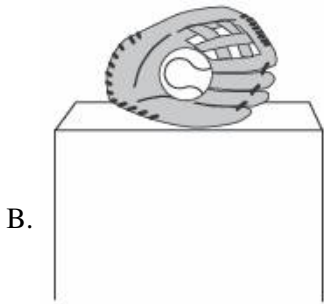
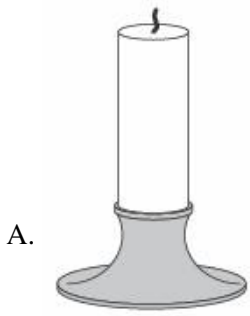
Which of these has MOSTLY kinetic energy?

- A. the pitcher
  - B. the ball
  - C. the batter
  - D. the catcher
- 

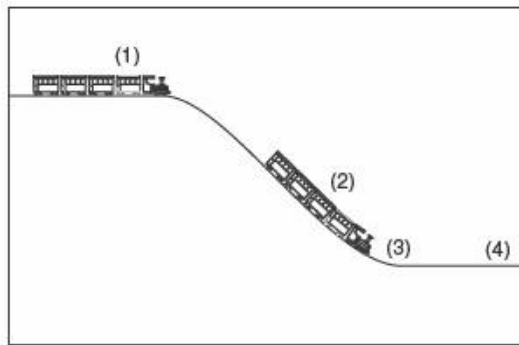
9. Which of the following is an example of kinetic energy?

- A. A baseball moving from the pitcher to the catcher
- B. A rock sitting on the top of a large hill
- C. A pendulum at the top of its swing
- D. A new flashlight battery

10. Which of these best shows kinetic energy?



11. The location on the track where the train has the *greatest* potential energy is —



- A. 1.
- B. 2.
- C. 3.
- D. 4.

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12. Energy appears in many forms. What form of energy is lightning?

- A. electrical energy
- B. mechanical energy
- C. magnetic energy
- D. sound energy

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13. Water that flows from behind a large dam can cause machines to produce electricity. What change takes place?

- A. Heat energy changes into mechanical energy.
- B. Sound energy changes into electrical energy.
- C. Chemical energy is used to produce electrical energy.
- D. Mechanical energy is used to produce electrical energy.

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14. Which of these is **not** a form of energy?

- A. electrical
  - B. light
  - C. heat
  - D. friction
-

15. Light is an example of which type of energy?

- A. nuclear
  - B. gravitational
  - C. electromagnetic
  - D. chemical
- 

16. When a hair dryer is being used, one of the energy transformations that takes place is

- A. electrical to chemical.
  - B. electrical to mechanical.
  - C. mechanical to electrical.
  - D. chemical to electrical.
- 

17. When electrical energy is "used" by an electric light, what really happens to the energy?

- A. It is given off as other forms of energy.
  - B. It changes to matter.
  - C. It stops at the electric light.
  - D. It disappears.
- 

18. To pull up a bucket of water from a well, George pulled hard on a handle to wind up a rope. Which kind of energy was George applying to the handle?

- A. chemical energy
  - B. frictional energy
  - C. potential energy
  - D. mechanical energy
- 

19.

Gasoline, wood, water behind a dam, and a boulder on the edge of a cliff all represent some form of potential energy. What form of potential energy do gasoline and wood have in common?

- A. heat
  - B. light
  - C. chemical
  - D. mechanical
- 

20.

What form of energy is associated with the movement of charges, usually electrons?

- A. chemical
- B. electrical
- C. heat
- D. sound

**Answer Key**

1. B) electricity

2. B) The momentum of car 1 decreases and the momentum of car 2 increases.

3. A) heat energy.

4. A) a child jumping rope

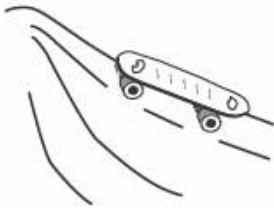
5. D) a salmon leaping up a waterfall

6. B) potential energy.

7. A) pulling a wagon uphill

8. B) the ball

9. A) A baseball moving from the pitcher to the catcher



10. C)

11. A) 1.

12. A) electrical energy

13. D) Mechanical energy is used to produce electrical energy.

14. D) friction

15. C) electromagnetic

16. B) electrical to mechanical.

17. A) It is given off as other forms of energy.

18. D) mechanical energy

19. C) chemical

20. B) electrical