Name _____ Class_____Date_____

Skills Worksheet

Directed Reading A

Section: What Is Energy?

ENERGY AND WORK: WORKING TOGETHER

_____ 1. What is the ability to do work called?
   a. movement
   b. energy
   c. power
   d. force

2. Work is a transfer of _____.

3. How is energy transferred when one object does work on another?

_____

4. What units are used to express this energy transfer?

_____

KINETIC ENERGY

_____ 5. Which of the following is the energy of motion?
   a. potential energy
   b. mechanical energy
   c. kinetic energy
   d. gravitational energy

_____ 6. In the formula for kinetic energy, what does the *m* stand for?
   a. more
   b. moving
   c. mass
   d. meter

7. How does increasing mass affect kinetic energy?

_____

8. Why are car crashes more dangerous at higher speeds than at lower speeds?

_____

_____

Original content Copyright © by Holt, Rinehart and Winston. Additions and changes to the original content are the responsibility of the instructor.

POTENTIAL ENERGY

9. The energy an object has because of its position is called _____ energy.
10. When you lift an object, energy is transferred to the object, which gives the object _____.
11. The amount of gravitational potential energy that an object has depends on its weight and _____.
12. What formula is used to calculate gravitational potential energy?

    _____

13. The amount of force that must be used on an object to lift it is _____.
14. What is an object's height a measure of?

    _____

MECHANICAL ENERGY

_____ 15. Which of the following types of energy equals the total energy of motion and position?
   a. mechanical energy
   b. kinetic energy
   c. potential energy
   d. moving energy

16. What is the formula used to find mechanical energy?

    _____

17. The juggler moves the pin with his hand and gives _____ energy to the pin.
18. As the juggler's pin leaves his hand, the pin's kinetic energy begins to change to _____ energy.
19. How can you tell that the kinetic energy is decreasing as the juggler's pin rises?

    _____

Original content Copyright © by Holt, Rinehart and Winston. Additions and changes to the original content are the responsibility of the instructor.

OTHER FORMS OF ENERGY

Match the correct description with the correct term. Write the letter in the space provided. Some terms will not be used.

_____ 20. energy caused by an object's vibrations

_____ 21. energy that comes from changes in the nucleus of an atom

_____ 22. all of the kinetic energy due to random motion of the particles that make up an object

_____ 23. energy of moving electrons

_____ 24. energy of a compound that changes as its atoms are rearranged

a. sound energy

b. chemical energy

c. nuclear energy

d. light energy

e. electrical energy

f. mechanical energy

g. thermal energy

_____ 25. energy produced by the vibrations of electrically charged particles

26. How do particles move at higher temperatures compared to how they move at lower temperatures?

_____

27. Chemical energy is a form of _____ energy because it depends on the position and arrangement of the atoms in a compound.

28. How is electrical energy produced at power plants?

_____

_____

29. When you stretch a guitar string, what kind of energy does the string store?

_____

30. When you release a guitar string, what kind of energy makes the string vibrate?

_____

31. What form of energy can travel through a vacuum?

_____

32. What is the difference between fission and fusion?

_____

_____

Original content Copyright © by Holt, Rinehart and Winston. Additions and changes to the original content are the responsibility of the instructor.