Name Date Class

Chapter Review

Energy

Part A. Vocabulary Review

Directions: *Match the description in the first column with the term in the second column by writing the correct letter in the space provided.*

_____ **1.** total amount of kinetic and potential energy in a system

_____ **2.** the ability to cause change

_____ **3.** stored energy due to position

_____ **4.** energy in the form of motion

_____ **5.** Energy cannot be created or destroyed

_____ **6.** unit used to measure energy in food

_____ **7.** energy stored in chemical bonds

_____ **8.** energy stored by things that stretch or compress

_____ **9.** energy stored by things that are above earth

_____ **10.** SI unit of energy

_____ **11.** causes some mechanical energy to change to thermal energy

a. energy
b. friction
c. kinetic energy
d. law of conservation of energy
e. gravitational potential energy
f. mechanical energy
g. potential energy
h. Calorie
i. elastic potential energy
j. chemical potential energy
k. joule

Part B. Concept Review

Directions: *Complete the following sentences using the correct terms.*

_____ **1.** The amount of kinetic energy a moving object has depends on its mass and its _____.

_____ **2.** The potential energy of an object depends on its _____.

_____ **3.** The energy stored in foods and fuels is _____ potential energy.

_____ **4.** The law of _____ states that energy cannot be created or destroyed.

_____ **5.** Nutritionists use the _____ to measure how much energy we get from foods.

_____ **6.** The conversion of potential energy to kinetic energy follows the _____.

_____ **7.** You convert kinetic energy into thermal energy when you rub two sticks together because of _____.

Name Date Class

Chapter Review (continued)

_____ **8.** The total energy of a system remains _____ .

_____ **9.** An orange in a tree has _____ energy due to Earth pulling down on it.

_____ **10.** A car engine changes chemical potential energy into the _____ energy of the moving car.

11. Use the equation $KE = \frac{1}{2}m \times v^2$ to calculate the kinetic evergy of a 100 kg cart moving at a velocity of 7 m/s?

12. Use the equation $GPE = m \times 9.8\ \text{m/s}^2 \times h$ to calculate the gravitational potential of a 10-kg sack of groceries on a shelf 1 m above the floor?

Directions: *Answer the following questions on the lines provided.*

13. A hammer falls off a roof top and strikes the ground with a certain kinetic energy. If it fell from a roof twice as tall, how would its kinetic energy compare? Explain.

14. Explain why a more streamlined car generally will have better fuel economy than a bulkier car that has the same mass.

Copyright © Glencoe/McGraw-Hill, a division of the McGraw-Hill Companies, Inc.

Chapter Test (continued)

Skill: Comparing and Contrasting

4. Why is the kinetic energy of the lumber higher on the truck during the delivery than when it drops from the carpenter's shoulder?

Skill: Interpreting Data

Directions: *The table below gives the number of Calories used by a person with a medium body frame performing each activity for one hour. Use this information to answer the questions that follow.*

Calories Used in 1 Hour
(by a person with a medium body frame)

Type of activity	Calories
Sitting	84
Eating	98
Standing	112
Walking	210
Playing tennis	420
Running	850

5. Which listed activity uses the most Calories?

6. Which listed activity uses the fewest Calories?

7. How many Calories would you use walking for half an hour and running for 15 minutes? Assume the information in the table applies to you.

8. How does the Calorie use for walking compare to the Calorie use for standing?

Chapter Test (continued)

III. Applying Concepts

Writing Skills

Directions: *Answer the following questions in complete sentences on the lines provided.*

1. Explain how energy is conserved when you throw a ball into the air and then catch it.

2. Explain the role friction plays in the conservation of energy.

3. Most Earth satellites follow an oval path rather than a circular path around Earth. The potential energy of a satellite increases when the satellite moves farther from Earth. According to the law of conservation of energy, does a satellite travel at it's greatest velocity when it is closest to or farthest from Earth? Explain.

4. A 200-kg boulder is raised 10 m above the ground and then is dropped. Calculate its kinetic energy just before it hits the ground.