Name _____ Class_____Date_____

Skills Worksheet

Directed Reading A

Section: Momentum

1. Why does it take a large truck longer to stop than a compact car, even though both are traveling at the same velocity?

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MOMENTUM, MASS, AND VELOCITY

2. The product of the mass and velocity of an object is its

_____.

3. Why does a fast-moving car have more momentum than a slow-moving car of the same mass?

_____

_____

4. What is the equation used to calculate momentum?

_____

_____

Match the correct description with the correct term. Write the letter in the space provided.

_____ 5. the mass of an object in kilograms

_____ 6. the velocity of an object in meters per second

_____ 7. units of momentum

_____ 8. kilograms multiplied by meters per second

a. m

b. v

c. kg•m/s

d. p

9. What is the direction of momentum?

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THE LAW OF CONSERVATION OF MOMENTUM

_____ 10. If a cue ball hits a billiard ball so that the billiard ball starts moving and the cue ball stops, what happens to the cue ball's momentum?
   a. Some of the cue ball's momentum has transferred from the billiard ball.
   b. All of the cue ball's momentum has transferred from the billiard ball.
   c. All of the cue ball's momentum has transferred to the billiard ball.
   d. Some of the cue ball's momentum has transferred to the billiard ball.

_____ 11. The law that states that any time objects collide, the total amount of momentum is conserved, or stays the same, is called the
   a. law of conservation of momentum.
   b. law of preservation of momentum.
   c. law of preservation of velocity.
   d. law of conservation of velocity.

_____ 12. When two objects stick together, the mass of the combined objects is equal to the
   a. mass of the smaller object subtracted from the larger object.
   b. product of the masses of the two objects.
   c. masses of the two objects added together.
   d. mass of the larger object divided by the smaller object.

_____ 13. If momentum is conserved, what happens to velocity when mass changes?
   a. Velocity stays the same.
   b. Velocity always increases.
   c. Velocity always decreases.
   d. Velocity changes.

_____ 14. What usually happens to momentum when objects collide?
   a. Momentum of each object remains the same.
   b. Momentum of each object increases.
   c. Momentum of each object becomes equal.
   d. Momentum transfers from one object to another.

_____ 15. When objects collide, the total momentum of all objects
   a. remains the same.
   b. increases.
   c. decreases.
   d. is divided in half.

16. How is the collision of a cue ball and a billiard ball an example of Newton's third law and the conservation of momentum?

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