

# SECTION 3

## Study Guide

# Momentum

## Chapter

# 1

**Directions:** In question 1, below, a code letter has been substituted for every letter of the alphabet. To find out what the sentence says, use the following key to decode it. In the key, the code letters are shown directly below the letters they stand for. Write the correct letter above each code letter, then read the sentence.

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
L	V	Y	Q	G	Z	M	O	B	P	F	S	R	J	D	T	E	N	I	H	X	C	K	M	A	U

1.
- H O G    H D H L S    R D R G J H X R    D Z    D V P G Y H I    H O L H
- 
- Y D S S B Q G    K B H O    G L Y O    D H O G N    Q D G I    J D H    Y O L J M G

2. What is the law that is stated above?
- \_\_\_\_\_

**Directions:** Correctly complete each sentence by underlining the best of the three choices in parentheses.

3. A feather floating in the air has (more, less, the same) momentum as a bowling ball on a shelf.
4. The momentum of an object depends on its mass and (velocity, acceleration, inertia).
5. The tendency for an object to resist change in its motion, is its (momentum, inertia, weight).
6. We say that momentum is conserved, yet objects slow down after collisions. This is because of (inertia, friction, mass).

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

7. A 500 g model train car traveling at 0.8 m/s collides with a 300 g stationary car. The cars hook up and move off down the track together. How fast are they going?
- \_\_\_\_\_
- \_\_\_\_\_

8. Which has a greater momentum, a car or a bike moving at the same speed?
- \_\_\_\_\_

9. What happens when two objects with the same mass collide?
- \_\_\_\_\_
- \_\_\_\_\_