

Chapter 6

Use with Section 2

REINFORCEMENT

● What is momentum?

Complete the following sentences by filling in the blank with the appropriate word or phrase.

- Inertia measures an object's tendency to remain _____ or stay in _____.
- Two quantities that are used to describe momentum are _____ and _____.

In the spaces provided, write your answers to the following questions relating to the bowling ball and baseball shown in the figure below.

Mass = 7 kg

Velocity = 1 m/s



Mass = 0.15 kg

Velocity = 46.7 m/s

- If a bat has hit each ball with exactly the same amount of force, will the resulting momentum of the two balls be different or the same? Why? _____

- Show that the momentum for each ball is the same. Use the formula $p = mass \times velocity$ to calculate the momentum for each ball using the quantities given. Show all work.

- What would have to change if you wanted the momentum of the bowling ball to be greater than the momentum of the baseball? _____

Complete the following statements so that the law of conservation of momentum is maintained.

- A skateboarder jumps off a moving skateboard. After the skateboarder jumps, the skateboard moves _____
_____.
- When a cue ball hits a rack of pool balls, the cue ball loses momentum as the other balls _____
_____.