

SECTION

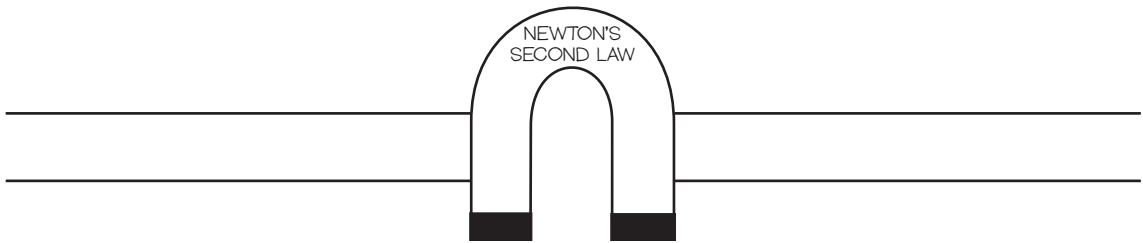
FORCE AND MASS DETERMINE ACCELERATION.

2.2 Reading Study Guide B**BIG IDEA** Forces change the motion of objects in predictable ways.**KEY CONCEPT** Force and mass determine acceleration.**Review**

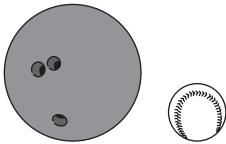
Mass is a measure of inertia.

Take Notes**I. Newton's second law relates force, mass, and acceleration. (p. 49)****A. Newton's Second Law (p. 50)**

1. Fill in the word magnet for Newton's second law.



2. If you pushed the two objects below with the same force, which one would accelerate more? Circle the object.

**B. Force Equals Mass Times Acceleration (p. 51)**

3. Fill in the combination notes diagram to describe the mathematical relationships among force, mass, and acceleration.

Notes	
Newton was able to describe the relationships among force, mass, and acceleration mathematically. <ul style="list-style-type: none"> • • • 	<ul style="list-style-type: none"> •

4. How much force is exerted on a sled if the mass of the sled is 65 kg and the acceleration is 4 m/s^2 ?

C. Mass and Acceleration (p. 53)

5. Explain the role of mass in Newton's second law.

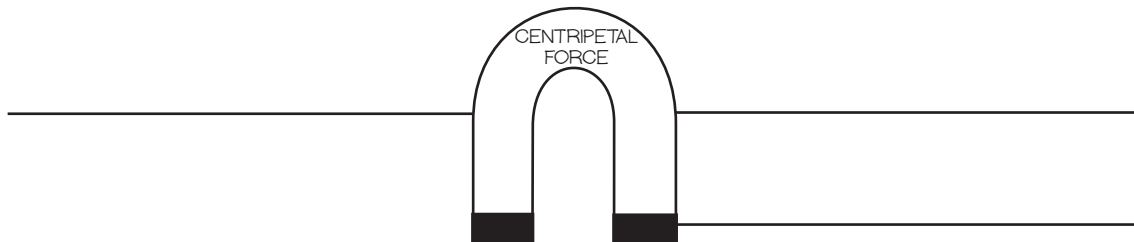
6. Explain how a rocket continues to accelerate after launch.

II. Forces can change the direction of motion. (p. 53)

7. How does Newton's second law apply to changing the direction of an object?

A. Centripetal Force (p. 54)

8. Fill in the word magnet for *centripetal force*.



9. If you were to whirl a ball on a string, in what direction would the centripetal force be pointing? _____

B. Circular Motion and Newton's Second Law (p. 55)

10. If an object in circular motion begins to move faster, what happens to the centripetal force?
