Name: _____

Investigate: Gravity (NG Exploring Science pg. 156-157)

Predictions

Object	Dropping	Rolling	Tossing
Pencil			
Eraser			
Coin			
Paper ball			
Rubber ball			

Observations

Object	Dropping	Rolling	Tossing
Pencil			
Eraser			
Coin			
Paper ball			
Rubber ball			

1. Did your predictions support your results? Why do you think they were the same or different?

2. What was similar about the way the objects acted during your investigation?

3. Did any of the objects react differently? How do you account for these differences?

4. Does the force of gravity stop when an object lands on the ground?

5. Use evidence from your investigation to support an argument that the force of Earth's gravity on an object is directed down.

Name _____ Date _____

F.15.1
Study Guide A

What Can Change an Object's Motion?

Main Idea A force applied to an object can change the object's motion.

Fill in the blanks with words from the box below.

motion	newton	friction
force	speed	velocity
acceleration	gravity	inertia

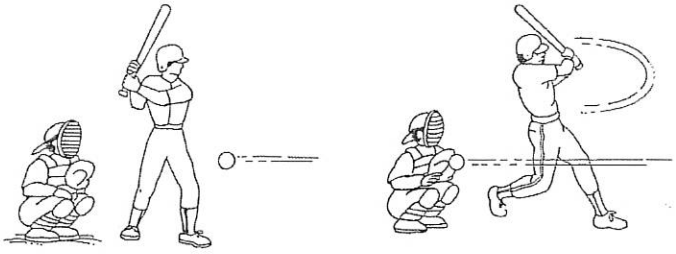
1. The change in an object's position is _____. (page F6)
2. A(n) _____ is a push or a pull that acts on an object. (page F7)
3. The tendency of an object at rest to remain at rest or an object in motion to remain in motion is called _____. (page F7)
4. The _____ of an object is a measure of the distance it moves in a given amount of time. (page F8)
5. A measure of both an object's speed and direction is its _____. (page F8)
6. Change in an object's velocity is known as _____. (page F9)
7. One _____ is the force required to accelerate a mass of 1 kg at 1 m/s per second. (page F11)
8. A force that causes objects with mass to be attracted, or pulled, toward one another is _____. (page F12)
9. A force that resists motion of one surface across another surface is _____. (page F12)

Name _____ Date _____

F:15.1
Study Guide A

What Can Change an Object's Motion?

Underline the term in the parentheses that correctly completes each statement.



10. The ball in the illustration is (in motion, a force). (page F6)

11. The catcher applies (inertia, a force) to stop the ball. (page F7)

12. Newton's first law of motion states that an object at rest will remain at rest unless (inertia, a force) acts on it. (page F7)

13. To calculate average speed, (divide, multiply) the distance traveled by the time it took the object to travel that distance. (page F8)

14. If you jog north at a speed of 8 km/h and then turn east and jog at a speed of 8 km/h, your (speed, velocity) changed. (page F8)

Write *true* if the statement is true and *false* if the statement is false.

_____ **15.** Acceleration can be either a change in speed or a change in direction, or both. (page F9)

_____ **16.** An object will accelerate or change its motion only when a balanced force acts on it. (page F10)

_____ **17.** Air resistance is a type of friction that opposes the motion of an object through air. (page F12)

Name _____ Date _____

F.15.1
Study Guide B

What Can Change an Object's Motion?

Main Idea A force applied to an object can change the object's motion.

Fill in the blanks.

1. _____ is a change in an object's position.
2. A(n) _____ is a push or a pull that acts on an object.
3. The tendency of an object at rest to remain at rest or an object in motion to remain in motion is called _____.
4. Velocity is a measure of both an object's speed and its _____.
5. The average speed of a car that travels 100 miles in 4 hours is _____.

6. The students pictured are able to accelerate the rope because the forces are _____.
7. One _____ is the force required to accelerate a mass of 1 kg at 1 m/s per second.
8. A noncontact force that causes objects with mass to be attracted toward one another is _____.
9. _____ is a contact force that resists the motion of one surface across another surface.