Name _____ Date _____ Class _____

Lesson Outline

LESSON 2

Newton's First Law

A. Identifying Forces

1. To understand the motion of an object, you need to understand the _____ acting on it.

2. When two or more forces act on an object, the forces _____.

a. The combination of all the forces that act on an object is the _____.

b. When the forces applied to an object act in the same direction, the net force is the _____ of the individual forces.

c. Because forces have direction as well as strength, when you combine forces, you also have to specify a(n) _____.

d. When you combine forces in two opposite directions, one force is _____ and the other force is _____.

e. When the forces applied to an object act in exact opposite directions, the net force is the _____ of the individual positive and negative forces.

3. Forces that combine and form a net force of zero are _____.

a. Balanced forces have no effect on the _____ of an object.

b. Forces that combine and form a net force that is not zero are _____.

B. Newton's First Law of Motion

1. According to _____, if the net force on an object is zero, the motion of the object does not change.

2. When _____ forces act on an object, the object's velocity does not change.

3. If unbalanced forces act on an object at rest, the object will start _____.

4. If unbalanced forces act on a moving object, the object will change its _____.

Lesson Outline continued

5. The tendency of an object to resist a change in its motion is called _____.

C. Why do objects stop moving?

1. A book sitting on a table stays in place because of _____.

2. If you want to make the book move, you have to push the book hard enough to overcome the _____ between the book and the table.

3. On Earth, _____ can be reduced, but it never goes away completely.

4. On Earth, to keep an object in motion, a(n) _____ that balances friction must be applied continuously to it.