

What Are Balanced and Unbalanced Forces?

Lesson Concept

Balanced forces occur when two forces acting on an object are equal in size and opposite in direction. Unbalanced forces occur when forces acting on the same object are not opposite and equal. When forces are unbalanced, a net force occurs, causing acceleration. When you calculate the net force on an object, you must account for both the size and the direction of the forces.

Vocabulary

balanced forces (F12)

unbalanced forces (F13)

acceleration (F13)

net force (F14)

Decide whether the underlined term or phrase makes each statement true or false. If the statement is true, write the word *true* on the line. If the statement is false, write a word or phrase that makes the statement true.

- _____ 1. Balanced forces are equal in size and opposite in direction and therefore cancel each other out.
- _____ 2. The change in motion of an object is always caused by a force or forces.
- _____ 3. If balanced forces are acting on an object, it will seem as if a net force is acting on the object.
- _____ 4. Forces always act alone.
- _____ 5. Balancing the forces acting on an object gives you the net force.
- _____ 6. When balanced forces act on an object, the object speeds up, starts to move, slows down, stops, or changes direction.
- _____ 7. If two equal forces act on an object in opposite directions, the net force will be balanced.
- _____ 8. Unbalanced forces can stop a moving object.