

Newton's First Law:

Objects in motion tend to stay in motion and objects at rest tend to stay at rest unless acted upon by an outside force. On Earth, the outside force that stops objects from moving is gravity.

Example: If you throw a baseball in outer space, that baseball will continue to move forever at the speed you released it, until some outside force stops the ball.

Newton's Second Law:

The law states that the acceleration of an object depends on the mass of the object and the amount of force applied to that object. This law states that Force equals mass x acceleration ($F=ma$).

Example: A baseball travels faster when it is pitched instead of tossed (greater acceleration). This is because the pitched baseball is thrown harder than the tossed baseball (greater force).

Newton's Third Law:

For every action there is an equal and opposite reaction.

In other words, for every force there is an equal and opposite force.

Example:

If you want to swim forward, you can push the water with your hands backwards.