

# Vocabulary



**free fall** appearance of weightlessness that happens when an object is affected by only one force, gravity

Objects in orbit are in free fall. All objects in the space shuttle, including the astronauts, are falling at the same rate. Thus, they seem to float. Gravity still pulls on objects in free fall. If it did not, they would not stay in orbit.

**Newton's first law of motion** An object will stay at rest or continue moving in a straight line at a constant speed unless a force acts on it.

The tendency of an object to remain at rest or to continue moving is known as inertia. Objects with more mass have greater inertia than objects with less mass.

**Newton's third law of motion** For every action, there is an equal and opposite reaction.

If you push an object, it pushes back with equal force. In the space shuttle, when an astronaut throws an object, the object pushes back on the astronaut. This sends the astronaut backwards with a force equal to the throw.