

Newton's 3 Laws – Theory Review

Newton's First Law (N1L) – An object at rest will _____ and an object in motion _____, at constant _____ and in a _____, *unless* acted upon by an _____.

What causes objects to continue in their present state of motion in the absence of a net external force? _____.

_____ is the resistance of an object to a change in its state of motion. _____ is a measure of inertia. The more massive the object, the more inertia it has, the more it will resist a change in its state of motion. N1L is also called the _____.

Inertia is a _____ of matter, like boiling point or melting point. Exactly why objects have this property or where/how it arises is still under research.

Newton's Second Law (N2L) – When there is a net _____ acting on an object, the object will _____ in the _____ direction as the net external force.

- Force is a _____ quantity, having magnitude and direction.
- The SI unit for force is the _____.
- **m** is inertial _____ which is the amount of resistance the object will have to a change in its motion.
- **a** is the _____ of the object produced from the net external force ΣF .

Newton's Third Law (N3L) – Consider two bodies, body A and body B. If body A exerts _____ upon body B, then body B exerts _____ and _____ in _____

- N3L is also called the _____ principle.
- Forces _____ exist in _____; however, even though they exist in pairs, these forces (action and reaction forces)

NEVER cancel out! (Why, you ask? Because they act on *different* objects, that's why!)