

Newton's Laws

3-Laws

→ 1st Law

In an inertial frame of reference, an object's state of motion will remain constant, unless acted upon by a net external force.

→ Law of inertia

→ inertia → a measure of an object's tendency to resist changes to its state of motion, related to mass. -No units, just conceptual.

2nd - Law ~~$F = ma$~~

The Net force acting on an object is directly related to the object's acceleration.

$$\sum \vec{F} = m \cdot \vec{a}$$

The Net Force = The sum of all the forces.

3rd Law - For every action

there is an equal and opposite action.

→ NTL = Newton's 3rd Law Pairs.

Types of Forces

- 3 or 4 — Fundamental Forces
Found in Nature.
- Gravity
 - Electromagnetic
 - weak Nuclear Force
 - Strong Nuclear Force.

- Contact Forces	At a distance
------------------	---------------