



# Forces



## Key Concepts

- A Force is a push or a pull.
  - Vectors show the size and direction of forces.
  - The magnitude or strength of a force is measured in a unit called a newton (N).
  - The total force on an object after all forces are added is called the net force.
  - Unbalanced forces cause objects to start moving, stop moving or change directions.
  - Balanced forces acting on an object do not change an object's motion.
  - Inertia is an object's tendency to resist changes in motion.
  - Newton's 1st Law of Motion- an object at rest will remain at rest and a moving object will continue to move at constant velocity unless acted upon by an unbalanced force.
- Handwritten notes:* - velocity, - acceleration, size or # value

## Combining Forces

More than one force often acts on an object.

- An object with a net force more than 0 N on it will change its state of motion.

When forces are applied in the same direction, they are added to determine the size of the net force.

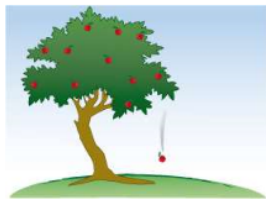
When two forces act in opposite directions, you subtract the smaller force from the larger force to determine the net force.

The net force will be in the same direction as the larger force.

## Four types of forces:



Contact force



gravity



Friction



Magnetic