

What is the Newton's second law?

→ Newton's second law state that the rate of change of linear momentum of a body is directly proportional to the external unbalanced force applied on the body & takes place in the direction of Force

$$\frac{\bar{P}_2 - \bar{P}_1}{t} \propto F$$

$$\rightarrow F = K \left(\frac{\bar{P}_2 - \bar{P}_1}{t} \right) \quad \text{Constant of proportionality}$$

$K = 1$

$$N = K \left(\frac{\text{kg} \cdot \text{m/s}}{\text{s}} \right)$$

$$N = K (\text{kg} \cdot \text{m/s}^2) \quad m \cdot a = F$$

$$N = K (N)$$

$$K = \frac{N}{N}$$

$$\boxed{K = 1}$$

We can write

$$\bar{F} = \frac{\bar{P}_2 - \bar{P}_1}{t} = \frac{m\bar{v} - m\bar{u}}{t} = m \left(\frac{\bar{v} - \bar{u}}{t} \right)$$

$$\bar{F} = m\bar{a}$$

What is the Newton third law?

→ Newton's third law state that to every action (force) there is equal & opposite reaction (force)