1 Galilean law of inertia and inertial frame

↳ Everybody continues to be its state of rest or of uniform motion in a straight line unless compelled by some external force to act otherwise.

↳ Change of ~~motion~~ state of motion require force. ie. ($\because \Sigma \vec{F}_{external} = 0 \Rightarrow a_{acceleration} = 0$)

2. Action of applied force (Second law of motion)

↳ Mass - quantity of matter independent of the state of motion

↳ Momentum $\vec{P}$

$$\vec{P} = m\vec{v}$$

↳ Force

$$\vec{F}_{app} = \frac{d\vec{P}}{dt}$$

$\vec{F}_{app}$ ← Cause, $\frac{d\vec{P}}{dt}$ → Effect

3. Action & Reaction (Newton third law of motion)

↳ To Every ~~ever~~ action, there is always an equal and opposite reaction