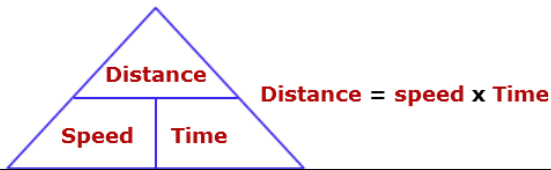
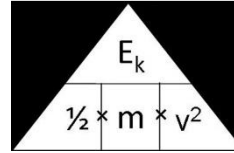


Physics Equations

Speed:



Kinetic energy:



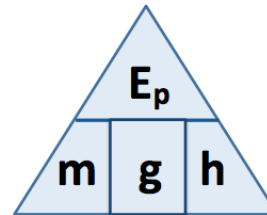
E_k = kinetic energy of object
 m = mass of object
 v = speed of object

Velocity:

$$v = \frac{\Delta x}{t}$$

v = velocity
 x = position
 t = time

Potential energy:



E_p = potential energy
 m = mass in kg
 g = gravity (9.8 m/s²)
 h = height in meters

Acceleration:

$$a = \frac{v - v_0}{t} = \frac{\Delta v}{\Delta t}$$

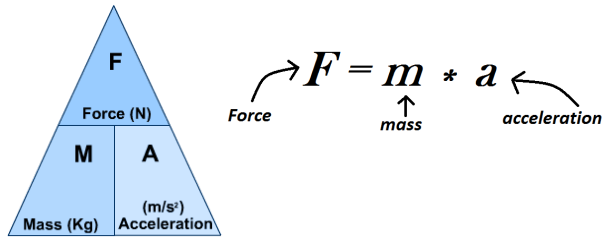
a is average acceleration,
 Δv is change in velocity, and
 Δt is change in time

Mechanical energy:

$$E_T = PE_g + KE$$

$$E_T = mgh + \frac{1}{2}mv^2$$

Force:



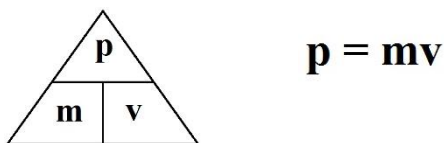
acceleration due to gravity is 9.8 m/s² so weight is a measurement of the force of gravity on the mass of an object

Work:

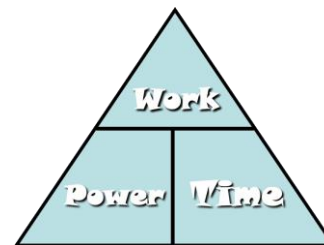


Work = Force x distance

Momentum:



Power:



Power = $\frac{\text{work}}{\text{time}}$

Power = $\frac{F \times d}{\text{time}}$

Heat:

$$Q = mc\Delta t$$

Q = heat energy in JOULES (J)
 m = mass of the sample in GRAMS (g)
 C = specific heat in J/g°C
 Δt = change in temperature (°C)

Wave speed:



$$v = f\lambda$$

v = speed of wave (m/s)
 f = frequency of wave (Hz)
 λ = wavelength (m)