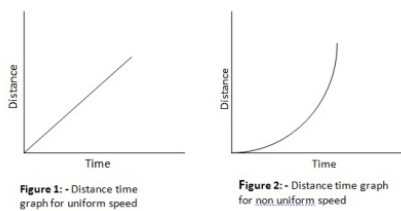


MOTION

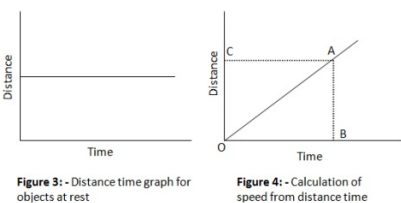
displacement	m
distance	m
speed	m/s
velocity	m/s
acceleration	m/s ²

$\text{speed } (v) = s/t$
 $\text{average speed} = \text{total } s / \text{total } t$
 $\text{velocity} = d/t$
 $\text{average velocity} = \text{total } d / \text{total } t$
 $\text{acceleration} = v - u/t$
 $v = 2\pi r/t$
 $v = u + at$
 $s = ut + 1/2at^2$
 $v^2 = u^2 + 2as$

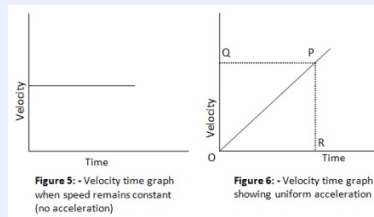
Distance-Time Graphs



Distance-Time Graphs



Velocity-Time Graphs



FORCE AND LAWS OF MOTION

inertia	kg
force	kgm/s ² or N
momentum	kgm/s
mass	kg

$F = ma$
 $p = mv$
 $\text{change in momentum} = mv - mu$
 $m_1v_1 + m_2v_2 = (m_1 + m_2)v$

GRAVITATION

weight	N
mass	kg
pressure	Pa or N/m ²
acceleration due to gravity	m/s ²
density	g/cm ³

$F = GMm/d^2$
 $g = GM/R^2$
 $W = mg$
 $W_m = 1/6 W_e$
 $(\text{thrust}) F = mg$
 $\text{Weight-upthrust} = m$
 $W = m + \text{upthrust}$
 $h = 1/2gt^2$
 $v^2 = 2gh$
 $v = gt$

WORK AND ENERGY

work	J
energy	J
power	W

$\text{work} = Fs$
 $E_p = mgh$
 $E_k = 1/2mv^2$
 $\text{power} = W/t$ /// $\text{power} = E/t$
 $\text{average power} = \text{total } E / \text{total } t$

SOUND

wavelength	m
frequency	Hz
time period	s
loudness	dB
intensity	W/m ²

$Nu = 1/T$
 $v = \lambda/T$
 $v = Nu\lambda$