

# SCIENCE TOOLS: Basic Physics Formulae

## Physics & Pre-AP Physics Formula Chart

(Equations surrounded by a box denote they are used by Pre-AP Physics only)

$v_a = \frac{d_t}{\Delta t}$	$a = \frac{V_f - V_o}{\Delta t}$	$w = mg$
$v_f = v_o + at$	$T = 1/f$	$J = Ft$
$d = v_o t + \frac{1}{2}at^2$	$f = 1/T$	$\Delta mv = Ft$
$t = \sqrt{2d/a}$	$KE = \frac{1}{2}mv^2$	$p = mv$
$v_f^2 = v_o^2 + 2ad$	$F = ma$	$W = Fd$
$m_1 v_{1o} + m_2 v_{2o} = m_1 v_{1f} + m_2 v_{2f}$		$F_f = \mu F_n$
$Eff = (W_{out} / W_{in}) \times 100$	$F_d = mg \sin \theta$	$F_n = mg \cos \theta$
$PE = mgh$	$P = W/t$	$F_g = \frac{Gm_1 m_2}{d^2}$
$KE_o + PE_o = KE_f + PE_f$		$F = kx$
$F_c = mv^2 / r$	$a_c = v^2 / r$	$F_c = ma_c$
$v = \frac{2\pi r}{T}$	$\Delta L = L_o \alpha \Delta T$	$\Delta Q = mC_p \Delta T$
$\Delta Q = mh_f$	$\Delta Q = mh_v$	$T = 2\pi \sqrt{\frac{m}{k}}$

Source: [www.docstoc.com](http://www.docstoc.com)