

Physics: Developmental Module Equations

List of Physical Constants

Universal Gravitational Constant	G	_____
Acceleration due to gravity	g	
Speed of light in a vacuum	c	
Coulomb's Law constant	k	_____
charge on electron	e	

Electricity

$F_e = \text{electrostatic force}$

$I = \text{current}$

$k = \text{Coulomb's Law constant}$

$P = \text{electrical power}$

$q = \text{charge}$

$R = \text{resistance}$

$R_{eq} = \text{equivalent resistance}$

$r = \text{distance between centers}$

$t = \text{time}$

$V = \text{voltage} = \text{potential difference}$

$W = \text{Work (electrical energy)}$

Series Circuits

Parallel Circuits

Waves

$c = \text{speed of light in a vacuum}$

$f = \text{frequency}$

$n = \text{index of refraction}$

$T = \text{period}$

$v = \text{velocity}$

$\lambda = \text{wavelength}$

Physics: Developmental Module

Equations

Mechanics

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Physics: Developmental Module Equations

a = acceleration

a_c = centripetal acceleration

A = any vector quantity

F = force

F_c = centripetal force

F_f = force of friction

F_w = weight/force due to gravity
(also commonly F_g)

F_N = normal force

F_{net} = net force

F_s = force on a spring

g = acceleration due to gravity
or gravitational field strength

G = universal gravitational constant

h = height

J = impulse

k = spring constant

KE = kinetic energy

m = mass

p = momentum

P = power

PE = potential energy

PE_s = potential energy stored in a spring

r = radius/distance between centers

t = time interval

TME = total mechanical energy

v = velocity/speed

$\bar{\quad}$ = average velocity/average speed

W = work

x = displacement/distance
change in spring length from equilibrium position

Δ = change

ϑ = angle

μ = coefficient of friction