

Forces formulae	
Formula	Formula in words
$W = m g$	Weight = mass x gravitational field strength
$W = F s$	Work done = force x distance
$F = k e$	Force applied to spring = spring constant x extension
$M = F d$	Moment of a force = force x distance
$P = F / A$	Pressure = force / area
$S = v t$	Distance = speed x time
$a = \Delta v / t$	Acceleration = change in velocity / time
$F = m a$	Resultant force = mass x acceleration
$p = m v$	Momentum = mass x velocity (higher tier only)

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Energy/electricity formulae part 1

$E_k = \frac{1}{2} mv^2$	Kinetic energy = $\frac{1}{2} \times \text{mass} \times (\text{speed})^2$
$E_p = m g h$	Gravitational potential = mass x gravity x height
$P = E / t$	Power = energy transferred / time
$P = W / t$	Power = work done / time
	Efficiency = useful output / useful input
	Efficiency = useful output / total output
Extra formulae	
$v = f \lambda$	Wave speed = frequency x wavelength
$\rho = m / v$	Density = mass / volume

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Energy/electricity formulae part 2

$Q = I t$	Charge flow = current x time
$V = I R$	Potential difference = current x resistance
$P = V I$	Power = potential difference x current
$P = I^2 R$	Power = (current) ² x resistance
$E = P t$	Energy transferred = power x time
$E = Q V$	Energy transferred = charge flow x potential difference

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