

Physics Equations Sheet GCSE Additional Science/Physics (AS1, AS2 and PH2)

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$a = \frac{F}{m}$ or $F = m \times a$	F resultant force m mass a acceleration
$a = \frac{v - u}{t}$	 a acceleration v final velocity u initial velocity t time taken
$W = m \times g$	W weightm massg gravitational field strength
$F = k \times e$	F forcek spring constante extension
$W = F \times d$	W work doneF force appliedd distance moved in the direction of the force
$P = \frac{E}{t}$	P powerE energy transferredt time taken
$E_p = m \times g \times h$	 E_p change in gravitational potential energy m mass g gravitational field strength h change in height
$E_k = \frac{1}{2} \times m \times v^2$	E_k kinetic energym massv speed
$p = m \times v$	p momentumm massv velocity
$I = \frac{Q}{t}$	I currentQ charget time

$V = \frac{W}{Q}$	V potential differenceW work doneQ charge
$V = I \times R$	V potential differenceI currentR resistance
$P = \frac{E}{t}$	P power E energy t time
$P = I \times V$	P powerI currentV potential difference
$E = V \times Q$	E energyV potential difference (Higher Tier only)Q charge