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

$a = \dfrac{F}{m}$ or $F = m \times a$	F resultant force m mass a acceleration
$a = \dfrac{v - u}{t}$	a acceleration v final velocity u initial velocity t time taken
$W = m \times g$	W weight m mass g gravitational field strength
$F = k \times e$	F force k spring constant e extension
$W = F \times d$	W work done F force applied d distance moved in the direction of the force
$P = \dfrac{E}{t}$	P power E energy transferred t 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 energy m mass v speed
$p = m \times v$	p momentum m mass v velocity
$I = \dfrac{Q}{t}$	I current Q charge t time

$V = \dfrac{W}{Q}$	*V* potential difference *W* work done *Q* charge
$V = I \times R$	*V* potential difference *I* current *R* resistance
$P = \dfrac{E}{t}$	*P* power *E* energy *t* time
$P = I \times V$	*P* power *I* current *V* potential difference
$\boldsymbol{E = V \times Q}$	**E** **energy** **V** **potential difference** **(Higher Tier only)** **Q** **charge**