Physics Equations Sheet
GCSE Physics (8463)

1	**pressure due to a column of liquid = height of column × density of liquid × gravitational field strength (g)**	$\boldsymbol{p = h \rho g}$
2	(final velocity)^2 – (initial velocity)^2 = 2 × acceleration × distance	$v^2 - u^2 = 2\,a\,s$
3	**force = $\dfrac{\text{change in momentum}}{\text{time taken}}$**	$\boldsymbol{F = \dfrac{m\,\Delta v}{\Delta t}}$
4	elastic potential energy = 0.5 × spring constant × (extension)^2	$E_e = \frac{1}{2} k e^2$
5	change in thermal energy = mass × specific heat capacity × temperature change	$\Delta E = m\,c\,\Delta\theta$
6	period = $\dfrac{1}{\text{frequency}}$	$T = \dfrac{1}{f}$
7	magnification = $\dfrac{\text{image height}}{\text{object height}}$	
8	**force on a conductor (at right angles to a magnetic field) carrying a current = magnetic flux density × current × length**	$\boldsymbol{F = B\,I\,l}$
9	thermal energy for a change of state = mass × specific latent heat	$E = m\,L$
10	$\dfrac{\text{potential difference across primary coil}}{\text{potential difference across secondary coil}} = \dfrac{\text{number of turns in primary coil}}{\text{number of turns in secondary coil}}$	$\boldsymbol{\dfrac{V_p}{V_s} = \dfrac{n_p}{n_s}}$
11	**potential difference across primary coil × current in primary coil = potential difference across secondary coil × current in secondary coil**	$\boldsymbol{V_p\,I_p = V_s\,I_s}$
12	For gases: pressure × volume = constant	$p\,V = \text{constant}$

Higher Tier only equations are in **bold**.