



**GCSE Combined Science: Trilogy (8464)**  
**GCSE Combined Science: Synergy (8465)**

## **Physics Equations Sheet**

**[Turn over]**

<b>1</b>	<b>(final velocity)<sup>2</sup> – (initial velocity)<sup>2</sup> = 2 × acceleration × distance</b>	<b><math>v^2 - u^2 = 2 a s</math></b>
<b>2</b>	<b>elastic potential energy = 0.5 × spring constant × (extension)<sup>2</sup></b>	<b><math>E_e = \frac{1}{2} k e^2</math></b>
<b>3</b>	<b>change in thermal energy = mass × specific heat capacity × temperature change</b>	<b><math>\Delta E = m c \Delta \theta</math></b>
<b>4</b>	<b>period = <math>\frac{1}{\text{frequency}}</math></b>	<b><math>T = \frac{1}{f}</math></b>

5	<p><b>force on a conductor (at right angles to a magnetic field) carrying a current</b>  <b>= magnetic flux density × current × length</b></p>	$F = B I l$
6	<p><b>thermal energy for a change of state</b>  <b>= mass × specific latent heat</b></p>	$E = m L$
7	<p><b>potential difference across primary coil</b>  <b>× current in primary coil</b>  <b>= potential difference across secondary coil × current in secondary coil</b></p>	$V_p I_p = V_s I_s$

**Equations 5 and 7 are for Higher Tier only.**

4

**There are no materials printed on this page**

**Insert for GCSE Combined Science:  
Trilogy (8464) and GCSE Combined  
Science: Synergy (8465)/E2**