## AQA

## Physics Equations Sheet GCSE Combined Science: Trilogy (8464) GCSE Combined Science: Synergy (8465)

| 1 | $(\text { final velocity })^{2}-(\text { initial velocity })^{2}=2 \times$ acceleration $\times$ distance | $v^{2}-u^{2}=2$ a $s$ |
| :---: | :---: | :---: |
| 2 | elastic potential energy $=0.5 \times$ spring constant $\times(\text { extension })^{2}$ | $E_{\mathrm{e}}=\frac{1}{2} k \mathrm{e}^{2}$ |
| 3 | change in thermal energy $=$ mass $\times$ specific heat capacity $\times$ temperature change | $\Delta E=m c \Delta \theta$ |
| 4 | $\text { period }=\frac{1}{\text { frequency }}$ | $T=\frac{1}{f}$ |
| 5 | force on a conductor (at right angles to a magnetic field) carrying a current $=$ magnetic flux density $\times$ current $\times$ length | $F=B I l$ |
| 6 | thermal energy for a change of state $=$ mass $\times$ specific latent heat | $E=m L$ |
| 7 | potential difference across primary coil $\times$ current in primary coil $=$ potential difference across secondary coil $\times$ current in secondary coil | $V_{\mathrm{p}} I_{\mathrm{p}}=V_{\mathrm{s}} I_{\mathrm{s}}$ |

Higher Tier only equations are in bold.

Physics Equations Sheet
GCSE Physics (8463)

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

Higher Tier only equations are in bold.

