

**Paper Reference(s)    1SC0 / 2PH**

**Pearson Edexcel Level 1/Level 2 GCSE (9–1)**

**Combined Science**

**Paper 6: Physics 2**

**Higher Tier**

## **EQUATIONS BOOKLET**

**DO NOT RETURN THIS  
EQUATIONS BOOKLET WITH  
THE QUESTION PAPER.**

**$(\text{final velocity})^2 - (\text{initial velocity})^2 = 2 \times \text{acceleration} \times \text{distance}$**

$$v^2 - u^2 = 2 \times a \times x$$

**force = change in momentum  $\div$  time**

$$F = \frac{(mv - mu)}{t}$$

**energy transferred = current  $\times$  potential difference  $\times$  time**

$$E = I \times V \times t$$

**force on a conductor at right angles to a magnetic field carrying a current = magnetic flux density  $\times$  current  $\times$  length**

$$F = B \times I \times l$$

**$\frac{\text{voltage across primary coil}}{\text{voltage across secondary coil}} = \frac{\text{number of turns in primary coil}}{\text{number of turns in secondary coil}}$**

$$\frac{V_p}{V_s} = \frac{N_p}{N_s}$$

**(Turn over)**

**potential difference across primary coil ×  
current in primary coil = potential difference  
across secondary coil × current in  
secondary coil**

$$V_p \times I_p = V_s \times I_s$$

**change in thermal energy = mass × specific  
heat capacity × change in temperature**

$$\Delta Q = m \times c \times \Delta \theta$$

**thermal energy for a change of state =  
mass × specific latent heat**

$$Q = m \times L$$

**to calculate pressure or volume for gases of  
fixed mass at constant temperature**

$$P_1 V_1 = P_2 V_2$$

**energy transferred in stretching = 0.5 ×  
spring constant × (extension)<sup>2</sup>**

$$E = \frac{1}{2} \times k \times x^2$$

**pressure due to a column of liquid = height of column × density of liquid × gravitational field strength**

$$\mathbf{P = h \times \rho \times g}$$