

Paper Reference(s) 1SC0 / 1PH

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

Combined Science

Paper 3: Physics 1

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**

$$Q = m \times L$$

$$P_1 V_1 = P_2 V_2$$

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

**energy transferred in stretching =
 0.5 × spring constant × (extension)²**

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

(Turn over)

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

$$P = h \times \rho \times g$$