

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.**

**(final velocity)² – (initial velocity)² =
2 × acceleration × distance**

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

force = change in momentum ÷ time

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

**energy transferred = current × potential
difference × time**

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

**force on a conductor at right angles to
a magnetic field carrying a current =
magnetic flux density × current × 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**

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