

Paper Reference(s) 1SC0/1PH
Pearson Edexcel Level 1/Level 2 GCSE (9–1)

Combined Science
PAPER 3
Higher Tier

Thursday 25 May 2023 – Morning

Formulae Booklet

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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

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

$\frac{\text{potential difference across primary coil}}{\text{potential difference across secondary coil}} = \frac{\text{number of turns in primary coil}}{\text{number of turns in secondary coil}}$

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

**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)²**

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

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

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