

Paper Reference(s) 4SS0/1P
Pearson Edexcel International GCSE (9–1)

Science (Single Award)

Physics

PAPER: 1P

Friday 14 June 2024 – Afternoon

Time: 1 hour 10 minutes

Equation Booklet

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

1. Forces and Motion

$$\text{average speed} = \frac{\text{distance moved}}{\text{time taken}}$$

$$\text{acceleration} = \frac{\text{change in velocity}}{\text{time taken}}$$

$$a = \frac{(v - u)}{t}$$

$$\text{force} = \text{mass} \times \text{acceleration}$$

$$F = m \times a$$

$$\text{weight} = \text{mass} \times \text{gravitational field strength}$$

$$W = m \times g$$

2. Electricity

$$\text{power} = \text{current} \times \text{voltage}$$

$$P = I \times V$$

$$\text{voltage} = \text{current} \times \text{resistance}$$

$$V = I \times R$$

3. Waves

wave speed = frequency × wavelength

$$v = f \times \lambda$$

4. Energy resources and energy transfers

$$\text{efficiency} = \frac{\text{useful energy output}}{\text{total energy output}} \times 100\%$$

work done = force × distance moved

$$W = F \times d$$

gravitational potential energy = mass × gravitational field strength × height

$$\text{GPE} = m \times g \times h$$

$$\text{kinetic energy} = \frac{1}{2} \times \text{mass} \times \text{speed}^2$$

$$\text{KE} = \frac{1}{2} \times m \times v^2$$

power = $\frac{\text{work done}}{\text{time taken}}$

$$\mathbf{P = \frac{W}{t}}$$

5. Solids, liquids and gases

pressure = $\frac{\text{force}}{\text{area}}$

$$\mathbf{p = \frac{F}{A}}$$

END OF EQUATION LIST