

**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

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

$$P = I \times V$$

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

$$V = I \times R$$

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### 3. Waves

wave speed = frequency  $\times$  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  $\times$  distance moved

$$W = F \times d$$

gravitational potential energy = mass  $\times$  gravitational field strength  $\times$  height

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

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

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

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

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

## 5. Solids, liquids and gases

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

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

END OF EQUATION LIST