

**YEAR 9**

Rearranging and Using Formulae

The maths inside Science trips up more students than the Science itself. Always write the formula, substitute the values, then calculate.

Name: _____

Date: _____

Score: _____

Section A · Rearranging

Write each rearranged formula.

1 Rearrange $v = d \div t$ to make d the subject.

2 Rearrange $v = d \div t$ to make t the subject.

3 Rearrange $\rho = m \div V$ to make m the subject.

4 Rearrange $F = ma$ to make a the subject.

5 Rearrange $W = mg$ to make m the subject.

Section B · Calculations

State the formula, substitute, then give the unit.

1 A runner covers 150 m in 30 s. Calculate their speed.

2 A cyclist travels at 12 m/s for 8 s. Calculate the distance travelled.

3 A car travels 240 m at a steady 16 m/s. Calculate the time taken.

4 A block has a mass of 90 g and a volume of 30 cm^3 . Calculate its density.

5 A liquid has a density of 2.5 g/cm^3 . Calculate the mass of 40 cm^3 .

6 A metal sample has a mass of 120 g and a density of 8 g/cm^3 . Calculate its volume.

7 A trolley of mass 12 kg accelerates at 3 m/s^2 . Calculate the resultant force.

8 A force of 200 N acts on a 25 kg mass. Calculate the acceleration.

9 Calculate the weight of a 45 kg student. Use $g = 10 \text{ N/kg}$.