

- (v) Density can be calculated using the equation

$$\text{density} = \frac{\text{mass}}{\text{volume}}$$

Use your results in parts (i) - (iv) to calculate the density of the foil.

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Method 2

- (b) Archimedes suggested a different method to find the volume. He stated that the volume of the object was equal to the volume of the water it displaced.

Fill the measuring cylinder with water up to the 30 cm³ (ml) mark. Roll up your folded piece of foil so that it fits into the measuring cylinder and is completely covered with water.

- (i) What is the new level of the water in the cylinder?

[1]

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- (ii) What is the volume of the foil?

[1]

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- (iii) Use this new value of volume to calculate the density of aluminium.

[1]

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- (iv) A result for this type of experiment can be said to be accurate if it is within 5% of the actual value. Given that the density of the aluminium you used is 2.7 g cm⁻³, comment on the accuracy of your two results.

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