

# CIE Physics GCSE

## Topic 1.4 - Density

### Flashcards

State the equation for density. Give appropriate units.

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$$\text{density (kg/m}^3\text{)} = \text{mass (kg)} \div \text{volume (m}^3\text{)}$$

$$\rho = m/v$$

Describe a method to determine the density of a regular solid.

# Describe a method to determine the density of a regular solid.

- Take measurements of relevant dimensions using a ruler
- Calculate the volume using an appropriate equation
- Measure mass using a balance and calculate density using  $\rho = m/v$

Describe a method to determine the density of an irregular solid.

# Describe a method to determine the density of an irregular solid.

- Measure volume by submersion: read the volume of liquid, submerge the solid, then read the change in volume (= volume of object)
- Measure mass using a balance
- Use  $\rho = m/v$  to calculate density

Describe a method to determine the density of a liquid.

# Describe a method to determine the density of a liquid.

- Place an empty beaker on top of a balance and zero the device
- Pour liquid into the beaker to determine the mass
- Pour the same liquid into a measuring cylinder and read off the volume
- Use  $\rho = m/v$  to calculate density

# When do objects float in water?

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When the object is less dense than the water displaced by it.