CIE Physics GCSE

Topic 1.4 - Density

Flashcards

State the equation for density. Give appropriate units.

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density (kg/m³) = mass (kg) ÷ volume (m³)

$\rho = m/v$

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

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- 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.

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- 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.

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- 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.