

# CIE Physics GCSE

## Topic 1.4 - Density

### Flashcards

This work by [PMT Education](https://www.pmt.education) is licensed under [CC BY-NC-ND 4.0](https://creativecommons.org/licenses/by-nc-nd/4.0/)



State the equation for density. Give appropriate units.



State the equation for density. Give appropriate units.

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

$$\rho = m/v$$



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?



When do objects float in water?

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

