

# CAIE Physics IGCSE

## Topic 1.1 - Physical quantities and measurement techniques

### Flashcards

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# How is length measured?



# How is length measured?

## Using a ruler.



# What is the unit of length?



What is the unit of length?

Metres, m.



How can you find the volume of a regular solid?



How can you find the volume of a regular solid?

**By calculation.**

- Use a ruler to measure dimensions
- Use an appropriate equation to calculate volume



How can you find the volume of an irregular solid?





# How can you find the volume of an irregular solid?

## By **submersion**.

- Fill a measuring cylinder with water and read initial volume
- Submerge the object (hold down if necessary) and measure final volume
- The change in volume = volume of object



# How can time be measured?



# How can time be measured?

## Using clocks or stopwatches.



# How can the accuracy of measurements be increased?



How can the accuracy of measurements be increased?

By taking multiple measurements and calculating an **average**.



How can very small distances be measured? (supplement)



How can very small distances be measured?  
(supplement)

Using a micrometer screw gauge.



# What is a scalar quantity? (supplement)





What is a scalar quantity? (supplement)

A quantity with **magnitude only.**



# What is a vector quantity? (supplement)



What is a vector quantity? (supplement)

A quantity with **magnitude and direction.**



# What is a resultant vector? (supplement)



What is a resultant vector? (supplement)

**A single vector demonstrating the combined effect of all separate vectors.**



How can vectors at right angles to one another can be combined into one resultant vector? (supplement)



How can vectors at right angles to one another can be combined into one resultant vector? (supplement)

Graphically (by drawing each to scale) or by calculation (using pythagoras and trigonometry).

