

Information for Teachers: Square Metric Units

There is some confusion among many people about how to name metric units of area.

The standard area units are the square metre, square centimetre, square millimetre, square kilometre and the hectare.

Apart from the hectare, each area unit is based on a square with a length unit on each side. The abbreviation for each unit includes the normal length abbreviation, followed by a superscript "2", showing that the unit has effectively been "squared".

The mistake a lot of children (and some adults) make is to read the unit names from the abbreviation, left to right: "centimetres squared", for example.

The correct way to read these units is to put the word "square" first, before the length unit name:

- mm^2 - square millimetre
- cm^2 - square centimetre
- m^2 - square metre
- km^2 - square kilometre

Lastly, the hectare

- ha - hectare
area square

Steps in covering area

- Use informal units to measure area
- Learn to use square centimetres and square millimetres
- Visualise and use square centimetres and square millimetres
- Visualise, recognise and use square millimetres

For lists of other metric and imperial units, see Wikipedia:

- https://en.wikipedia.org/wiki/International_System_of_Units
- https://en.wikipedia.org/wiki/United_States_customary_units

Most countries in the world now use metric units of measure for area. In Australia and the UK, imperial units are not used for official purposes, and students do not need to learn them.

Explain to students that US spelling of several metric units is different to other countries, including Australia & the UK. The abbreviated version though, is the same in all countries.

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|--------------------------------------|-------------------------|---------------|
| • square metre (Australia & UK) | square meter (USA) | m^2 |
| • square centimetre (Australia & UK) | square centimeter (USA) | cm^2 |
| • square millimetre (Australia & UK) | square millimeter (USA) | mm^2 |
| • square kilometre (Australia & UK) | square kilometer (USA) | km^2 |