## Types of Map Scales

There are three types of map scales: a line scale, a word scale and a ratio scale.

## Line Scales



Using a line scale on a map is as easy as using a ruler. The important thing to remember is that a line scale shows measurements in kilometres (km) and the measurements on a ruler are in centimetres (cm). To use a line scale you have to measure the distance between two points on the map using a ruler. You then have to check your line scale to see how many km that measurement is equal to. If the distance you measured on the map is greater than the length of your line scale, you will need to do a quick calculation to find the answer. E.g. You measure 15 cm on the map with your ruler. When you check the line scale you see that 1 cm is equal to 10 kilometres. This means that you need to multiply the 15 cm you measured by 10 km . This calculation tells you that the actual distance between the two points in real life is 150 km .

## Word Scales

A word scale is shown like this:

## One centimetre on the map represents 3 kilometres on the ground. ( $1 \mathrm{~cm}=3 \mathrm{~km}$ )

For example: If we measure the distance on a map between Smartieville and Aerocity with our rules. The measurement is 4 cm . We then have to multiply that measurement by 3 to calculate that the real distance between the two places is 12 km .12 km would be the actual distance if you actually walked between Smartieville and Aero City.




## Measuring straight-line distances between places on a map

A straight-line distance, or as the crow flies, on a map is the distance between two places along a straight line. You start by measuring the distance between the two places with your ruler and then convert the measurement you get on the map, using the scale, to calculate the distance on the ground.

It's called 'as the crow flies' because this would be the distance if a crow had to just fly from point $A$ to point $b$ with no obstacles in their way but we are hardly ever able to travel from place to place in a straight line because there are things such as mountains, rivers, farmlands, towns and cities in the way. We also have to travel along the roads. So why do we measure distances in straight lines? Measuring in straight lines gives us a good estimate of the distance.

## Remember

It is always important to make sure that when you are measuring between two places that you start and stop measuring on the dot that indicates the position of the place and not just on the name of the place.

## Activity

Use this scale to calculate the distances between point $A$ and point $B$ :

$$
1 \mathrm{~cm}=250 \mathrm{~m}
$$



Distance: $\qquad$


Distance: $\qquad$


Distance: $\qquad$


Distance: $\qquad$

$$
A=B
$$

Distance: $\qquad$


Distance: $\qquad$

## Types of Map Scales Answers

## Activity

Use this scale to calculate the distances between point $A$ and point $B$ :

```
1cm = 250m
```



Distance: $\qquad$
$A \longrightarrow B$

Distance: $\qquad$


Distance: 1500 m or 1.5 km


Distance: 1250 m or 1.25 km
$A-B$
Distance: $\qquad$


Distance: $\quad \mathbf{2 5 0 0 m}$ or $\mathbf{2 . 5 k m}$

