

## Activity: Compass

On SCOPE's [Navigation](#) episode, you saw Julia use a compass. Here's how she did it:



### What you need:

Compass  
Map  
Point A  
Point B

### How does it work?

In the city there are lots of signs to point you in the right direction, but out in the bush, it isn't as easy and a compass helps you to find your way!

At the centre of the compass there is a needle and it always points north. Why? Well, it's all thanks to magnets. Magnets are objects that produce magnetic fields and they attract metals like iron, nickel and cobalt. Earth is a bit like one big magnet; there are lines of magnetic force that run through the planet and, just like a magnet, Earth has a north pole and a south pole. The needle of a compass is also magnetic, so the pull of Earth's magnetic field causes the needle to point north.

### What to do:

When you use a compass and a map together, you can find your way from point A to point B. Here is what you need to do:

- Lay the map on a flat surface.
- Draw a line connecting point A and point B
- Point the arrow on the base of the compass (which is called the direction-of-travel arrow), in the direction that you want to move.
- Turn the compass housing (which is the circular bit on the compass) until the arrow in the centre of the housing (called the orienting arrow) is pointing north on the map.
- Rotate the map, with the compass still in position, until the needle in the centre of the compass is also pointing north, this is called orienting the map.
- The angle on the compass housing, next to the direction-of-travel arrow is ALMOST the direction you need to travel in: there is one correction to make.

Your compass points to magnetic north, which is slightly different to true north. True north is constant and aligned to the North Pole, while magnetic north is slightly off centre and tends to shift according to the Earth's magnetic field. The difference between the two is called the declination, which is usually shown on your map.

- Rotate the housing to make the small angle adjustment. Then, making sure the needle is still pointing north, walk in that direction.
- You can even find a landmark in the distance, in the direction that you need to travel, like a big tree, and walk towards that; it is much easier to follow than your compass!

### THE COMPASS

