

Make a compass

Brief summary:

In this activity you will make a simple compass using a paperclip, a piece of cork, a magnet and a bowl of water.

You will need:

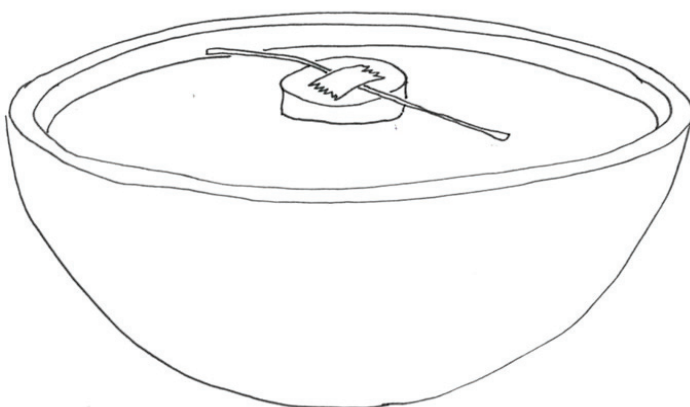
- Help from an adult
- Metal paperclip
- Enamel paint or nail polish
- Sticky tape
- Piece of cork
- Knife for cutting cork
- Magnet
- Bowl of water

What to do:

Step 1. Straighten a paperclip and mark one end with a dab of enamel paint or nail polish.

Step 2. With the help of an adult, cut a 1 cm disc of cork.

Step 3. Use some sticky tape to fasten the straightened paperclip to the cork, so that the cork is even balanced.



Step 4. Stroke the wire with the south pole of the magnet from the unmarked end to the marked end about 50 times, making sure you lift the magnet high in the air between each stroke.

Step 5. Float the cork in the bowl of water. The wire is now magnetised and the marked end of the paperclip should point to north.



For more information on how you can help our environment, or to make some suggestions of your own, please go to www.coolaustralia.org

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Take it further:

- Repeat the experiment using different materials such as a needle instead of a paperclip and waxed paper instead of a cork. Which works better?
- Repeat the experiment outside using a leaf instead of a cork and a pond or puddle instead of a bowl of water.

Have a look at our other magnet experiment: *Make an electromagnet.*



Big questions:

- How are compasses used?
- Is it true that some animals have a 'natural' compass? (For example, how do birds navigate when migrating and do cows really align themselves in a north-south line?)

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