



scrapyard challenge

twinkl

Aim

- I can sort magnetic and non-magnetic materials.

Success Criteria

- I can explain that magnets produce a force that attracts some materials.
- I can use a magnet to separate items that are magnetic and non-magnetic.
- I can name some magnetic materials and some non-magnetic materials.

Who Is Right?

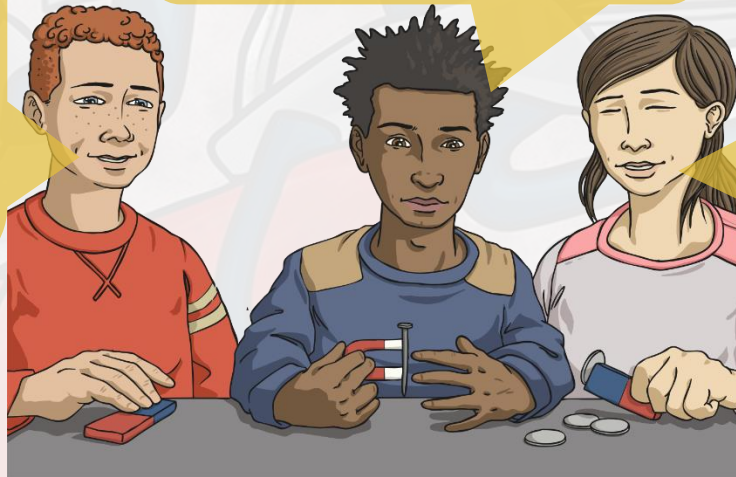


These children are using a magnet to pick up different objects. They are talking about what magnets are and how they work. Which child's ideas do you agree with?

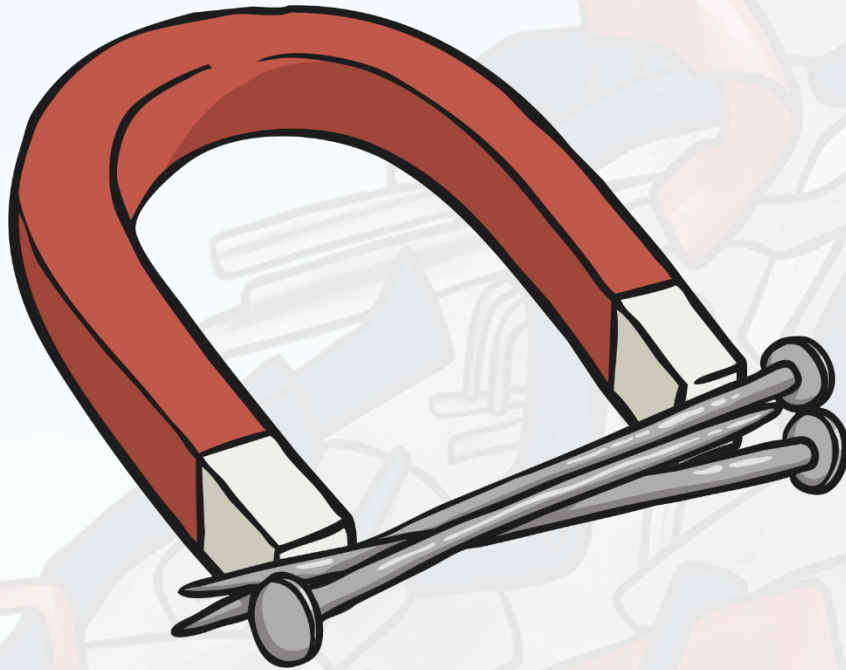
I think the magnet is sticky. It has some special glue on it to make things stick to it. This is how we can pick things up using the magnet.

I think the magnet produces a force to pull the different objects onto it.

I think magnets are special objects that connect to any other object.



What Is a Magnet?

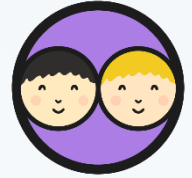


A magnet is a special type of object. It produces an area of magnetic force around itself, called a **magnetic field**.

If certain materials enter this magnetic field, they will be attracted to the magnet. This will cause the materials to stick to the magnet.

Try it! Move a magnet slowly towards a steel paper clip. As the paper clip enters the magnetic field around the magnet, it will 'jump' towards the magnet.

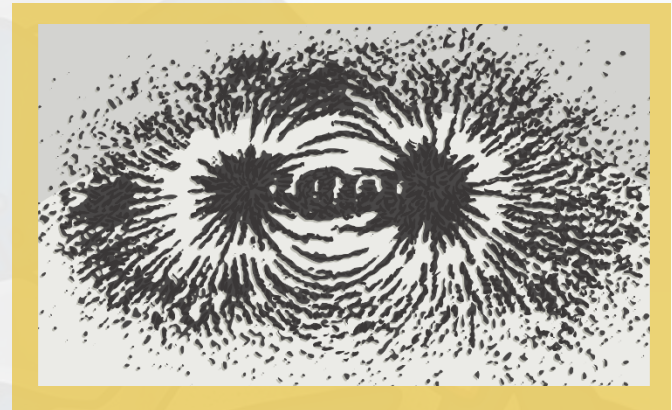
Seeing the Magnetic Field



A magnetic field is the area around a magnet that produces a pulling force on certain materials. The magnetic field is invisible, so we can't see it.

Try this activity to detect where a magnet's magnetic field is, and what shape it is:

- Place a bar magnet in the centre of a tray, and place a piece of paper on top of the magnet.
- Sprinkle a few iron filings onto the paper from a few centimetres above it.
- Keep sprinkling small amounts of iron filings onto the paper until you can see the lines of the magnetic field.



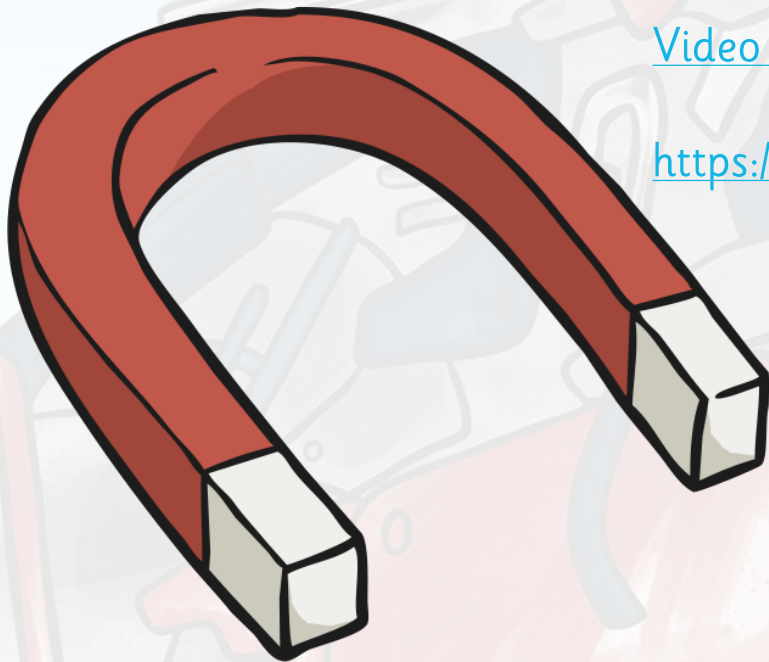
You should see a pattern similar to this!

Magnets at the Scrapyard

Click the magnet to watch this clip to see how magnets are used in a scrapyard to sort different materials.

[Video can be found here.](#)

<https://www.bbc.co.uk/bitesize/clips/zcntsbk>



Magnets at the Scrapyard

The magnets in the scrapyard sorted the **magnetic** materials from the **non-magnetic** materials.

Magnetic materials are attracted to magnets. This means they will stick to a magnet.

Non-magnetic materials are not attracted to magnets, and will not stick to them.

But which materials are magnetic and which ones aren't?



