

Forces and Magnets Knowledge Organiser

Core knowledge

1. Compare how things move on different surfaces. Learning that simple forces are pushes and pulls.
2. Notice that some push and pull forces need contact between two objects.
3. Observe how magnets attract or repel each other.
4. Describe magnets as having two poles.
5. Compare and group together everyday materials on a basis of whether that are attracted by a magnet.
6. Conduct an investigation into which everyday materials are magnetic.

What I already know

- I can identify magnetic materials, and understand how magnets work.
- I can ask simple scientific questions and recognise there are different ways to answer them.
- I can use simple equipment, collect data and perform simple tests.

Key Vocabulary

- Attract** - pulled in by the magnet's magnetic field.
- Repel** - pushed apart by the magnet's magnetic field.
- Force** - a push or pull that acts upon an object.
- Friction** - a force between two surfaces that are sliding.
- Magnet** - metals that attract other metals.
- Magnetic force** - an invisible force or field that causes objects to attract or repel one another.
- Magnetic pole** - two parts of a magnet that have a magnetic field.
- Pull** - the force of bringing an object closer.
- Push** - the force of moving an object further away.

Forces

A force is a push or pull that acts upon an object. We can't see forces, but they are an important part of our everyday lives.

We push and pull objects to do many different things. When we push or pull objects we can move the object, change the shape of the object or make the object change direction.

Magnets

South magnetic pole  North magnetic pole

Magnets are usually made from iron. They can attract and repel other objects with their magnetic forces. Magnetic forces act at a distance meaning that a magnet does not need to be in contact with another object for the magnetic forces to act.

Magnets can be lots of different shapes, sizes and colours, but they will always have a north and south magnetic pole.

Magnets and their poles



Same poles repel

If you try to put two magnets together with the same poles pointing towards one another, the magnets will push away from each other. We say they repel each other.

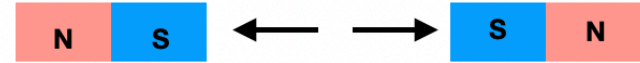
Different poles attract

If you put two magnets together with different poles pointing towards one another, the magnets will pull towards each other. We say they attract each other.

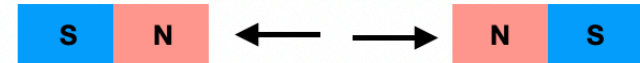
ATTRACT



REPEL



REPEL



Examples of pushes and pulls

pushes

pulls



Examples of magnetic objects



iron nails



steel spoon



steel paperclip

