

What I already know:

About different types of materials, forces through PE lessons (push and pulls)

Year 3: Forces & Magnets



Learning Journey

Sc3/4.2a compare how things move on different surfaces

Sc3/4.2b notice that some forces need contact between 2 objects, but magnetic forces can act at a distance

Sc3/4.2c observe how magnets attract or repel each other and attract some materials and not others

Sc3/4.2d compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials

Sc3/4.2e describe magnets as having 2 poles

Sc3/4.2f predict whether 2 magnets will attract or repel, depending on which poles are facing.

Powerful knowledge:

All magnetic materials contain Iron, Cobalt or Nickel. Not all metals are magnetic!

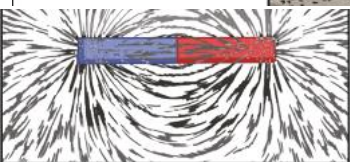
Key Knowledge

Different **surfaces** create different amounts of **friction**. The amount of **friction** created by an object moving over a **surface** depends on the roughness of the **surface** and the object, and the **force** between them.

The driving **force** pushes the bicycle, making it move.



Friction pushes on the bicycle, slowing it down.



Like **poles** repel.
Opposite **poles** attract.



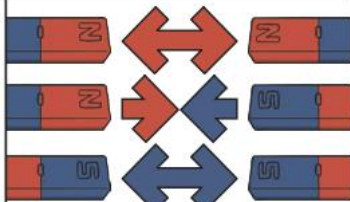
Key Vocabulary

magnet	An object which produces a magnetic force that pulls certain objects towards it.
magnetic	Objects which are attracted to a magnet are magnetic. Objects containing iron, nickel or cobalt metals are magnetic.
magnetic field	The area around a magnet where there is a magnetic force which will pull magnetic objects towards the magnet.
poles	North and south poles are found at different ends of a magnet.
repel	Repulsion is a force that pushes objects away. For example, when a north pole is placed near the north pole of another magnet, the two poles repel (push away from each other).
attract	Attraction is a force that pulls objects together. For example, when a north pole is placed near the south pole of another magnet, the two poles attract (pull together).
forces	Pushes or pulls.
friction	A force that acts between two surfaces or objects that are moving, or trying to move, across each other.
surface	The top layer of something.

Key Question:

Can you identify some magnetic items in the classroom?

A **magnetic field** is invisible. You can see the **magnetic field** here though. This is what happens when iron filings are placed on top of a piece of paper with a **magnet** underneath.



The needle in a compass is a **magnet**. A compass always points north-south on Earth.