

Forces and Magnets

What you've learnt already

- describe the simple physical properties of a variety of everyday materials
- compare and group together a variety of everyday materials on the basis of their simple physical properties
- find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching

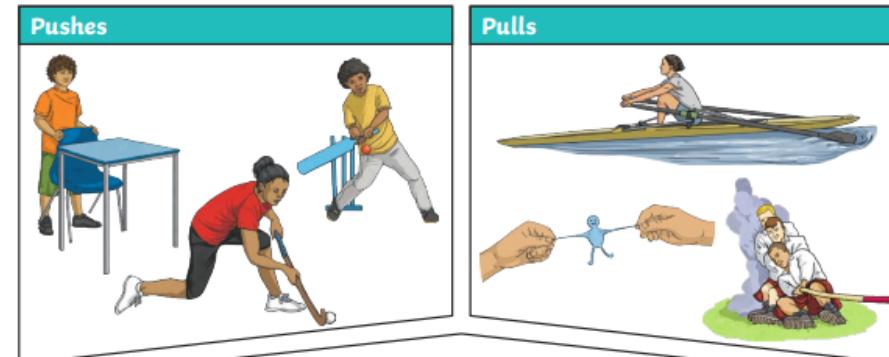
Choices

- Pupils to give their choices about how they would test the magnetism of different objects

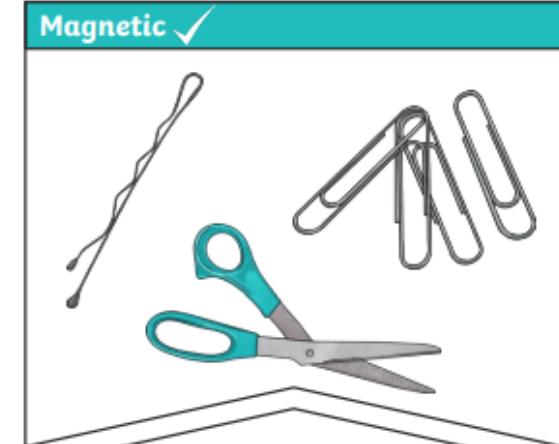
Key Vocabulary

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forces	Pushes or pulls.
friction	A force that acts between two surfaces.
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).

Diagrams



Forces will change the motion of an object. They will either make it start to move, speed up, slow it down or even make it stop.



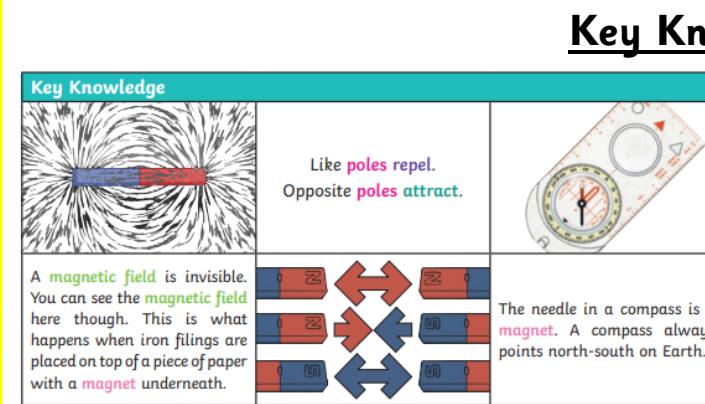
These objects contain iron, nickel or cobalt. Not all metals are **magnetic**.



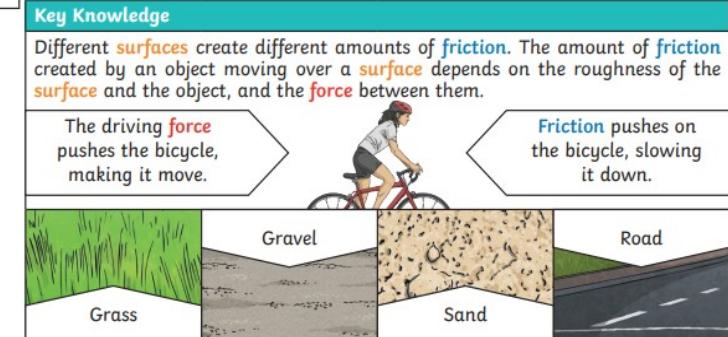
These objects do not contain iron, nickel or cobalt.

Lesson Sequence

L1	WALT: identify the forces acting on objects.
L2	WALT: group magnetic and non-magnetic items
L3	WALT: Investigate the poles of different magnets
L4	WALT: Investigate the strength of magnets
L5	WALT: uses of magnets
L6	WALT: investigate how far a vehicle travels on different surfaces.



Key Knowledge



Forces and Magnets Retrieval Grid

What is a force?	Would a south pole and a south pole attract or repel?	Does friction speed up or slow down an object?	Which way does a compass always point?
Give 4 examples of a force P____, P____, Tw____, Tu____	What kind of force is jumping on a trampoline? Push or pull	What metals are magnetic? I____, Ni____, Co____	Which is the rough surface? Polished wood or carpet?
  Give 3 types of magnets  	Can you see a magnetic field?	What kind of force is hitting a ball with a bat? Push or pull	Would a south pole and a north pole attract or repel?
Name 3 objects that are not magnetic	Would a north pole and a north pole attract or repel?	Forces can make an object start/stop or smell/bum?	What kind of force is a car taking a trailer somewhere? Push or pull

One Point

Two Points

Three Points

Four Points