

Forces and magnets

Knowledge organiser

Year 3

Push and pull forces

Push and pull forces are types of forces that can make things move, stop, or change direction. Some pushes and pulls need contact with the object. These are called **contact forces**.

Push - When the force moves something away from you.



Pull - When the force brings something closer to you.



Even though we can't **see** the wind, it is still a **contact force** because it must **touch objects**, like leaves, **to make them move**.

Strong and weak forces

Not all forces are the same - sometimes we use **more** force, sometimes **less**. The **size** of the force **affects what happens**.



To move a **heavy box**, you need to use a **strong force** because it is **harder to move**.



To move a **light box**, you only need a **weak force** because it is **easier to move**.



A **stronger force** can make things **move faster**.



A **weaker force** can make things **move more slowly**.



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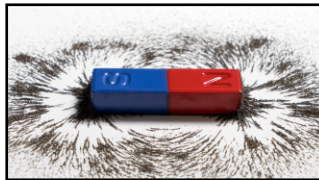
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Magnetic forces

A **magnetic force** is a type of **non-contact force**. It can make things move **without touching them**.

south
magnetic pole



north
magnetic pole

Magnets do this using an **invisible magnetic field** that **attracts** or **repels** certain materials, like iron.

Magnetic materials

Magnetic materials are metals, like iron and steel, that are **attracted** to a magnet, but not all metals are magnetic.



magnetic



non-magnetic

Attract and repel

Magnets can **attract** or **repel** certain materials, like iron, even when they are not touching them.

Attract means to **pull** things closer together.



Repel means to **push** things apart.



Magnets have **two poles** – a **north** and a **south** pole.

Opposite poles attract each other, while the **same poles repel** each other.

Key vocabulary

attract



force



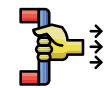
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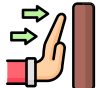
prediction



pull



push



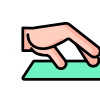
record



rough



smooth



surface



grip

