



Year 3 & 4 Science Knowledge Organiser

Forces and Magnets

Pushes



Pulls



Vocabulary Recap

Movement	When something changes its place or position.
Material	What something is made from (like wood, metal or plastic).
Surface	The outside or top layer of something.

Key Vocabulary

Force	A push or pull that can make something move, stop or change direction.
Friction	A force that slows objects when they rub against a surface.
Magnet	An object that attracts some metals.
Magnetic field	The area around a magnet where magnetic force acts.
Poles	The ends of a magnet (north and south).
Attract	Magnets pull together.
Repel	Magnets push apart.

Sticky Knowledge

- A **force** is a push or pull that can make something move, stop or change direction.
- Some forces need **contact** between objects.
- **Magnets** are **non-contact** forces – they can **attract** or **repel** without touching.
- Magnets have two **poles**: **north** and **south**.
- Opposite poles **attract**, the same poles **repel**.
- Only some metals are magnetic (e.g. iron, steel)
- Magnets can have different **strengths** that can be measured by how much they attract.

Key Skills

- Make predictions based on prior knowledge.
- Plan and carry out simple tests to explore forces and magnetism.
- Make observations and take accurate measurements.
- Record data using tables, Venn diagrams and bar charts.
- Use results to draw conclusions and identify patterns.
- Use scientific language to explain findings and compare evidence.

Resources

BBC: <https://www.bbc.co.uk/bitesize/articles/zhj9r2p>

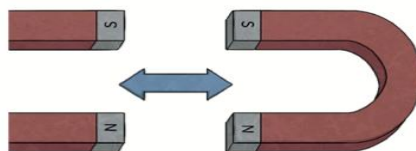
BBC Bitesize daily: Forces and magnets (20 min)

<https://www.bbc.co.uk/iplayer/episode/m0012bw5/bitesize-daily-79-year-olds-science-78-year-olds-5-forces-and-magnets>

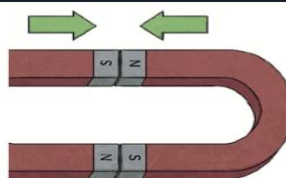
Friction:

<https://www.bbc.co.uk/bitesize/topics/znmnm39/articles/zcmwktly>

Like Poles Repel



Opposite Poles Attract



Uses of Magnets



electro-magnetic cranes



computers



MRI machines



maglev trains