Forces and Magnets Year 3

Key Vocabulary

Attract - to pull towards
Balanced force - When two forces are equal and there is no movement
Compass - A device for finding directions by means of a magnetic needle pointing to the magnetic north
Contact force - Forces that act when two or more objects touch each other, eg friction
Force - a push or a pull
Friction - The force that acts when two objects touch each other. It is a contact force
Gravity - A force that pulls objects towards the ground
Magnet - An object that produces a magnetic force that pulls certain objects towards it
Magnetic Field - The invisible area around a magnet in which there is a magnetic force
Magnetic - The pushing or pulling force that acts between two magnets or between a magnet and magnetic materials
Non-contact force - Forces that do not need contact. They can act at a distance, eg magnetic force
Poles - North & South poles are found at different ends of the magnets
Pull - an object is moved towards something
Push - an object is moved away from something
Repel - To push backwards or away
Resistance - a force which slows down a moving object or vehicle

Forces can make things.....

Change Shape

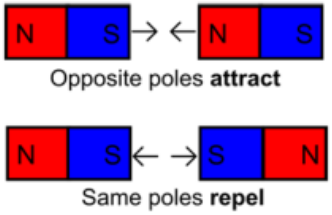
Change Speed

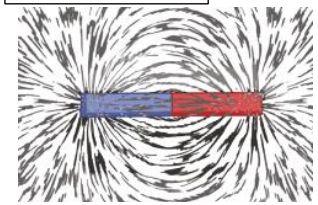
Change Direction

Magnets

Non-magnetic materials; wood, fabric, plastic

Magnetic materials; Steel, nickel, iron, stainless steel





A Magnetic Field is invisible but it can be seen here using iron filings.

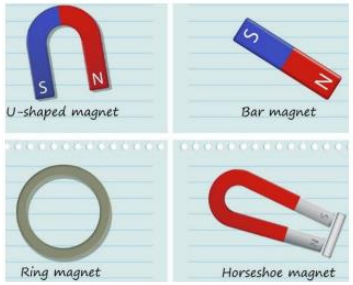
Top Takeaways

Having studied this topic you should be able to explain or describe;

- how things move on different surfaces
- that magnetic forces can act at a distance
- how magnets attract and repel each other
- how magnets attract some materials and not others
- which materials are magnetic and which are not
- that magnets have two poles
- whether two magnets will attract or repel each other depending on which poles are facing

Key Questions	
What is a force?	A **force** is a **push** or **pull** acting on an object. Forces can make objects speed up, slow down, stop or start moving. For some forces to act, there must be contact. Some forces can act at a distance, such as **magnetism.**
What is friction?	When an object moves on a surface, the texture of the surface and the object will affect how it moves. This is **friction**. It is easier to push or pull something along a smooth surface than a bumpy surface.
What do we know about magnets?	Magnets have two poles - north and south. The strongest parts of the **magnet** are the **poles.** If we put the different poles of two magnets together they will come together, or attract. If we put the same poles of two magnets together they will push apart, or repel.
Are all materials magnetic?	Magnets cannot pull or push anything made of wood, plastic and some other materials. Some metals are **magnetic,** but not all metals.

Different Types of Magnets



Forces are used to move things, usually by pushing or pulling an object. Magnets are objects which push or pull without physically touching the object, instead using magnetic fields

Scientific Skills

- *ask relevant questions and use different types of scientific enquiries to answer them*
- *gather, record, classify and present data in a variety of ways to help in answering questions*
- *record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables*
- *identify differences, similarities or changes related to simple scientific ideas and processes*