



Science focus

Forces and Magnets

Year 3

Autumn Term

What? (Key Knowledge)

Forces, friction and magnetic properties

Friction	Different surfaces create different amounts of friction. The amount of friction created depends upon the roughness of the surface and the object, and the force between them
Forces	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
Magnetic forces	Magnetic forces can act at a distance and can attract some materials, have no effect on others or repel some materials. Magnets have a magnetic field within which these forces can act.
Magnets	All magnets are made of a group of metals called the ferromagnetic metals. These are metals such as nickel and iron
Compass	A needle in a compass is a magnets. A compass always points north-south on Earth
Earth's magnetic field	The Earth's magnetic field acts like an invisible shield around the Earth that protects it from dangerous things like radiation from the sun.
Newtons	Forces can be measured using a Newtonmeter—the units are Newtons (N)

Possible experiences

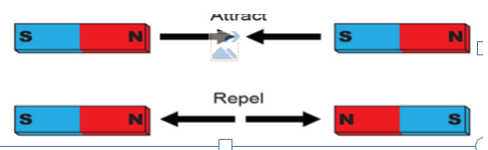
- Investigations of a range of materials to identify those with magnetic properties
- Comparison of forces seen in daily life, linked to DT project for the term

What? (Key Vocabulary)

Friction	A force that acts between two surfaces or objects that are moving or trying to move.
forces	A push or pull
Surface	The top layer of something
Magnet	An object that produces a 'magnetic' force that pulls certain objects towards it
Magnetic	Objects that are attracted to a magnet are magnetic. Objects containing iron, nickel, 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
Attract	Attraction is a force that pulls objects together

Diagrams and Symbols

Magnets have two poles—north and south



A magnetic field is invisible but produces this pattern with iron filings

