

<b>Science Focus:</b>	Forces and Magnets	<b>Year 3:</b>	Autumn Term 2
-----------------------	--------------------	----------------	---------------

## Key Knowledge

Magnets	
How do magnets work?	<ul style="list-style-type: none"> <li>Magnets produce an area of force around them called a magnetic field.</li> <li>When objects enter this magnetic field, they will be attracted to or repelled from the magnet if they are magnetic.</li> <li>When magnets repel, they push each other away</li> <li>When magnets attract, they pull together.</li> </ul>
Which materials are magnetic?	<ul style="list-style-type: none"> <li>Objects that are magnetic, are attracted to magnets.</li> <li>Iron and steel are magnetic.</li> <li>Aluminium and copper are non-magnetic.</li> </ul>

## Forces

What are forces?	<ul style="list-style-type: none"> <li>Forces are pushes and pulls.</li> <li>These forces change the motion of an object.</li> <li>They will make it start to move or speed up, slow it down or even make it stop.</li> </ul>
How do different surfaces affect the movement of an object?	<ul style="list-style-type: none"> <li>Forces act in opposite directions to each other.</li> <li>When an object moves across a surface, friction acts as an opposite force.</li> <li>Friction is a force that holds back the movement of an object.</li> <li>Some surfaces create more friction than others which means that objects move across them slower.</li> </ul>

## Key Vocabulary

Spelling	Definition
magnet	A piece of iron that attracts or repels.
pole	North and South ends of a magnet.
force	A push or pull that acts upon an object that can cause it to move, change shape or change direction.
push	When you push something, you use force to make it move away from you or away from its previous position.
pull	When you pull something, you hold it firmly and use force in order to move it towards you or away from its previous position.
magnetic	Something that acts like a magnet.
friction	The force that makes it difficult for things to move when they touch each other.
surface	The top layer of something
attract	The force of one object pulling another object towards it.
repel	The force of one object pushing another object away from it.
gravity	A natural force that pulls things towards the centre of the earth.
resistance	A force which slows down a moving object or vehicle.

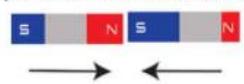
### Materials that are magnetic and non-magnetic

Magnetic ✓	Non-magnetic ✗
	
These objects contain iron, nickel or cobalt. Not all metals are <b>magnetic</b> .	These objects do not contain iron, nickel or cobalt.

## Diagrams and Symbols

### Different poles attract

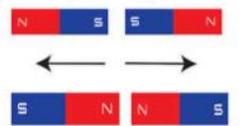
Two magnets with **different** poles pointing towards one another will **pull** towards (or **attract**) each other.



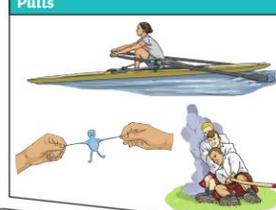
Magnets

### Same poles repel

Two magnets with **the same** poles pointing towards one another will **push** away from (or **repel**) each other.



### Forces

<b>Pushes</b> 	<b>Pulls</b> 
<p style="color: red; font-weight: bold;">Forces will change the motion of an object.</p> They will either make it start to move, speed up, slow it down or even make it stop.	