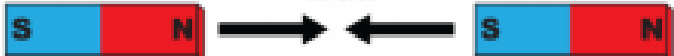


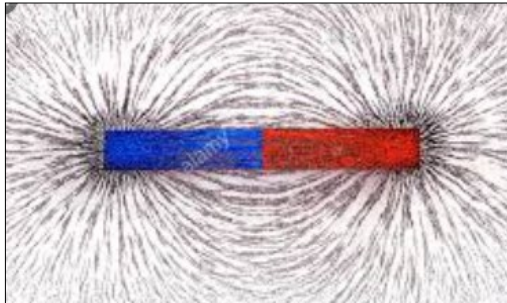


Year 3/4 Knowledge Organiser – Forces & Magnets

What should I already know?	Diagrams	What will I know by the end of the unit?																
Know how different toys move. Know what a force is and be able to explain that a push and pull are types of forces.	How do magnetic poles work? The ends of a magnet are called poles . One end is called the north pole and the other end is called the south pole. Opposite poles attract, similar poles repel. If you place two magnets so the south pole of one faces the north pole of the other, the magnets will move towards each other. This is called attraction. If you place the magnets so that two of the same poles face each other, the magnets will move away from each other. They are repelling each other.	Compare how some things move on different surfaces. Notice that some forces need contact between two objects but magnetic forces can act at a distance. Observe how magnets attract or repel each other and attract some materials and not others. Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials. Describe magnets as having two poles (<i>like and unlike poles</i>). Predict whether two magnets will attract or repel each other, depending on which poles are facing.																
Key vocabulary																		
<table><tr><td>friction</td><td>the resistance of motion when there is contact between two surfaces</td></tr><tr><td>magnet</td><td>a piece of iron or other material which attracts magnetic materials towards it</td></tr><tr><td>repel</td><td>When a magnetic pole repels another magnetic pole, it gives out a force that pushes the other pole away</td></tr><tr><td>magnetic field</td><td>an area around a magnet, or something functioning as a magnet, in which the magnet’s power to attract things is felt</td></tr><tr><td>resistance</td><td>a force which slows down a moving object or vehicle</td></tr><tr><td>poles</td><td>North & South poles are found at different ends of the magnets</td></tr><tr><td>attract</td><td>If one object attracts another object, it causes the second object to move towards it</td></tr><tr><td>gravity</td><td>A force that pulls objects towards the ground</td></tr></table>	friction	the resistance of motion when there is contact between two surfaces	magnet	a piece of iron or other material which attracts magnetic materials towards it	repel	When a magnetic pole repels another magnetic pole, it gives out a force that pushes the other pole away	magnetic field	an area around a magnet, or something functioning as a magnet, in which the magnet’s power to attract things is felt	resistance	a force which slows down a moving object or vehicle	poles	North & South poles are found at different ends of the magnets	attract	If one object attracts another object, it causes the second object to move towards it	gravity	A force that pulls objects towards the ground	<div><div>Attract</div></div> <div><div>Repel</div></div> <div><div>Repel</div></div>	<div>Like poles repel.</div> <div>Opposite poles attract.</div> <div></div>
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Year 3/4 Knowledge Organiser – Forces & Magnets

How do magnets work?

Magnets produce an area of force around them called a magnetic field.

When objects enter this magnetic field, they will be attracted to or repelled from the magnet if they are magnetic.

When magnets repel, they push each other away

When magnets attract, they pull together.



How do different surfaces affect the motion of an object?

Forces act in opposite directions to each other.

When an object moves across a surface, friction acts as an opposite force.

Friction is a force that holds back the motion of an object.

Some surfaces create more friction than others which means that objects move across them slower.

On a ramp, the force that causes the object to move downwards is gravity.

Objects move differently depending on the surface of the object itself and the surface of the ramp.

Magnetic ✓



These objects contain iron, nickel or cobalt. Not all metals are **magnetic**.

Non-magnetic ✗



These objects do not contain iron, nickel or cobalt.



grass



gravel



carpet



sand



wood

