



Welton Primary School—Science Knowledge Organiser



Year: 3

Forces and Magnets

Physics

What should I already know?

- I know how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.

Vocabulary

twist	Turn something to make a spiral shape.
metal	A hard substance such as iron, steel, gold or lead.
contact	When two or more objects touch and create a force between them.
non-contact force	When a force acts on an object without touching it.
magnetic force	The force of attraction or repulsion between certain materials.
attract	If one object attracts another object, it causes the second object to move towards it.
repel	When one magnetic pole repels another, it gives out a force that pushes the other pole away.
magnetic material	A material that is attracted to a magnet.
iron	A type of metal.
steel	A type of metal that is attracted to a magnet.
poles	The ends of a magnet. Known as the north and south pole.

Forces

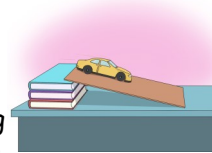
- Forces are pushes and pulls. Pushes move things away from you. Pulls move things towards you.
- These forces change the motion of an object.
- They will make it start to move or speed up, slow it down or even make it stop.

For example, when a cyclist pushes down on the pedals of a bike, it begins to move. The harder the cyclist pedals, the faster the bike moves. When the cyclist pulls the brakes, the bike slows down and eventually stops.



- 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 more slowly.

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

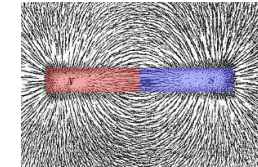


Objects move differently depending surface of the object itself and the

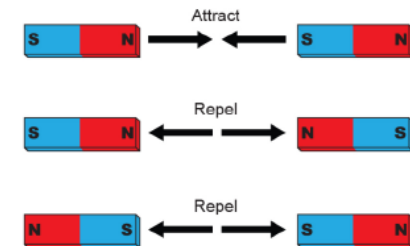


Magnets

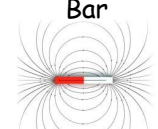
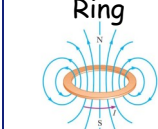
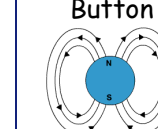
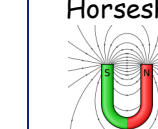
- A magnet is a piece of iron or other material that attracts magnetic materials toward it.
- Magnets produce an area of force around them called a magnetic field.
- When objects enter the magnetic field, they are attracted to or repelled from the magnet if they are magnetic.



- When magnets repel, they push each other away.
- When magnets attract, they pull together.
- 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.



Types of Magnet

Bar	Ring	Button	Horseshoe
			

Magnetic Materials

Objects that are magnetic, are attracted to magnets.

Non-Magnetic Materials

Iron	Steel	Nickel	Cobalt	Gadolinium	Copper	Gold	Rubber	Wood	Leather
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