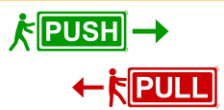


Year 4 Knowledge Organiser - Forces and Magnets

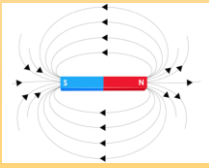
What are the two main types of forces?



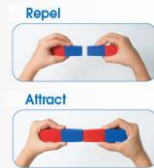
What is friction?



What is a magnetic field?



How do poles of a magnet attract and repel?



I know...

Forces are just pushes and pulls in a particular direction. When two objects or surfaces rub against each other in an opposite direction, it creates friction. Friction always slows a moving object. The roughness of a surface will affect the amount of friction produced. For example, a rougher surface will create more friction whereas a smoother surface will create less friction.

The materials that are attracted towards a magnet are called magnetic materials and are usually made out of iron, nickel and steel. The materials which are not attracted towards a magnet are non-magnetic materials like rubber, plastic, wood and leather.

A magnet has two poles: north pole and south pole and is surrounded by an invisible magnetic field. The magnetic force of a magnet is strongest at the poles. Opposite poles attract to each other whilst like poles repel each other.

<u>Keyword</u>	<u>Definition</u>
Force	A force is a push or a pull in a particular direction
Friction	The force created when two surfaces rub against each other when one or both are moving
Magnet	A piece of metal that has the power to draw iron, nickel or steel objects towards it and to hold or move them
Magnetic Field	A region of space surrounding a magnet in which the resulting magnetic force can be detected
Poles	The regions at each end of a magnet where the external magnetic field is strongest

Did you know...

- The Earth is one big magnet. This is because the Earth's solid iron core is surrounded by hot molten iron that is moving around it. This churning iron creates an electric current that generates a magnetic field around the planet.
- If you attach a bar magnet to a piece of wood and float it in a bowl of water, it will slowly turn and the magnet's North Pole will point towards the Earth's North Pole. A compass has a tiny bar magnet in it and it works in the same way, so that explorers can find their way
- Magnets can be found in many common household items such as telephones, computers, stereos, refrigerators, TV's and VCR's.