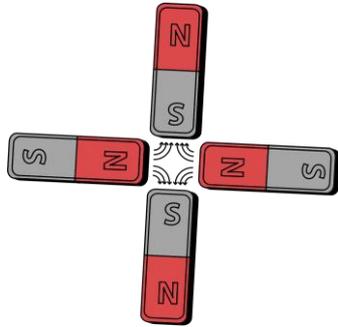


# Forces and magnets

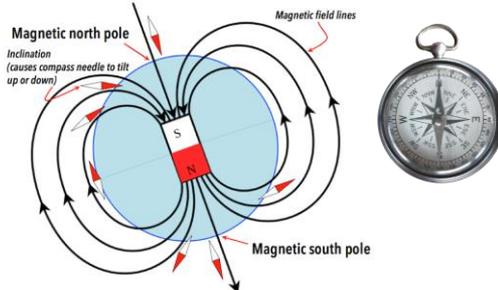
## The Magnetic Poles



The magnetic poles are attracted to the opposite. They are either North or South. Both North and South are attracted to each other, however, two North poles will repel each other, as will two South poles.

## Magnets help us find our way

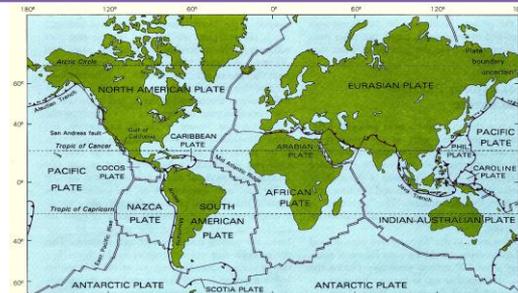
The Earth has its own magnetic field. This is similar to a bar magnet. A compass needle will align itself with the Earth's magnetic field to point North and South.



## Key Vocabulary

Force	Is a push or a pull.
Contact force	This is a force where objects need to touch each other to push or pull.
Non-contact force	This is where objects do not have to touch each other to push or pull.
Magnetic force	This is a force between magnets.
Magnet	This is a material that produces a magnetic field.
Attract	This means to pull together.
Repel	This means to push away.
Magnetic material	This is a material attracted to magnets.
Magnetic pole	This is where the magnetic field is strongest.

## Tectonic Plates



## Equipment that relies on magnets to work

Magnets are used in a range of objects that you wouldn't believe they were there unless you researched it. This includes scanning machines that doctors use called MRI machines. (Magnetic Resonance Imagers). These can be used to help save people's lives by making doctor's aware of what is happening inside your brain.

Another use for magnets includes earphones, televisions and even the doors on your fridge and freezer to keep them tightly sealed shut. This prevents the cold air from escaping and your food from decaying.

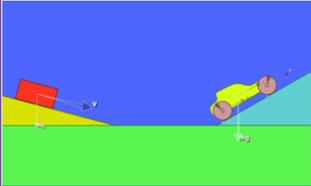
Doorbells, electric buzzers and computer hard drives use magnets to function and you can even find magnets in the toys you play with.

## Facts about Tectonic Plates

We think the Earth mostly stands still, however across each year it moves between one and six inches because it is constantly moving. It moves too slowly for us to notice, although in some places across the world each year, the Earth will move violently and cause destruction and damage. This is because the tectonic plates (made of rock beneath the surface of the Earth) collide and cause earthquakes, tsunamis and volcanic eruptions.

# Forces and magnets

## DT



### Use the force!

When a car travels up a ramp, it will need a force to stop it rolling back down. If a car is to travel down a ramp, then it will need a force to slow it down. Using different materials can help apply these necessary features.

## The Iron Age



The Iron Age was one of the first eras that developed using steel and iron to create tools that helped them in everyday life.

By this time in history, a currency had been created and some of the first coins ever made were designed, cut and distributed for trading.



## ICT Key Words

Coding	Putting information and commands into a program, making it possible for you to create software, apps and websites.
Program	A computer program is a collection of instructions or algorithms designed to simplify processes, whether that be writing a Word document or connecting to a website.
Programming language	A computer program is written using a programming language, which allows a computer scientist to teach a computer how to achieve a result.
Algorithms	A precise set of instructions.
Bug	When writing a computer program things will often go wrong this is called a 'bug'.
Debug	Debugging is checking the code in a computer program to ensure it works and changing it if it doesn't.

Logic	When making any decision a certain amount of logic is involved; for example, when deciding what to wear in the morning, you make a logical decision based on the season and weather.
Computational logic	Allows a program to decide what to do and when. For example you may write code that says: "When the user clicks this button, perform this calculation."
Computational thinking	This is a term that describes the decision-making progress used in programming and writing algorithms.
Data	This means information.
Input	Information that goes into the computer.
Output	Information that comes out of the computer.

## Art

Solid 3D objects create shadows when light is shone onto them. This includes artistic sculptures.



## Reading

Ted Hughes wrote a book about an iron man. He is a lonely figure who relies on farming equipment to survive. Here he overcomes many obstacles.

