

Knowledge Organisers

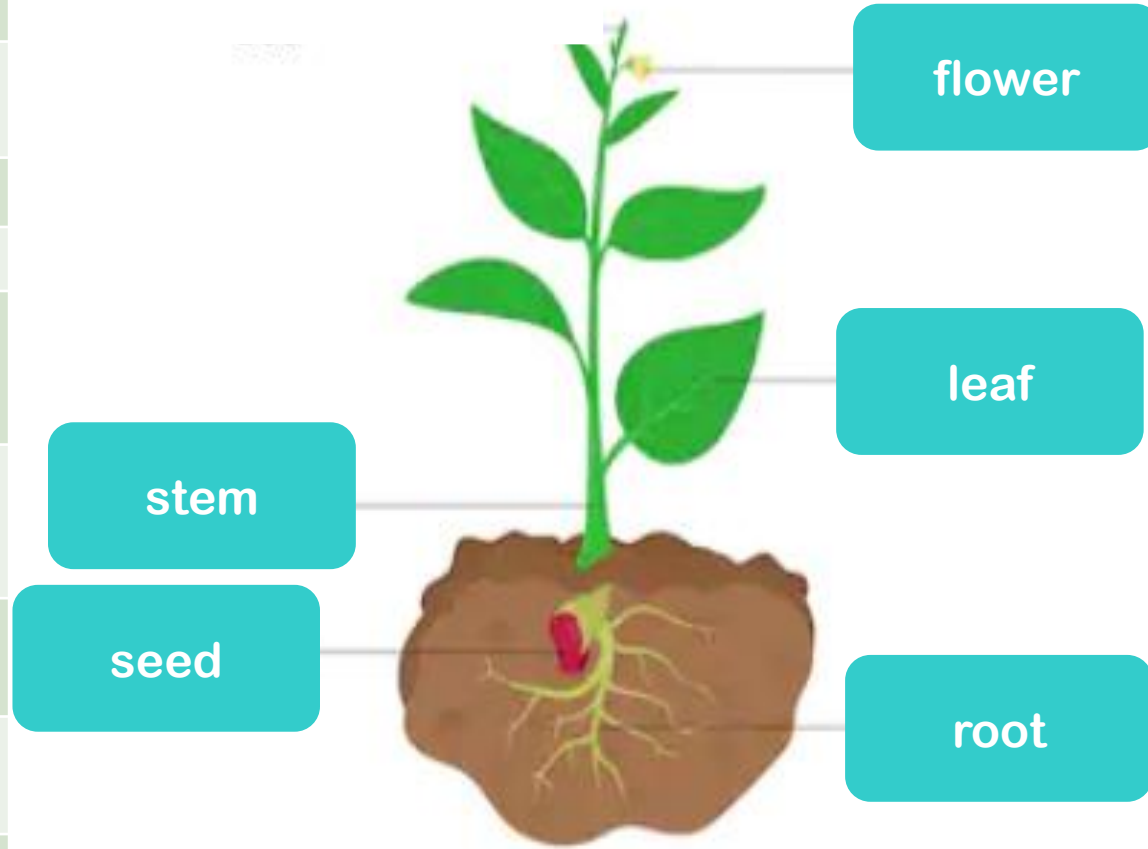
Year 1 - Plants

Beatrix Potter



Beatrix Potter was a botanist before she wrote books.

A botanist studies and learns about plants. She enjoyed drawing them too.



Facts

Plants need water, light, space and nutrients to grow.

Seeds are moved by insects or the wind.

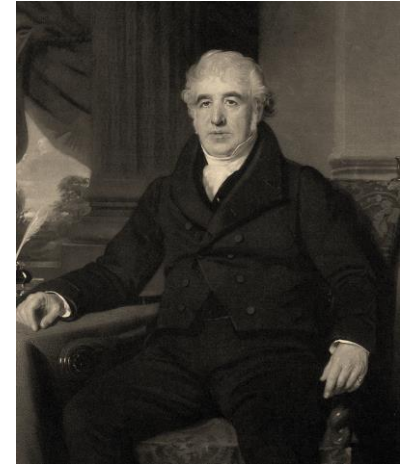
You can tell how old a tree is by the amount of rings inside it.

Vocabulary

leaf	The flat, green part of a plant joined at one end to the stem.
flower	The part of the plant that has petals.
blossom	The flower of the plant.
petals	The separate parts of the flower.
fruit	Made by plants and usually come from flowers. Fruit is a healthy food for us to eat.
roots	The part of a plant that grows down into the earth to get water and food.
seed	A small round object made by a plant.
branch	A woody part of a tree or bush that grows out from the trunk
trunk	The main stem of a tree.
stem	Stick-like part of a plant that grows above the ground in the middle.

Year 2 – Materials

Charles Macintosh



Vocabulary	
transparent	Letting light pass through and giving a clear view of objects on the other side.
translucent	Letting only some light through so that what can be seen on the other side is not clear.
opaque	Not letting any light pass through.
absorbent	Able to soak up another substance or liquid.
waterproof	Able to resist water.
suitable	Right for a situation or purpose.
unsuitable	Not right for a situation or purpose.
flexible	Easily bent without breaking.
rigid	Difficult or impossible to bend.



absorbent

waterproof



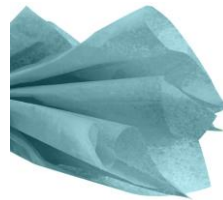
flexible

rigid



transparent

opaque



translucent

Charles Macintosh is a scientist who invented waterproof fabric.

A raincoat is also known as a mac after Macintosh!

Facts

Most of the materials we use every day can be recycled and made into new items.

Rubber – used in car tyres, elastic bands and much more, is originally grown on trees in the rainforest!

To change the shape of an object, you must always apply a force to it.

Year 3 - Rocks

Mary Anning



Mary Anning was an English Fossil collector and palaeontologist.

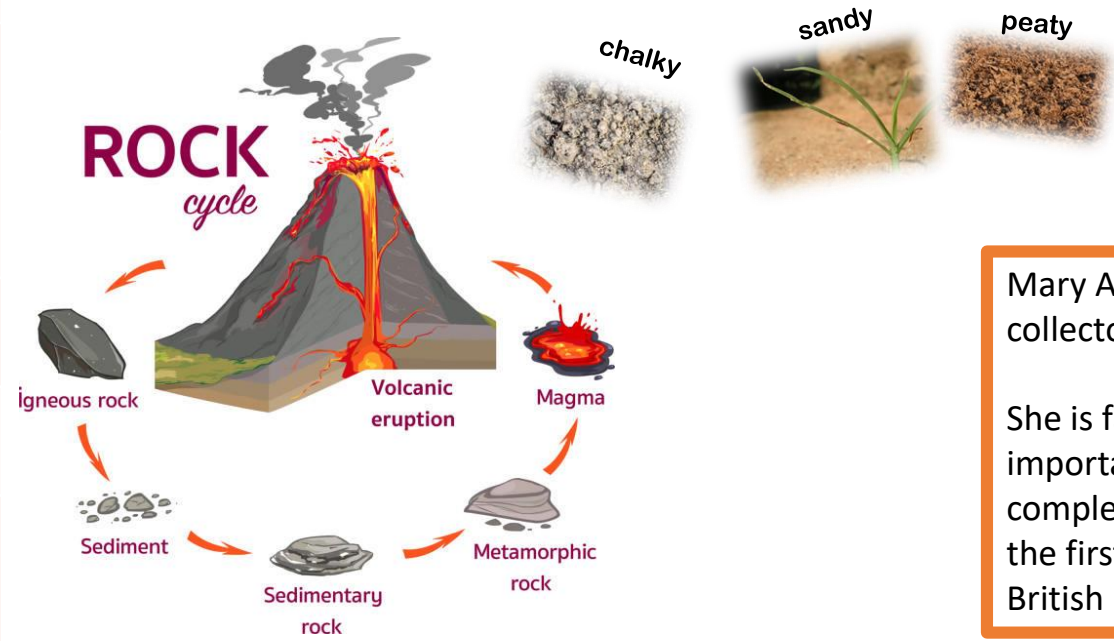
She is famous for discovering several important fossils, including the first complete Plesiosaurus ever found and the first pterosaur fossil found in the British Isles.

Vocabulary

magma	A hot liquid beneath the earth's surface that cools to form igneous rock.
lava	Hot, melted rock that erupts from a volcano.
metamorphic	A rock made by changing existing rocks by heat or pressure.
sedimentary	Rock made when sand, mud and pebbles join in layers.
igneous	A rock made from solidified lava or magma
crust	The outer layer of Earth, another planet, or a moon.
fossil	The remains of a prehistoric animal or plant embedded in a rock.
decay	The process of rotting or slowly losing quality.
grains	Any tiny, hard pieces of rock.
crystals	Transparent, shiny parts that can be found in a rock.



Rock & Soil Types



Facts

- Researchers used some of the oldest rocks on the Earth along with meteorites to guess how old the Earth is. They estimate the Earth is about 4.54 billion years old!
- All rocks are constantly passing through a recycling process.
- Different combinations of minerals form different kinds of rock.

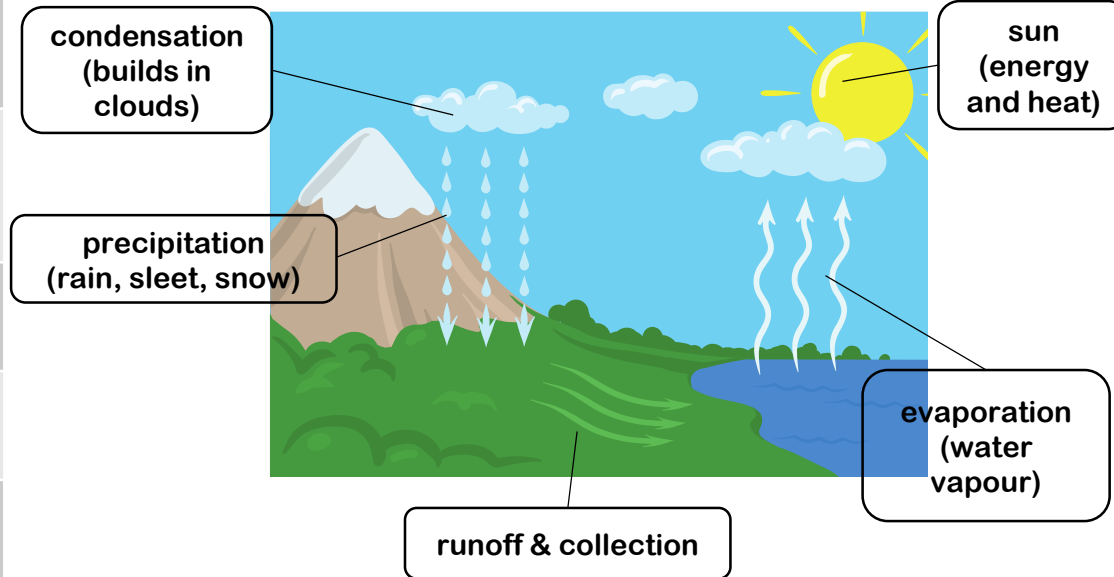
Year 4 – States of Matter

Anders Celsius



Anders Celsius is best remembered as the inventor of the Celsius temperature scale in which 0°C is the freezing point of water and 100°C is the boiling point.

The Water Cycle



Vocabulary

matter	All substances that contain atoms and take up space. <i>Matter includes solids, liquids, and gases.</i>
solid	Having a firm shape or form that can be measured in length, width, and height; not like a liquid or a gas.
liquid	In a form that flows easily and is neither a solid nor a gas.
gas	A form of matter that is neither liquid nor solid.
evaporation	The process of liquid turning to vapour.
condensation	The conversion of a vapour or gas to a liquid, often collects as droplets on a cold surface.
solute	Something which is dissolved in a solution.
solvent	The ability to dissolve other substances.
solidify	To make firm, hard or solid
Water Cycle	The processes that water takes between the earth's oceans, land and atmosphere.

Facts

A 'mixture' is something that is physically joined together but can be separated again.


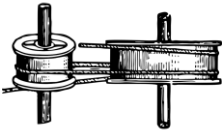

Mixtures can be separated in so many ways – such as evaporation, distillation, filtering and absorption.

Everything around us is made of matter!

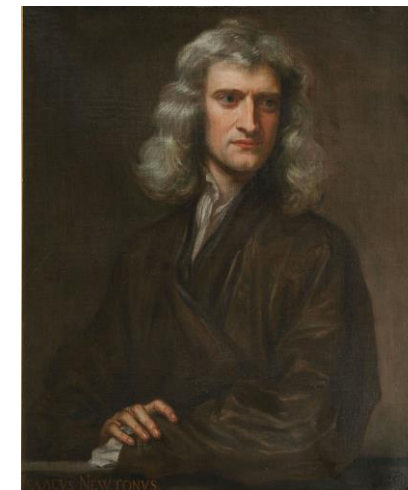
Year 5 – Forces

Vocabulary

air resistance	A force that is caused by air. The force acts in the opposite direction to an object moving through the air.
water resistance	A force that slows objects down when they are moving through water.
upthrust	A force which is applied in an upward direction.
gravity	A force that attracts something with mass towards earth, measured in Newtons per kilogram.
mechanism	A system of parts working together in a machine.
lever	A simple machine used to move an object or operate a machine.
pulley	A wheel which a cord passes through; it helps to raise heavy weights.
gear	Toothed wheel that engages with another to change speed or direction of a machine.
drag	A force which slows the movement of an object through a liquid or gas.
streamlined	To shape something so that it moves as easily as possible through air or water.

Name	Picture	How it Works	Used For
Lever		Helps to reduce the amount of force needed to move or lift an object, by increasing the distance through which the force acts.	<ul style="list-style-type: none"> • stapler • door handle • tweezers
Pulley		Helps to reverse the direction of the lifting force, therefore multiplying the force your body produces on the object.	<ul style="list-style-type: none"> • elevator • wells • theatre curtains
Gear		The 'teeth' on the gears turn one another, and in doing so, helps to increase the power of a turning force.	<ul style="list-style-type: none"> • cars • bikes • pendulum clock

Isaac Newton



Isaac Newton was a physicist who explained the three laws of motion.

He also explained the theory of gravity, including the gravitational pull of the Earth.

Facts

A force is a push or a pull.

A force can make something start to move, slow down or speed up, change direction or change shape or size.

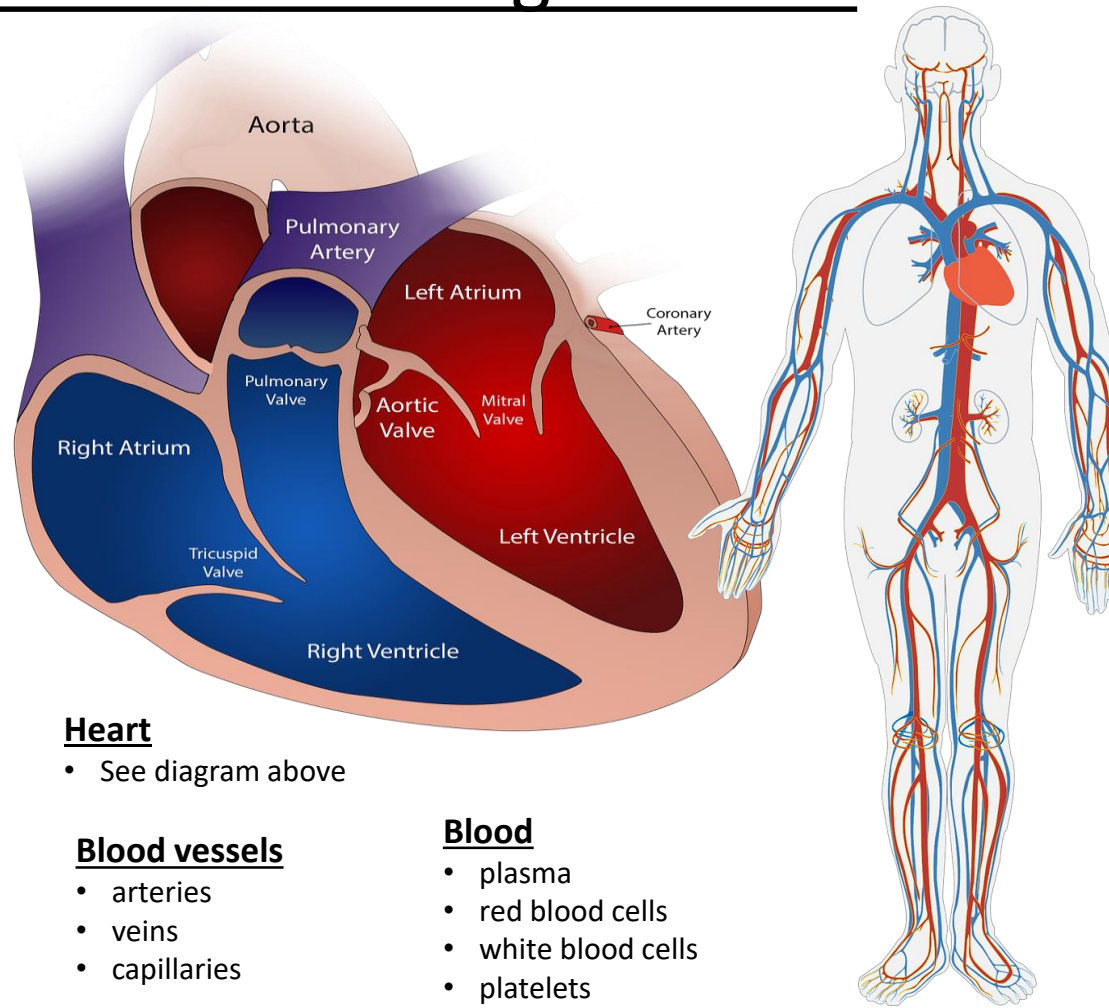
The bigger the force, the more powerful it is.

Year 6 - Animals Including Humans

Leonardo Da Vinci



Leonardo Da Vinci produced the first known description of coronary artery disease. He drew the anatomy of the heart and found that it had four chambers.



Heart

- See diagram above

Blood vessels

- arteries
- veins
- capillaries

Blood

- plasma
- red blood cells
- white blood cells
- platelets

Facts

A healthy heart beats between 60 and 100 times a minute.

Regular exercise will help keep your heart healthy.

Arteries transport blood away from the heart and veins transport blood back to the heart.

Vocabulary

circulatory system	The system which circulates blood through the body.
blood vessels	The tubes through which blood flows around the body.
artery	A type of blood vessel which moves blood from the heart to the body.
vein	A type of blood vessel which transport blood from the body to the heart.
cell	The smallest structural unit that makes up our bodies.
oxygen	A gas which most living things need.
nutrients	Something from food that helps living organisms to live and grow.
organs	A part of plants or animals that performs a particular task
disease	A condition that causes harm to the health of a person, animal, or plant.
obesity	When something is overweight.