

Earth Matters

Sticky Knowledge Organiser Spring Term: Trencom (Year 3/4)

Topic Question:

Nature vs Humans - what can we do to protect our wonderful world?



What I learnt before that will help me this year...

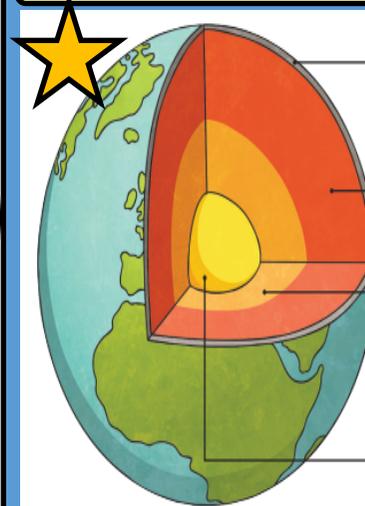
Into the woods

- habitats,
- Local environments
- Looking after our planet

Castles and coasts

- Seaside environments

Layers of Earth



Crust

Thin outer layer. Hard rock. 10km-90km thick.

Mantle

Extremely hot rock that flows. 3000km thick.

Outer core

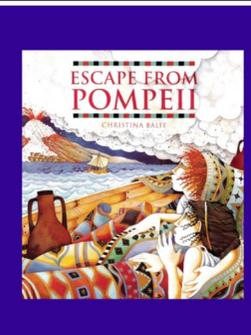
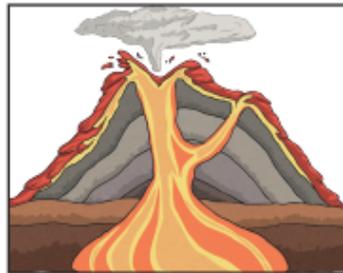
Iron and nickel. Mostly liquid with some rocky parts. 4000°C.

Inner core

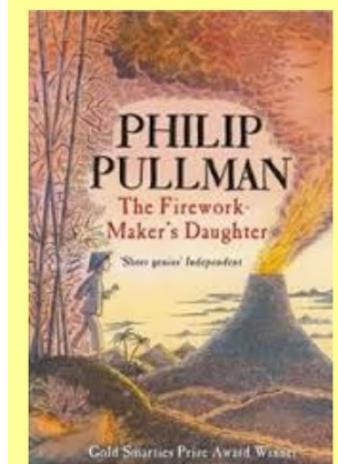
Iron and nickel. Hottest layer at over 5000°C.

Volcanoes

- Volcanoes are made when pressure builds up inside the earth. This affects the earth's crust causing **magma** to sometimes **erupt** through it.
- Active volcanoes have **erupted** in the last 10 000 years.
- Dormant volcanoes haven't **erupted** in the last 10 000 years but may erupt again.
- Extinct volcanoes aren't expected to **erupt** again.



On August 24, 79 A.D the peak of Mount Vesuvius in Italy, exploded, propelling a 10-mile mushroom cloud of ash and pumice into the stratosphere. For the next 12 hours, volcanic ash and a hail of pumice stones up to 3 inches in diameter showered Pompeii,



Earthquakes

- Earthquakes are caused when the earth's **tectonic plates** suddenly move.
- Most earthquakes occur near the **tectonic plate** boundaries.
- Earthquakes can cause lots of damage to roads, buildings and property.



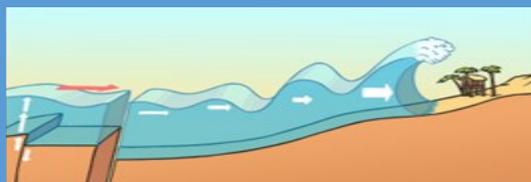
On 22 February 2011, a 6.3 magnitude earthquake struck Christchurch, New Zealand. The Christchurch earthquake caused extensive damage to infrastructure and buildings.

Tornadoes



A tornado is a swirling funnel of air that forms when warm air rises from near the ground into big cumulonimbus clouds.

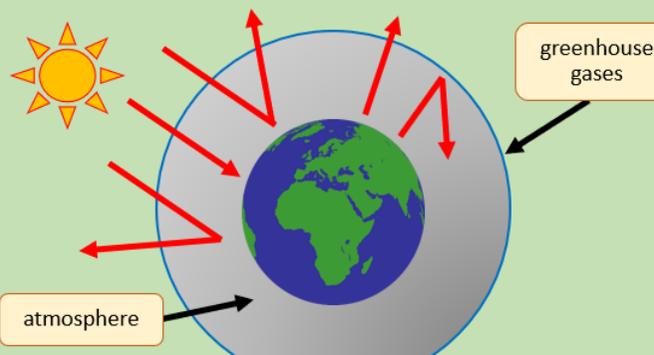
Tsunamis



A tsunami is a giant wave caused by a huge earthquake under the ocean.

On 26 December 2004, a massive tsunami with waves up to 30 m (100 ft) high, known as the Boxing Day Tsunami devastated communities along the surrounding coasts of the Indian Ocean.

What is the greenhouse effect?



What is global warming?

- The amounts of these greenhouse gases are increasing.
- This means that more and more heat is being trapped by the atmosphere, causing the Earth to get warmer.
- This is known as **global warming**.

What is a carbon footprint?

Your carbon footprint is how much carbon dioxide is released into the atmosphere because of the activities **you** do.

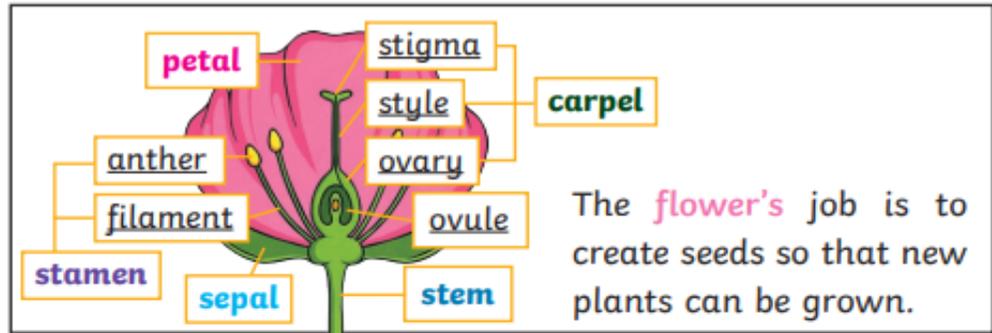
Things such as how you travel around, what you eat, how you heat your home and what you buy, all affect how large your **carbon footprint** is.

See the Science Sticky Knowledge Organiser to find out about the impact of this on plants and environments.



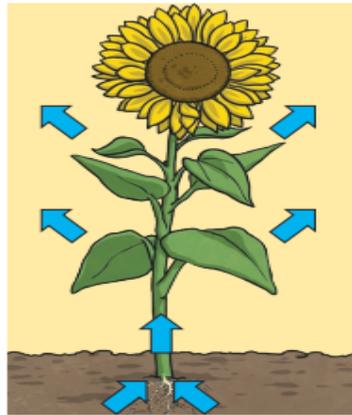
Science Plants Sticky Knowledge Organiser

Spring Term: Trencrom (Year 3/4)



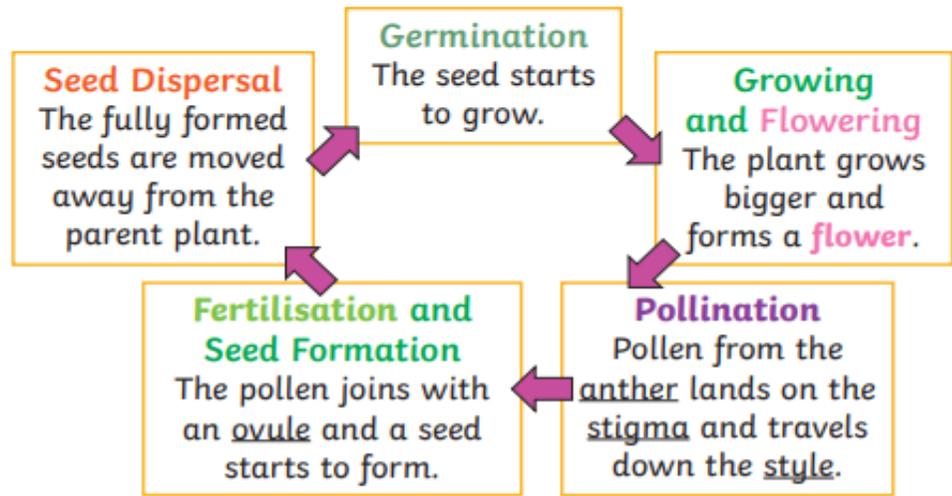
How Water Moves through a Plant

1. The **roots** absorb water from the soil.
2. The **stem** transports water to the **leaves**.
3. Water **evaporates** from the **leaves**.
4. This **evaporation** causes more water to be sucked up the **stem**.

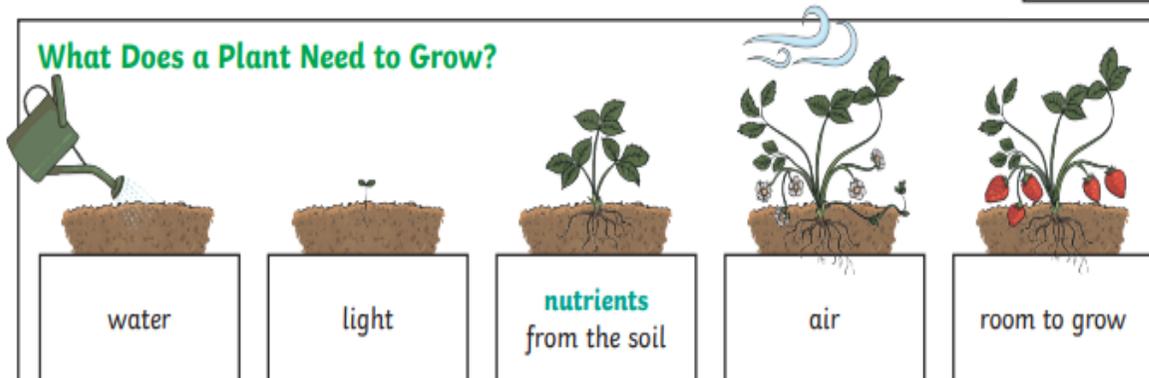


The water is sucked up the **stem** like water being sucked up through a straw.

Life Cycle of a Flowering Plant



What Does a Plant Need to Grow?



Different plants vary in how much of these things they need. For example, cacti can survive in areas with little water, whereas water lilies need to live in water.

Key vocabulary

Fertilisation - When the male and female parts of the flower have mixed in order to make seeds for new plants.

Stamen—The male parts of the flower. The stamen is made up of the anther and the filament. The filament's job is to hold up the anther. The job of the anther is to make the pollen.

Carpel—The female parts of the flower. Made up of the stigma, style and ovary. The job of the style is to hold up the stigma. The stigma collects the pollen when a pollinator brushes by it. The ovary contains the ovules, which are the part of the flower that gets fertilised and eventually becomes the new seed.

Science

Living Things and Their Habitats Sticky Knowledge Organiser

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Organisms—This is another word that can be used to mean 'living things'.

Life processes—The things living things do to stay alive.

Habitat—The specific area or place in which particular animals or plants may live.

Endangered species—plant or animal where there are not many of their species left and scientists are concerned that the species may become extinct.

Movement
Respiration
Sensitivity

Growth
Reproduction
Excretion
Nutrition

MRS GREN

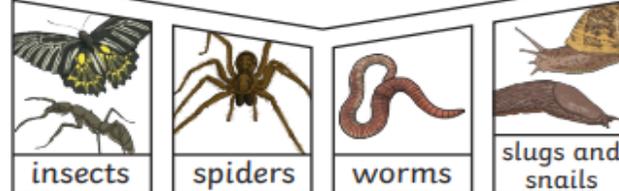


Animals can be grouped in lots of different ways based upon their **characteristics**.

vertebrates



invertebrates



A **vertebrate** is an animal with a backbone.

An **invertebrate** is an animal without a backbone.

Classification is where plants or animals are placed into groups according to their similarities.

Characteristics are the distinguishing features that are specific to a species.

An environment contains many habitats and these include areas where there are both living and non-living things.

Changes to an **environment** can be natural or caused by humans. Changes to an **environment** can have positive as well as negative effects. Here are some examples of things that can change an **environment**.

Natural

- earthquakes
- storms
- floods
- droughts
- wildfires
- the seasons

Human-Made

- deforestation
- pollution
- urbanisation
- the introduction of new animal or plant species to an **environment**
- creating new nature reserves

Plants and animals rely on the **environment** to give them everything they need. Therefore, when **habitats** change, it can be very dangerous to the plants and animals that live there.