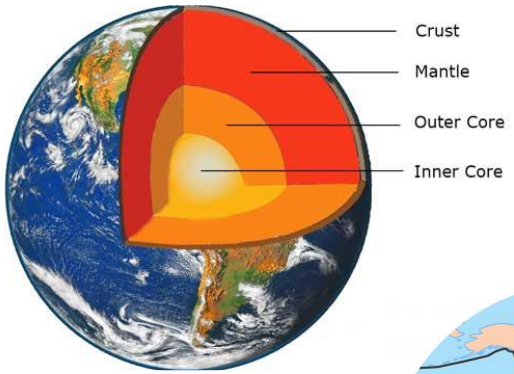
Natural Disasters

What makes the Earth explosive?

WINDHILL PRIMARY SCHOOL

UKS2 - Spring

Earth



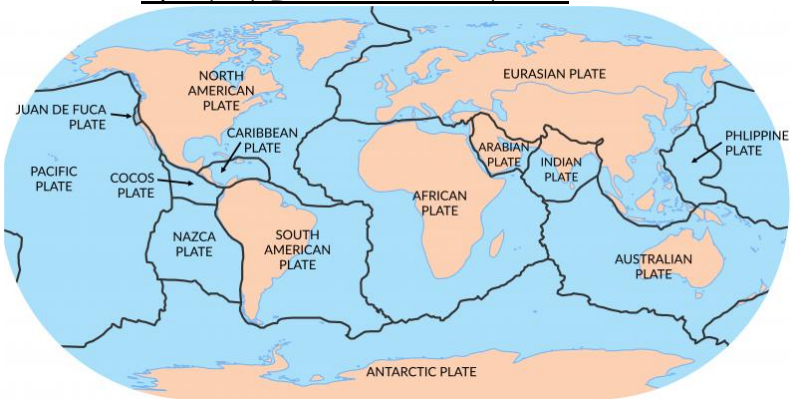
The Earth consists of layers: the **crust**, the **mantle**, the **outer core** and the **inner core**.

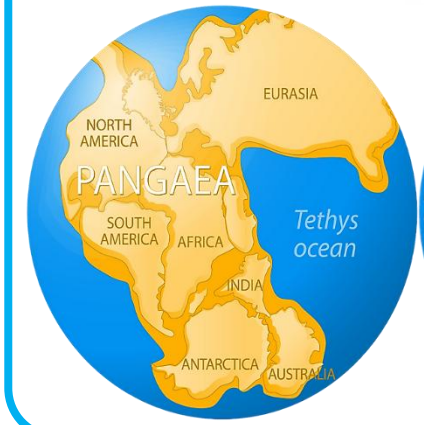
The Earth's core is divided into 'slabs', which are called **tectonic plates**. These 'fit together like a jigsaw puzzle'.

These plates are constantly moving.

Over time, the plates have moved across the Earth's surface. As the plates move, the continents on them move too. This movement is known as continental drift.

A map of Earth's tectonic plates





Over 175million years ago, most of Earth's land was connected. It was known as a 'Supercontinent' called **Pangea**.

Slowly, Pangea broke apart and the continents moved to where they are now.

Key vocabulary:

Prime meridian – The line running north-south which is defined as 0°. It runs from the north pole, through Greenwich (in England), to the south pole.

Equator – An imaginary line running around the centre of the Earth. It is half way between the North Pole and South Pole at 0° latitude.

Latitude – Lines that measure distance north or south of the equator. They run in horizontal in an east-west direction.

Longitude – Lines that measure the distance east or west of the 'prime meridian'. They run vertically from north to south.

Topic of Cancer – The most northern circle of latitude where the sun can be directly overhead.

Topic of Capricorn – The most southern circle of latitude where the sun can be directly overhead.

Crust – The outer layer of Earth made up of thick, solid rock.

Mantle – The second layer of Earth made up of solid and liquid rock.

Outer core – A layer consisting of liquid rock.

Inner core – A layer of solid rock and is responsible for the Earth's magnetic field.

Semi-Molten – Rock that is in a state between solid and liquid.

Tectonic plates – Pieces of the Earth's crust and upper most mantle.

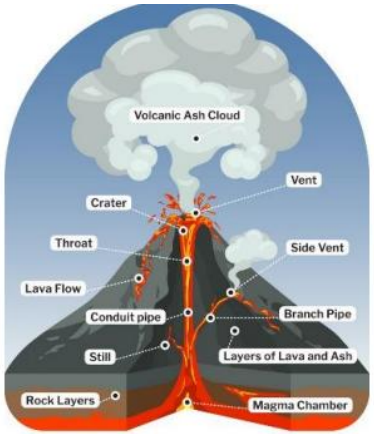
Pangea – The 'Supercontinent' of connected land mass.

Continental drift – The movement of contents due to tectonic activity.

Volcanoes

How are volcanoes formed?

1. Magma rises through cracks or weaknesses in the Earth's crust.
2. Pressure builds up inside the Earth.
3. When the pressure is released, e.g. as a result of plate movement, magma explodes to the surface causing a volcanic eruption.
4. The lava from the eruption cools to form new crust.
5. Over time, after several eruptions, the rock builds up and a volcano forms.



VOLCANO

There are different types of volcanoes found around the world today,

- **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 erupt again.

The type of magma in the earth creates four different types of volcanoes:

- **Shield** – shaped like a bowl or shield in the middle with long gentle slopes
- **Composite**– tall and thin, steep sided volcanoes composed of many layers.
- **Cinder** – circular or oval cones built from erupting lava that breaks into small pieces as it shoots into the air.
- **Lava dome** – when lava is too thick to flow, making a steep sided mound.

Earthquakes

Shockwave – a sharp change of pressure, usually seen through air or water that is travelling faster than sound

Epicentre – The focus point of Earth's surface where there has been an earthquake.

Seismic waves – an elastic wave in the earth produced by an earthquake or other means.

Tsunami – a long, high sea wave caused by an earthquake or other disturbance.

'Ring-of-fire' – The Ring of Fire is a region around much of the rim of the Pacific Ocean where many volcanic eruptions and earthquakes occur.

What is an earthquake?

An earthquake is the shaking and vibration of Earth's crust due to movement of the Earth's plates. Earthquakes can happen along any type of plate boundary.

When do earthquakes occur?

Earthquakes occur when tension is released from inside the crust. Plates do not always move smoothly alongside each other and sometimes get stuck. When this happens pressure builds up. When the pressure is eventually released an earthquake tends to occur.

What will happen during an earthquake?

Usually, earthquakes with a low magnitude (size of measurement for earthquakes) will cause some trembling to the ground and low damage to roads and buildings. Earthquakes with a larger magnitude will cause much more damage to buildings, roads, utilities and can often lead to serious harm to humans.