



Extreme Earth



Vocabulary

bedrock	The solid rock that lies beneath the loose surface of the Earth.
crust	The outer layer of the Earth (it is about 35km thick).
earthquake	An earthquake is the shaking of the surface of the Earth, resulting from the sudden release of energy under- ground that creates seismic waves.
epicentre	A point, directly above the true centre of an earthquake, from which shock waves spread out.
lava	The molten, fluid rock that comes from a volcano. This can be 800oC to 1,200oC
magma	The molten material beneath or within the earth's crust.
Richter scale	A unit of measurement that measures the magnitude (strength) of earthquakes on a scale of 1-10. 10 is the strongest.
seismology	The study of earthquakes.
seismometer	A piece of equipment that measures the strength of earthquakes by recording vibrations in the Earth's crust
Shock wave	A sharp change of pressure travelling through the earth or the air caused by explosions, earthquakes or eruptions
tectonic plates	The dozen or so plates that make up the surface of the Earth.
tsunami	A series of waves caused by the movement of a large amount of water, generally in an ocean, sea or a very large lake. These are usually caused by underwater earthquakes.
volcanic eruption	The sudden occurrence of a violent discharge of steam and volcanic material (including lava) from a volcano. A stream of gas and ash is violently ejected to a height of several miles.

Dear Parents,

Our next Humanities topic is a Geography unit called '**Extreme Earth**'. Please help your children to prepare for this topic by learning some of the key words and the facts on this sheet.

There are some homework activities on the back of this sheet. Your child can complete these at any time. Your child's teacher would love to see what they have created.

Thank you for your support,
Kind regards,
Year 4 Teachers

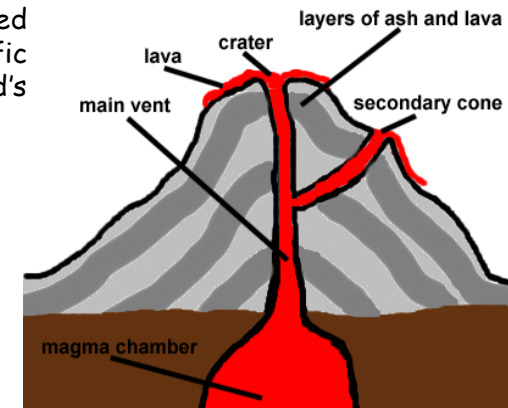


Volcanoes are openings in the Earth's surface. **Active volcanoes erupt** often or have erupted recently. **Dormant volcanoes** have not **erupted** for a long time, but can still erupt. **Extinct volcanoes** can no longer **erupt** and have not **erupted** for thousands of years.

Most **volcanoes** are located near to the edges of tectonic plates. 75% of the world's volcanos are located around the Pacific Plate (the Pacific Ring of Fire). 90% of the world's earthquakes also happen here.

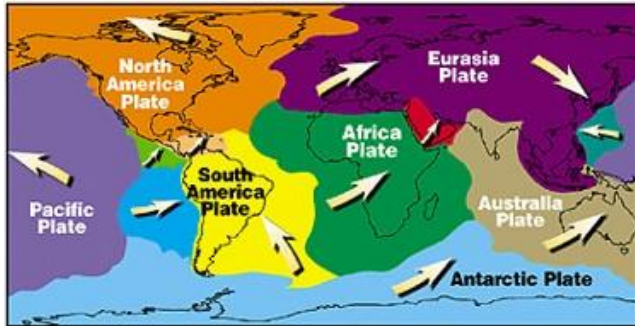
Mount Vesuvius AD79

When Mount Vesuvius (in Italy) **erupted** in AD79, it destroyed the Roman towns of Pompeii and Herculaneum. This **eruption** killed between 10,000 and 16,000 Romans.

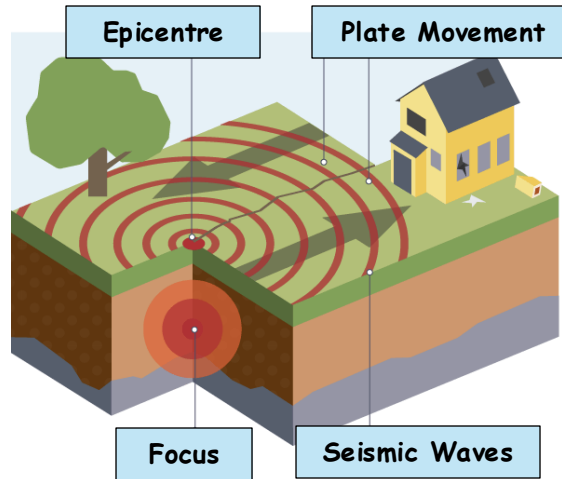


The Earth's surface is moving in different directions. See the map below. We are located on a **tectonic plate** called the Eurasia plate. The **tectonic plates** move between 2-5cm per year. That's about the same speed at which your fingernails grow!

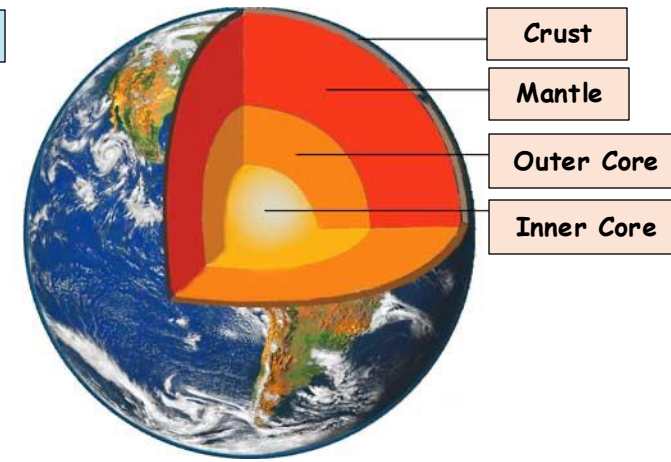
Occasionally **tectonic plates**, as they meet, can get stuck. The pressure builds up until they move suddenly and quickly. This is called an **earthquake**.



Earthquakes



Layers of the Earth



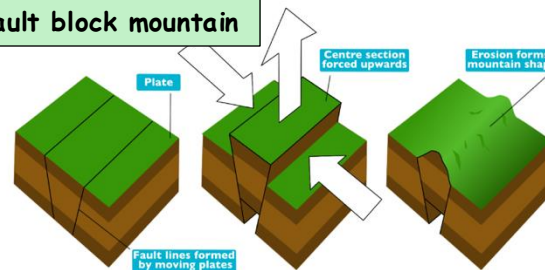
How mountains are formed

There are two main ways - Fault block mountains and dome mountains.

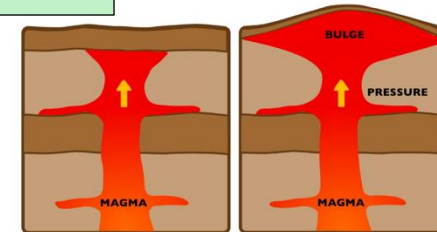
Homework Ideas:

- Make a working model of an erupting Volcano (research for how to do this online).
- Research the events that happened in AD79 when Mount Vesuvius erupted and present your findings to the class - a poster, a PowerPoint presentation, a model etc.
- Imagine that you were in an earthquake. Write a newspaper report describing what happened and how people felt.
- Research about the parts of a volcano. Draw it and label its features.
- Draw and paint a picture of a volcano erupting.
- Create a fact poster for a famous volcano, such as Mauna Loa in Hawaii.

Fault block mountain



Dome mountain



Tsunamis are caused by an **earthquake** or **volcanic eruption** under or near the ocean floor. They can cause flooding, the destruction of buildings and the loss of life.

Tsunamis can also be caused by large asteroids crashing into the ocean, such as when the dinosaurs were made extinct.

