

Learning Intention: As a Geographer I can explain the importance and significance of volcanoes and earthquakes.

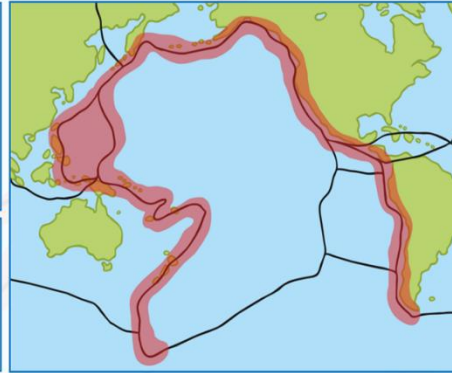
Earthquakes

- 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.



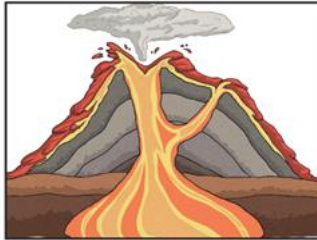
The Ring of Fire is a horseshoe-shaped line on a map which is home to around 75% of the world's volcanoes and 90% of the world's earthquakes.

The area is a 25 000 mile line of volcanoes, tremors and earthquakes around the edge of the Pacific Ocean.



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.



The Three Stages of Volcanoes

Scientists have placed volcanoes in to three different categories.

Active

An active volcano is one that has erupted recently, and there is the possibility that it may erupt again.

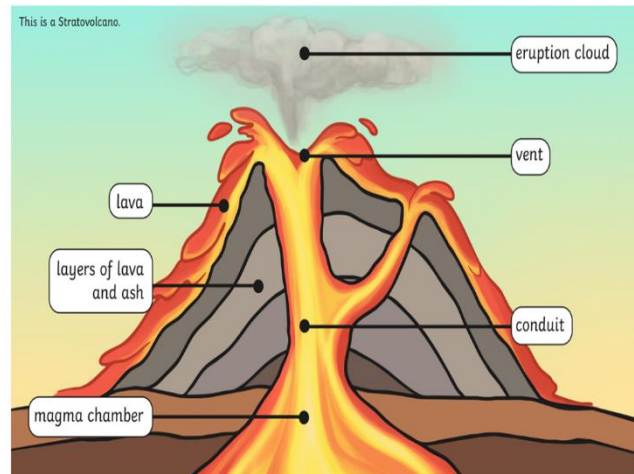
Dormant

A dormant volcano is one that has not erupted for a long time, however, it may still erupt in the future.

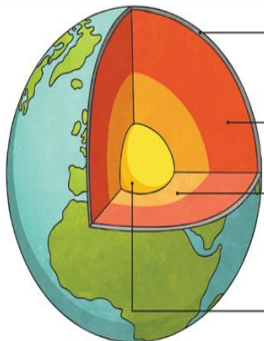
Extinct

An extinct volcano is one which has erupted thousands of years ago, but it will probably never erupt again.

A Cross-Section of a Volcano



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.

Vocabulary to use ...

- Earthquake
- Volcano
- Tectonic plate
- Erupt
- Magma
- Erupt
- Cumulonimbus cloud
- Ring of fire
- Active
- Dormant
- Extinct
- Richter scale
- Magnitude

The Richter scale

Measures energy waves emitted by earthquake

- 0 - 1.9** Can be detected only by seismograph
- 2 - 2.9** Hanging objects may swing
- 3 - 3.9** Comparable to the vibrations of a passing truck
- 4 - 4.9** May break windows, cause small or unstable objects to fall
- 5 - 5.9** Furniture moves, chunks of plaster may fall from walls

6 - 6.9 Damage to well-built structures, severe damage to poorly built ones

7 - 7.9 Buildings displaced from foundations; cracks in the earth; underground pipes broken

8 - 8.9 Bridges destroyed, Few structures left standing

9 and over Near-total destruction, waves moving through the earth visible with naked eye

Things learnt along the way ...

Enquiry Questions ...

Why do volcanoes erupt?

Where in the world are volcanoes?

Why do only some countries have earthquakes?

What is an earthquake?

How do you know what type a volcano is?

When do volcanos cease to exist?

What causes an earthquake?

What would I like to find out more about?