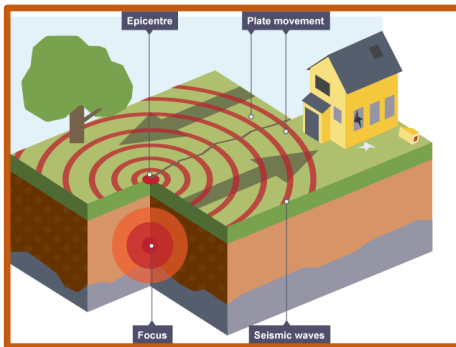


EXTREME EARTH: VOLCANOES AND EARTHQUAKES

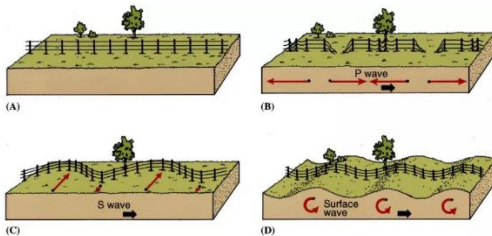
Topic Overview

Earthquakes

- The crust of the Earth is made up of plates of rock that fit together like a jigsaw.
- These are called **tectonic plates**. These plates are constantly moving - a few centimetres each year.

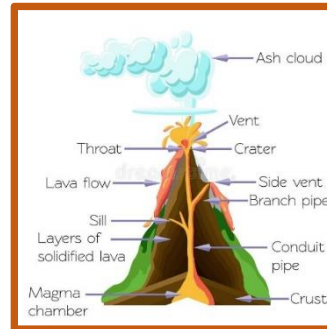


- Sometimes they get forced together, judder past each other, then fall back to their original shapes. This causes **seismic waves** which create **earthquakes**.
- Earthquakes can be felt anywhere in the world, but most earthquakes happen along **faults**, where tectonic plates meet.
- They are measured using the **Richter Scale**.

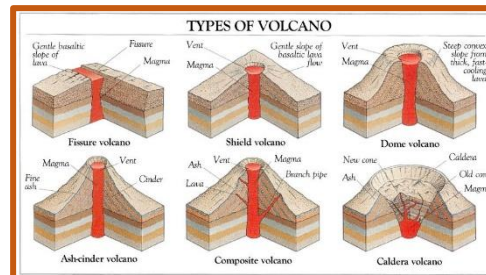


Volcanoes

- Volcanoes** are made when pressure builds up inside the earth's **mantle**.
- This affects the earth's crust causing **magma** to sometimes **erupt** through vents in the **crust**.
- The magma becomes **lava** as it flows down the sides of the volcano.
- Toxic gas** and **ash** are also released.



- Active** volcanoes have erupted in the last 10 000 years.
- Dormant** volcanoes haven't erupted in the last 10000 years but may erupt again.
- Extinct** volcanoes aren't expected to erupt again.



Key Vocabulary

Core	The centre of the Earth: a solid inner core and outer liquid core of molten metal.
Crater	The mouth of a volcano.
Crust	The hard rock outer layer of the earth.
Earthquake	A violent movement of parts of the Earth's surface.
Epicentre	The centre of an Earthquake.
Erupt	Sudden explosion of lava out of the earth's surface
Lava	Molten rock flowing from a volcano.
Molten	Hot, melted rocks.
Magma	Extremely hot liquid rock.
Mantle	3000km thick under the crust (made of liquid rock)
Seismic Waves	An elastic wave in the earth produced by an earthquake.
Tectonic Plates	Sections of the earth's crust.
Volcano	An opening in the Earth's crust through which lava, ash and gases escape.

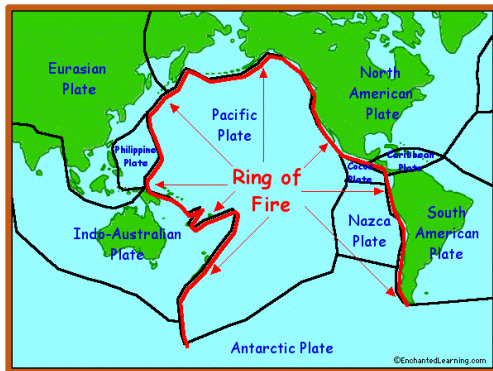


Top Takeaways

Having studied this topic you should be able to:

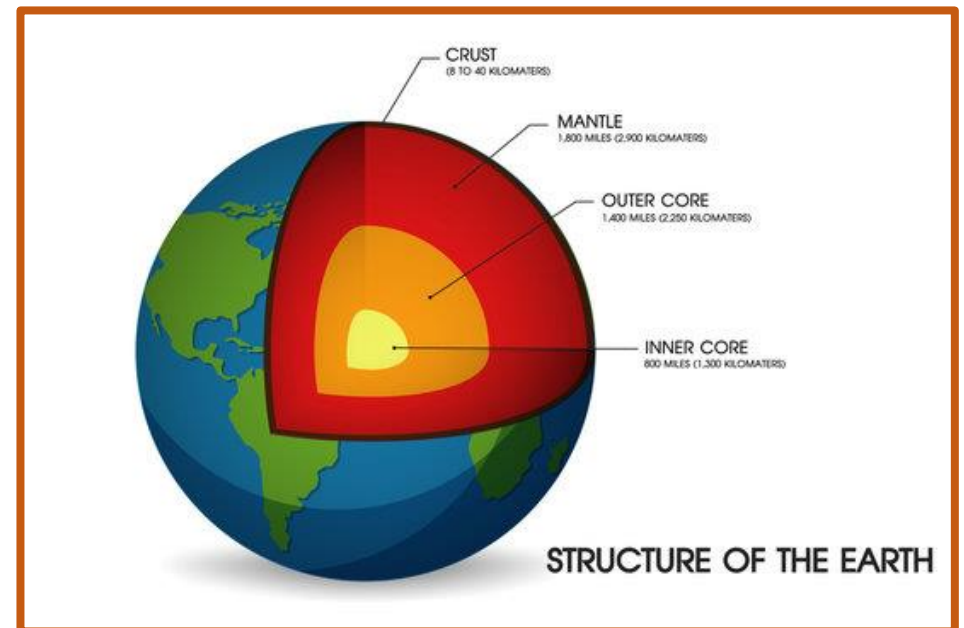
- Understand how tectonic plates work.
- Identify the layers of the earth and how earthquakes occur.
- Describe the effects felt at the surface of the Earth when tectonic plates move.
- Understand what seismic waves are and how they are **recorded**.
- Discuss how volcanoes are formed.
- Identify the Ring of Fire and discuss why it exists.
- Summarise the features of extinct, dormant and active volcanoes.
- Discuss the inside of a volcano using diagrams Understand the difference between magma and lava.
- Understand what happens when a volcano erupts and why.

Tectonic Plates



- The Earth's surface is called the crust. It is made up of different rocky sections called tectonic plates, which fit together like a puzzle.
- The plates that are below the continents (land) are known as continental plates. The plates that are covered by the ocean are called oceanic plates. These are thinner and heavier.
- There are seven major tectonic plates that cover most of the Earth: Eurasian, North American, South American, Indo-Australian, and Pacific Plates.
- The Ring of Fire is an area around the rim of the Pacific Ocean where many volcanic eruptions and earthquakes occur.

Earth's Layers



EXTREME EARTH: VOLCANOES AND EARTHQUAKES

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