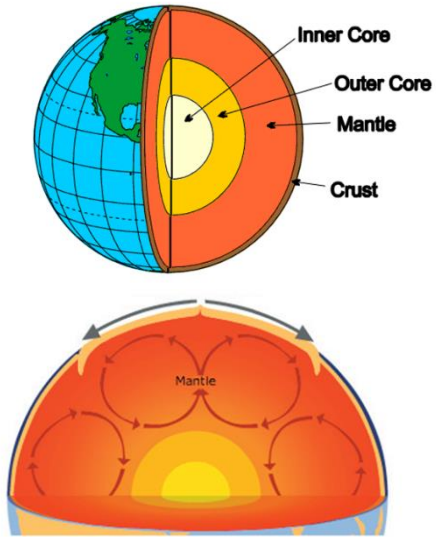
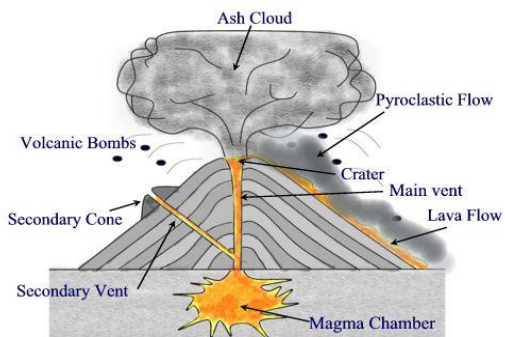


Structure of the Earth



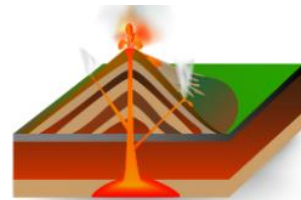
How does a volcano work?



Main Features of a Volcano

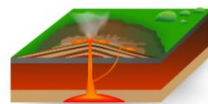
Types of volcanoes

Composite volcanoes are **steep sided and cone shaped** made up of **layers of lava and ash**, containing **sticky lava** that doesn't flow very fast.



Stratovolcano

Shield Volcanoes have **gently sloping sides** and **runny lava** that covers a **wide area**.



Shield volcano

Tectonics

Plate boundaries or margins

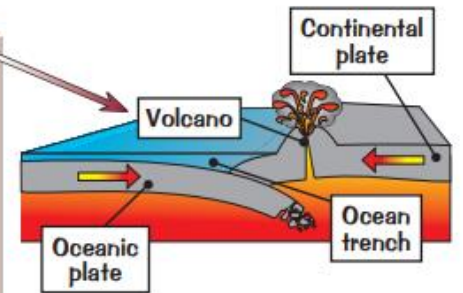
1 Destructive Margins

Destructive margins are where two plates are **moving towards** each other, e.g. along the west coast of South America.

Where an **oceanic plate** meets a **continental plate**, the denser **oceanic** plate is **forced down** into the mantle and **destroyed**.

This often creates **volcanoes** and **ocean trenches** (very deep sections of the ocean floor where the oceanic plate goes down).

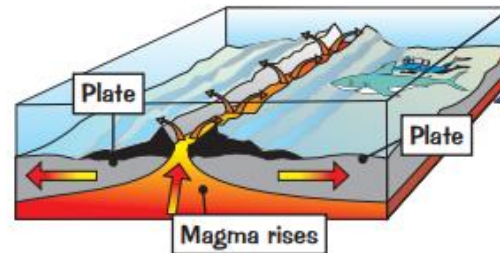
Where **two continental plates** meet, the plates **collide**, and the ground is **folded** and **forced upwards** to create **mountain ranges**.



2 Constructive Margins

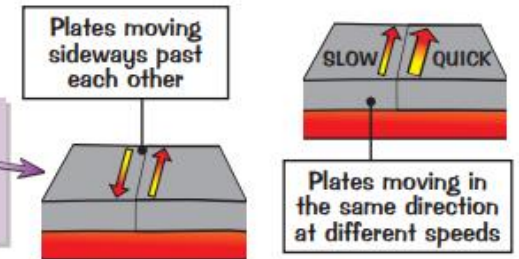
Constructive margins are where two plates are **moving away** from each other, e.g. at the mid-Atlantic ridge.

Magma (molten rock) **rises** from the mantle to fill the gap and **cools, creating new crust**.



3 Conservative Margins

Conservative margins are where two plates are **moving sideways** past each other, or are moving in the **same direction** but at **different speeds**, e.g. along the west coast of the USA. Crust **isn't created** or **destroyed**.



Why live near a volcano?

Fertile soil – because of all the minerals its good for growing crops



Geothermal Energy – cheap and environmentally friendly



Tourism – generates money and jobs for locals



Prediction – scientists monitor and put warning systems in place



Fuego Eruption

Erupted 3/6/2018

Pyroclastic flow covered 10Km buried many villages under ash

Effects

165 killed

1000s homeless

1400 spent night in makeshift shelters in schools

Airport closed meaning aid could not arrive

Vital crops destroyed – corn, beans and coffee

Responses

No prior warning given

Monitoring equipment out of date

Oxfam raised money and sent aid



Nepal Earthquake

7.8 magnitude struck on 25/4/2015 with 105 aftershocks

Effects

5000 killed

10000 injured

1.6 million homeless

90% of people lost their homes and livestock and have no way of getting food.

Responses

Government declared state of emergency and asked for international help

Oxfam flew in tents, blankets, medical supplies and fresh food and water.



What is an earthquake ?

Sudden release of energy in the Earth's crust causing the ground to shake

Focus – the start inside the earth

Epicentre the point above the focus on the Earth's surface.

Earthquakes are measured on the Moment magnitude scale (MMS).

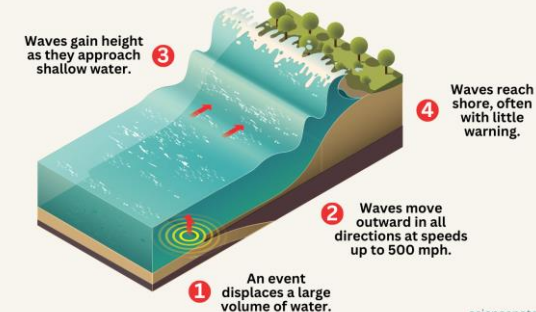
This measures the magnitude (strength) of the shaking caused by the earthquake

It has 10 different levels.

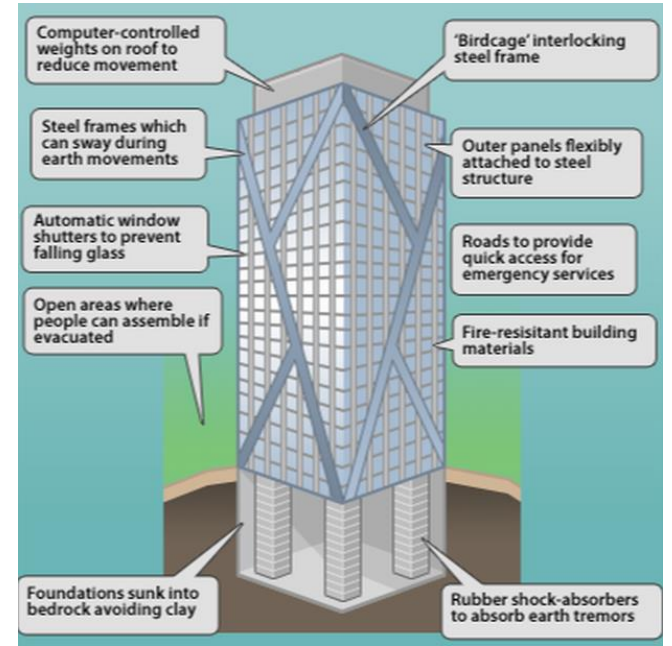
1 is the lowest and 10 is the strongest.

Tsunami

A tsunami is a giant wave caused by an earthquake or other event that displaces a lot of water.



Earthquake proof buildings



The Three P's

PREDICT: There may be many pre-shocks before an earthquake that can be measured on a seismograph.

PROTECT: All buildings must comply with strict earthquake planning regulations

PLAN: Prepare disaster plans. Organise and prepare hospitals and evacuation centres. Organise emergency supplies

