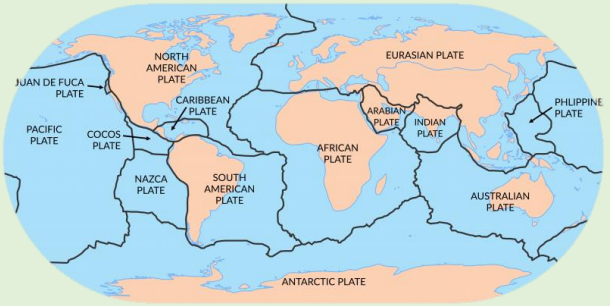
YEAR 3: GEOGRAPHY SUMMER 2: VOLCANOES AND EARTHQUAKES

Key Vocabulary	
crust	The top layer of the Earth, divided into sections called tectonic plates.
mantle	The layer of the Earth underneath the crust. Has a thick, sticky texture.
continents	A continuous piece of land. Made of granite. 30-40km thick.
granite	A light rock that makes up the continents.
ocean floor	The bottom of the sea/ocean. Made of basalt. 5-10km thick.
basalt	A heavy rock that makes up the ocean floor.
boundary	Where two tectonic plates meet.
hazard	An event that is likely to be dangerous to human life.
magma	Hot liquid rock beneath the Earth's surface.
lava	Hot liquid rock erupted from a volcano or a gap in the Earth's crust.
hotspot	An area of the Earth where exceptionally hot magma from the mantle rises into the crust, forming volcanoes.
Moment Magnitude Scale	A system used to measure the strength of an earthquake, on a scale from 1-10.

Tectonics

The crust of the Earth is divided into sections called tectonic plates. These plates move about over the mantle. Continental drift describes the movement of tectonic plates; the continents and the ocean floors move between 1-10cm annually!



When these plates meet, move apart or travel alongside each other, different boundaries are created. Each boundary produces different features including mountain ranges, trenches and volcanoes, and hazards including eruptions, earthquakes and tsunamis.

Volcano classification

Active: a volcano that has recently erupted and has the possibility of erupting again.

Dormant: a volcano that has not erupted for a long time but may do in the future.

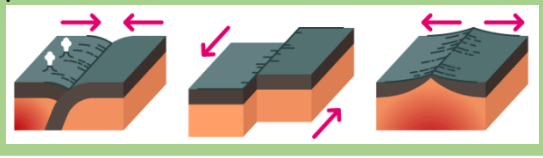
Extinct: a volcano that erupted thousands of years ago and probably won't again.

Plate boundaries

Convergent: when two tectonic plates move towards each other.

Transform: when two tectonic plates slide past each other.

Divergent: when two tectonic plates move away from each other.



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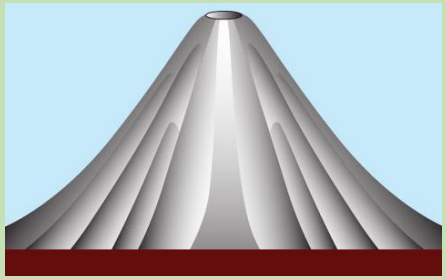
Mount Etna: composite volcano
Mount Etna is a composite volcano in Sicily, Italy. It is one of the world's most active volcanoes. It lies on a convergent boundary between the African and Eurasian plates.

Composite volcanoes are steep-sided and are made up of lots of layers of volcanic rock. The magma inside these volcanoes is sticky, resulting in lots of pressure inside the volcano. This causes explosive eruptions.



Mauna Loa: shield volcano
Mauna Loa is a shield volcano in Hawaii, USA. It lies on a hotspot close to a divergent boundary along the edge of the Pacific plate.

Shield volcanoes are bowl or shield-shaped in the middle. When they erupt, the lava is runny and travels long distances before it cools. The lava forms long, gentle slopes. These volcanoes do not often explode.

Kobe: earthquake
The Great Hanshin earthquake in Kobe, Japan happened in 1995. The tremors only lasted for 20 seconds but 6,434 people died and $200 billion of damage was caused! It measured 6.9 on the Moment Magnitude Scale.

Earthquakes are caused when the edge of tectonic plates rub against each other.

Indian Ocean: tsunami
The Boxing Day tsunami occurred in the Indian Ocean in 2004. A 9.3 magnitude earthquake in Indonesia began the tsunami which produced 30m high waves and killed over 200,000 people in 14 countries!

A tsunami is a series of large waves produced by an event like an earthquake or volcanic eruption.