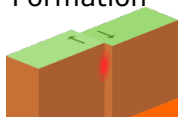
Spring 2 Environment: Volcanoes and Earthquakes

Volcanoes

Formation 	Volcanoes generally form on the boundaries of the tectonic plates. Tectonic plates can move apart from each other (diverge) leaving a space for magma to erupt. If plates converge, one plate is forced underneath the other, leaving space for magma to spill out.
Ring of Fire 	The Ring of Fire is a major area around the Pacific Ocean where many earthquakes and volcanic eruptions occur. It is a large 40,000km horseshoe shape with 452 different volcanoes along it!

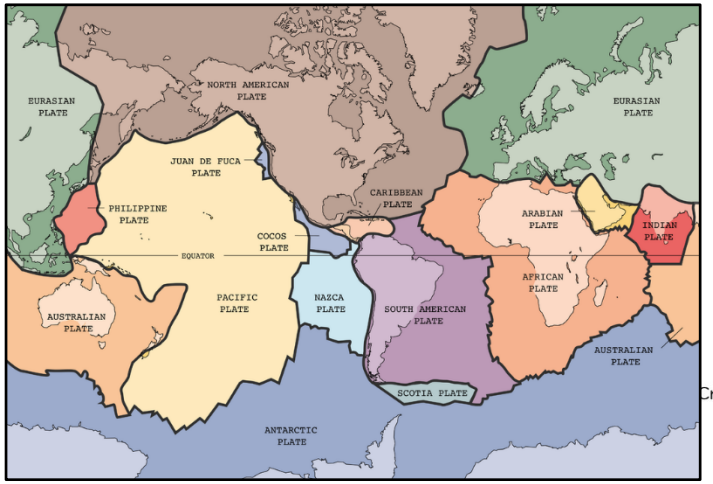
Earthquakes

Formation 	When tectonic plates move parallel to each other it causes friction that sticks them together. When they get unstuck, it can cause a violent jolt which causes an earthquake.
Magnitudes 	Shockwaves spread out from the epicentre (the strongest point of the earthquake). Magnitude, measured on a Richter scale, measures how strong an earthquake is. 1 is a small tremor and 9 is catastrophic!

Mercalli Intensity	Effect
I	Felt by no-one.
II	Felt by very few people. Hanging objects may swing.
III	Felt by many but they don't realise it is an earthquake.
IV	Felt indoors by most people. Vibrations similar to a lorry hitting a building.
V	Felt by nearly everyone. Sleeping people may be woken. Trees and telegraph poles sway.
VI	Felt by all. People run outside. Furniture moves. Slight damage to property.
VII	Felt by all. People run outside. Moderate damage to buildings
VIII	Specially designed buildings damaged, others collapse.
IX	All buildings damaged. Cracks appear in ground.
X	Many buildings destroyed. Ground is badly cracked.
XI	Almost all buildings destroyed. Wide cracks in the ground. Water, gas and electric out of action.
XII	Total destruction. Waves seen on the ground.

Plate Tectonics

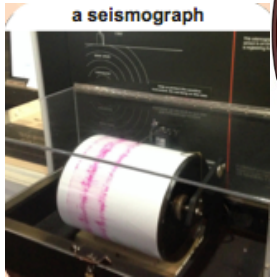
The part of the land that is moving in the Earth's crust is called the lithosphere. The lithosphere is made up of the Earth's crust and a part of the upper mantle. It moves in big chunks of land called tectonic plates. Some of these plates are huge and cover entire continents. They are around 62 miles thick and the movement of these help with the creation of mountains, volcanoes and earthquakes. They move between 1cm-10cm per year.



There are two main ways to measure the power of an earthquake.

Machines called seismographs measure the power of an earthquake at its epicentre on a scale called the Richter scale.

Another measure is the Mercalli scale, and this is based on people's observations during an earthquake.

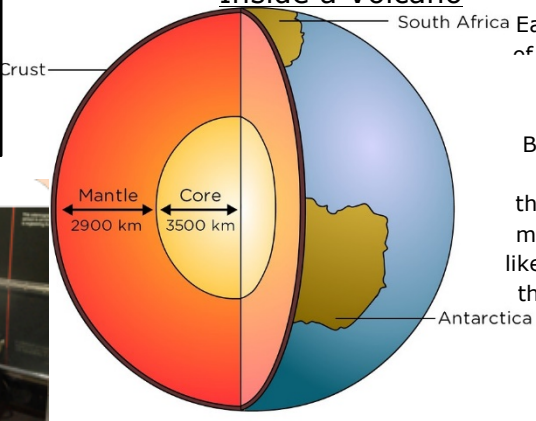


Shelter Box is a charity in Cornwall who send help out to families that have been affected by earth quakes and other natural disasters.

Key Vocabulary

crust	the outer layer of the Earth made up of plates
mantle	below the crust and made up of molten rock
core	centre of earth with a temperature of about 6000°C
plates	massive plate of solid rock on the Earth's crust
lithosphere	softened by the mantle, this helps move the plates
converge	two plates pushing together
diverge	two plates moving away from each other
magnitude	how strong an earthquake is
solidified	when something liquid cools and turns to a solid
magma	molten rock when inside the Earth
lava	molten rock when it has erupted out of the crust
seismograph	instrument used to detect an earthquake
igneous	rock formed from cooled lava or magma
sedimentary	rock formed from organic matter on the crust
metamorphic	rock heated inside earth causing them to change

Inside a Volcano



Inside Earth

Earth is made up of three sections. ists of solid rock. Below this is the mantle, so hot that the rock has melted and flows like liquid. Finally, the core which is a hotter ball of iron and nickel.