

Extreme Earth

Tsunamis



A tsunami is a series of waves in a water body caused by the displacement of a large volume of water, generally in an ocean or a large lake. Earthquakes, volcanic eruptions and other underwater explosions above or below water all have the potential to generate a tsunami.

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!

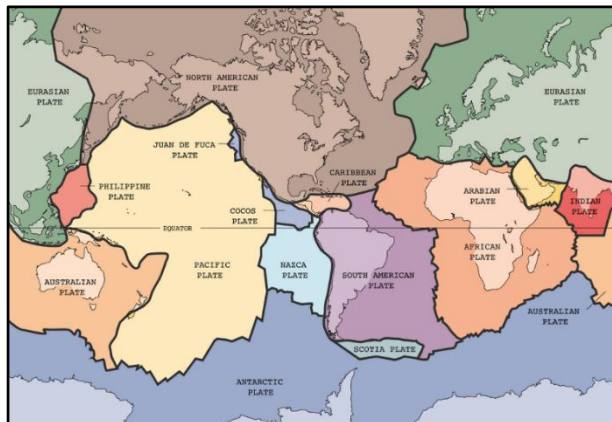
Tornadoes



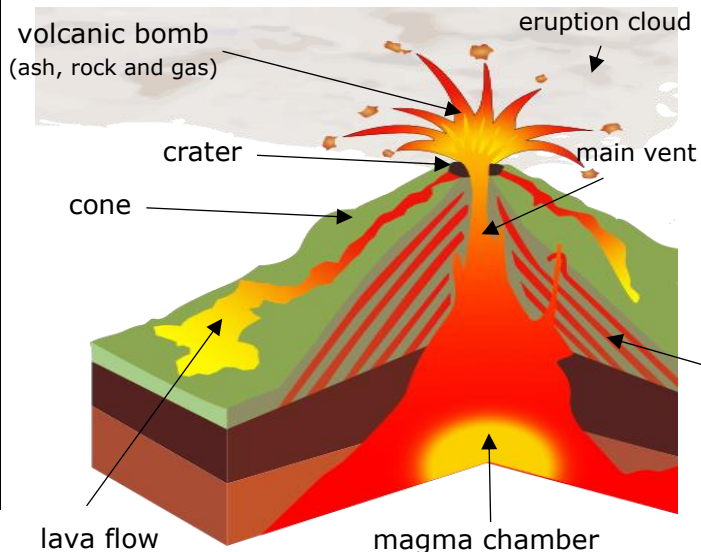
A tornado is a rapidly rotating column of air that is in contact with both the surface of the Earth and a cumulonimbus cloud or, in rare cases, the base of a cumulus cloud.

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.



Inside a Volcano



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 Earth

Earth is made up of three sections. The **crust** consists 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.

