

# Mountains, Volcanoes and Earthquakes

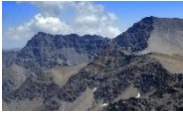
## Mountains

### Fold Mountains



Two plates push into each other (converge) and the plates start to push upwards.

### Fault Block



Two plates converge but rather than the pressure pushing the mountain upwards, a section breaks at weak points and that entire section is forced upwards.

### Dome Mountains



Magma from the mantle pushes its way up through the crust without erupting at the surface. It then pushes the layers of rock upwards. The magma cools and becomes solid rock.

## 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.

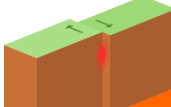
### Ring of Fire



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.

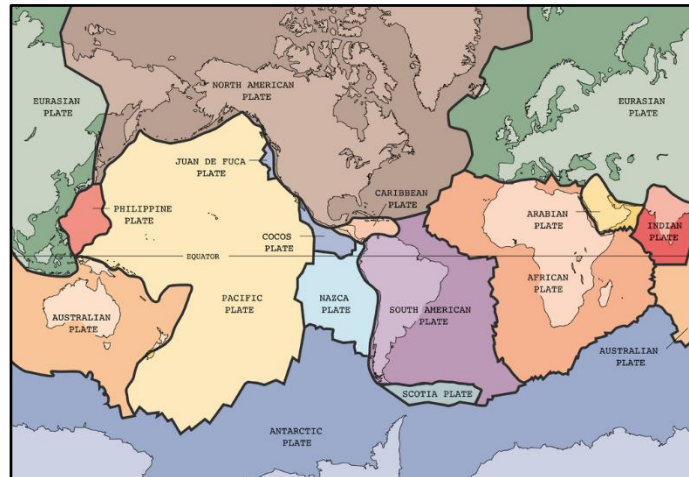
### Magnitudes



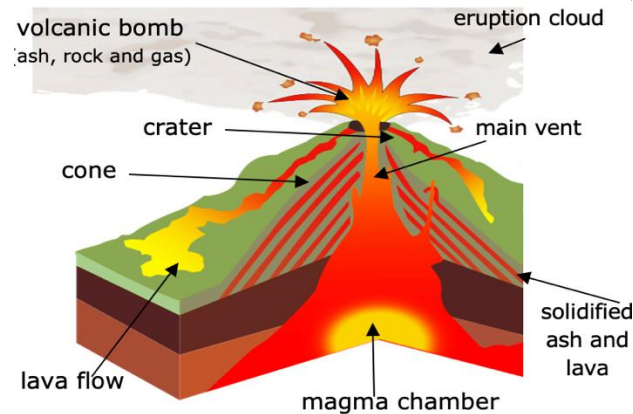
Shockwaves spread out from the epicentre (the strongest point of the earthquake). Magnitude, measured on a Richter scale, measures how strong an earthquake is. 1 is a small tremor and 9 is catastrophic!

## 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

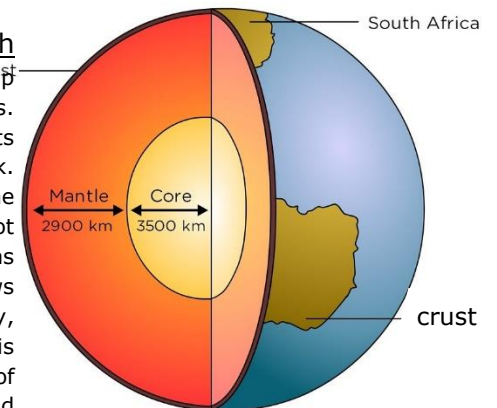


## Key Vocabulary

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
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.



## Tallest Mountains



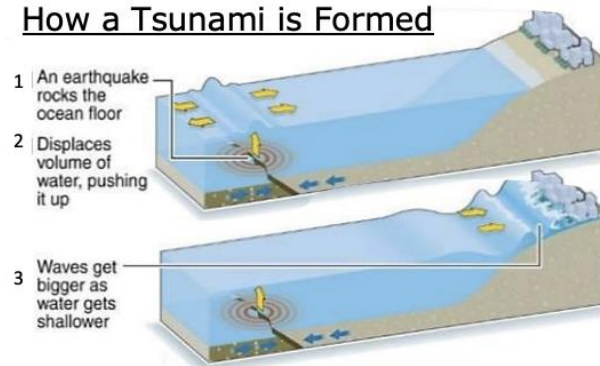
Mount Everest (Nepal/China)	K2 (Pakistan)	Kangchenjunga (Nepal)
8848m	8611m	8586m

Natural Disasters	
<b>Earthquakes</b> 	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.
<b>Tsunamis</b> 	When an earthquake occurs in the sea, the water is suddenly moved outwards, creating a huge volume of water which travels quickly towards land.
<b>Hurricanes</b> 	A hurricane is a huge storm measuring up to 600 miles across with winds reaching speeds of 75-200 mph.
<b>Volcanoes</b> 	Volcanoes generally form on the boundaries of 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.
<b>Wildfires</b> 	Common causes of wildfires include lightning, human carelessness (or on purpose), volcano eruptions, heat waves, droughts, and climate change.
Human Disasters	
<b>Deforestation</b> 	Forests are cut down for reasons including clearing the land for cattle farming or to make furniture. Plants give off oxygen, so the destruction of rainforests are having an impact on the health of the world.
<b>Pollution</b> 	Pollution from car exhausts and smoke from factories increase carbon dioxide and are contributing to global warming. Large amounts of plastic are filling the Earth's Sea and land, destroying habitats and wildlife.
<b>Industrial Accidents</b> 	Oil spills in the sea can cause catastrophic damage to sea life. Nuclear radiation from nuclear power plants can contaminate large areas for many years.

# Natural Disasters

A disaster is a sudden accident which causes significant damage to the landscape or loss of life. They can be human disasters or naturally occurring disasters.

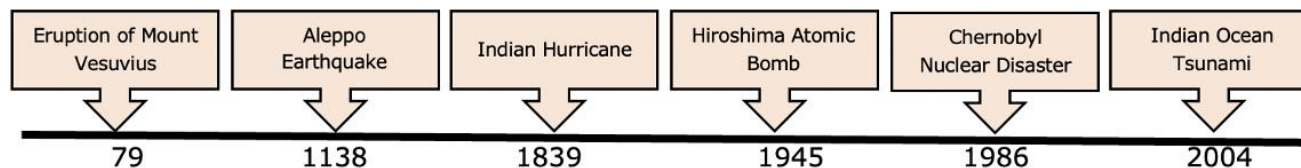
## How a Tsunami is Formed



## Key Vocabulary

<b>avalanche</b>	a large amount of snow, ice and rock fall
<b>converge</b>	two tectonic plates pushing together
<b>diverge</b>	two tectonic plates moving apart
<b>drought</b>	lack of rainfall over time causing a water shortage
<b>evacuation</b>	leaving somewhere immediately due to danger
<b>floods</b>	sudden rainfall causing water to rise
<b>magnitude</b>	how strong an earthquake is
<b>monsoon</b>	seasonal wind in SE Asia bringing heavy rain
<b>phenomenon</b>	a naturally occurring and unusual event
<b>Richter scale</b>	scale from 1-9 showing the magnitude of an earthquake
<b>rumble</b>	broken stone, brick, concrete caused by destruction
<b>seismograph</b>	an instrument used to measure the force and length of an earthquake occurs for
<b>tectonic plates</b>	the outer part of Earth is made up of 12 large, irregularly-shaped slabs of rock called 'plates'.
<b>tornado</b>	violently rotating wind causing destruction
<b>tremor</b>	a sudden shake of the Earth

## Disaster Timeline



## Here to Help!

There are lots of charities and organisations who help before, during and after a natural disaster. This includes:

- warnings/evacuation
- Immediate help (search and rescue)
- damage assessment
- continued assistance
- restoration/construction



### Examples

The British Red Cross  
 United Nations Children's Fund (UNICEF)  
 Royal National Lifeboat Institution (RNLI)