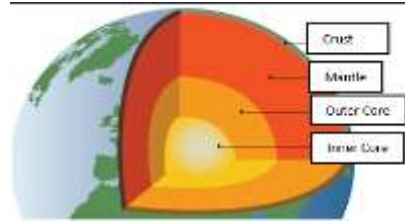


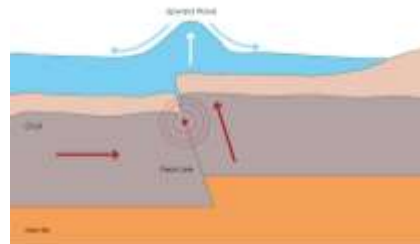
# The Geography Knowledge – Tectonic Hazards

<b>Tectonic Plates</b>	The crust is split into several pieces (like a cracked egg shell). These pieces of rock are called tectonic plates. They float on the mantle.
<b>Oceanic Crust</b>	Crust found under the oceans (thin, young, more dense)
<b>Continental Crust</b>	Crust found under land (thick, old, less dense)
<b>Continental Drift</b>	Theory that said the earth's continents are very slowly moving in different directions.
<b>Subducted</b>	Goes underneath
<b>Magma</b>	Molten(melted) rock
<b>Focus</b>	The point where the pressure is released
<b>Fault line</b>	The line between the two plates



## CONVECTION CURRENTS

- The mantle is made up of semi molten rock.
- Convection currents are circular currents in the mantle. The magma is heated up, it rises. Then cools as it hits the surface. It moves in a circular motion and drags the tectonic plate along.



## DESTRUCTIVE PLATE BOUNDARY

Two plates move towards each other. One plate is **subducted** beneath the other.

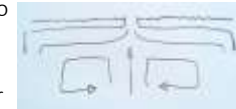
- As they move past each other, pressure builds up and up and up. This pressure is suddenly released = earthquake.
- As they move past each other friction and pressure cause the surrounding plate to melt = magma. This rises through the crust = volcano.



## CONSTRUCTIVE PLATE BOUNDARY

Two plates move away from each other due to convection currents in the mantle.

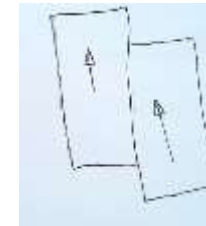
- This leaves a gap. Magma rises to fill this gap = volcanoes. This usually occurs under oceans. The magma creates new land = sea floor spreading
- As a magma rises, small earthquakes occur.



## CONSERVATIVE PLATE BOUNDARY

Two plates move past each other, either in the same direction at different speeds or in opposite directions.

- As the two plates slide past each other, pressure builds up and up and up. This is suddenly released = earthquakes



Tsunamis occur when a large piece of Earth's crust can be thrust upward or slip from side to side. The movement of a large chunk of Earth displaces the water above it, meaning it takes up the space where the water used to be. The water has no where to go but up and out.

**Earthquake**  
A sudden movement of tectonic plates due to a release of energy of pressure. It is followed by a series of aftershocks.  
As tectonic plates suddenly move, they send out **SHOCK WAVES**  
The point of movement is called the **FOCUS**.  
The point directly above the focus is called the **EPICENTRE**  
The closer you are to the focus and epicentre, the stronger the earthquake will be.

## NEPAL EARTHQUAKE (LIC)

- Where:** Nepal, Asia.
- Plate Margin:** collision plate boundary of the Eurasian and Indian plates.
- When:** 25<sup>th</sup> April, 2015.
- Magnitude:** 7.8 on the Richter Scale.
- Epicentre:** East of Gorkha District, Barpak. 80Km NE of Kathmandu.

## EFFECTS

- Primary effects** happen straight away or are a direct cause of the earthquake.
- Secondary effects** happened after the earthquake and are often as a result of a primary effect. See below:

PRIMARY EFFECTS	SECONDARY EFFECTS
<ul style="list-style-type: none"> <li>9,000 dead</li> <li>22,000 injured</li> <li>60,000 homes and buildings damaged or destroyed.</li> <li>4 hospitals destroyed in Kathmandu</li> <li>24,000 classrooms destroyed or damaged</li> <li>Transportation routes (roads, rail, ports, airports) destroyed by fallen buildings</li> <li>Service lines (water, gas, electricity) destroyed</li> </ul>	<ul style="list-style-type: none"> <li>Trauma and diseases from dead bodies.</li> <li>2.8 million people displaced.</li> <li>Increase in unemployment and companies stop making money as cannot export goods</li> <li>High crime rates</li> <li>Aid supplies could not reach victims.</li> <li>Cost :\$10 billion</li> </ul>

## MT MERAPI VOLCANO (LIC)

- Where:** Indonesia. The border between Central Java and Yogyakarta provinces
- Plate Margin:** Stratovolcano, Destructive plate, Indo-Australian subducted beneath the Eurasian plate.
- When:** 25<sup>th</sup> October-30<sup>th</sup> November 2010.
- Magnitude:** 4 VEI (volcanic explosivity index)
- Effects:** Volcanic bombs and heat clouds, with temperatures up to 800°C, spread over a distance of 10 km.
- Pyroclastic flows travelled 3 km down the heavily populated mountain sides.
- Volcanic ash fell up to 30 km away and travelled 6 km into the sky
- 353 people were killed
- 577 people were injured.

	HIC	LIC
<b>Quality of infrastructure</b>	The buildings, roads and bridges in HICs are much stronger. They also have earthquake proof buildings that do not fall down.	The buildings are built out of poor quality materials = fall down during earthquake.
<b>Use of monitoring and predicting equipment</b>	HICs use equipment to monitor the ground to predict when the earthquake will occur. They also have plans to help them prepare for when the earthquake occurs	Not all LICs can afford monitoring equipment to predict when the earthquake will occur or have sufficient plans to help them prepare for when it does.
<b>Communication systems</b>	HICs have good communication systems to help communicate with the population what to do following the earthquake.	LICs do not have good communication systems to communicate with the population what to do following the earthquake = do not know what to do.
<b>GDP: wealth of country</b>	Countries have more money to spend planning, predicting and protecting themselves from the earthquake, they can also rebuild the country quicker.	LICs, do not have the money to rebuild after a natural disaster. They also can't spend as much money on search and rescue or clean up operations.