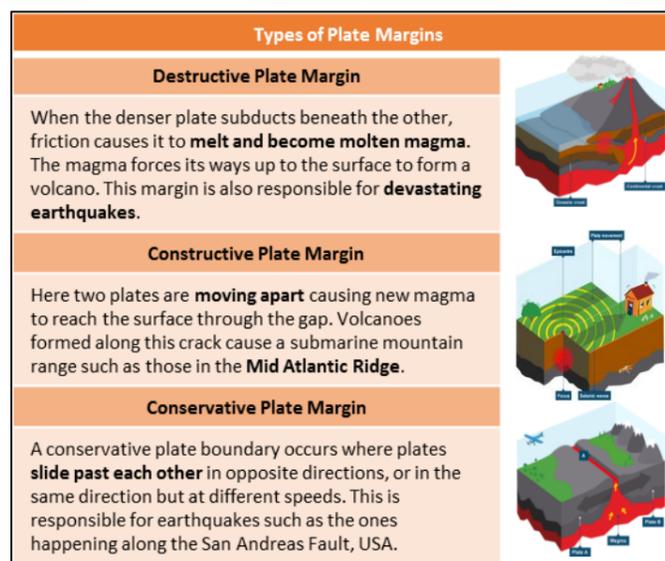
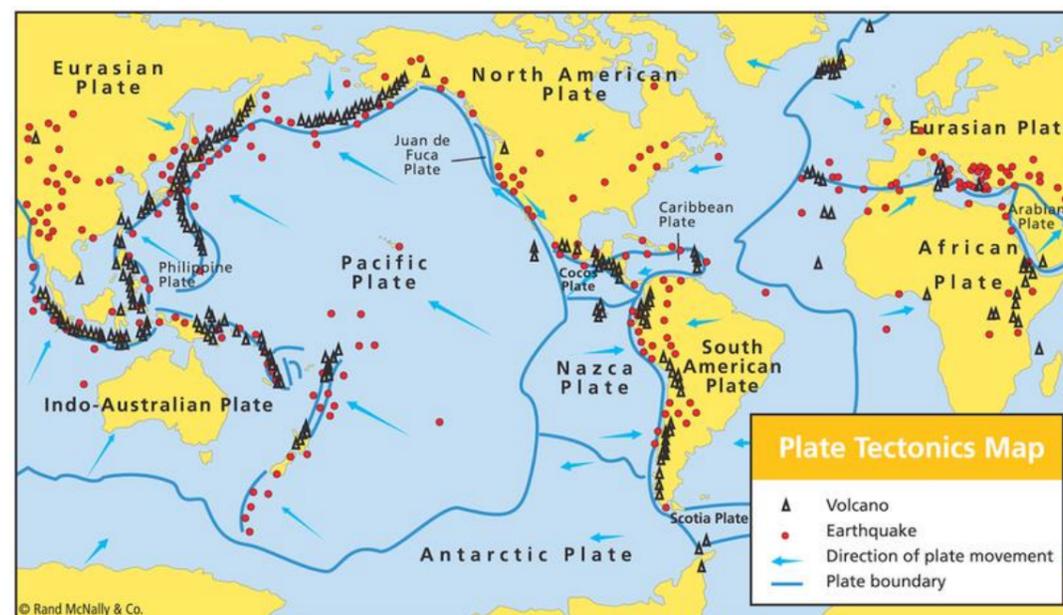
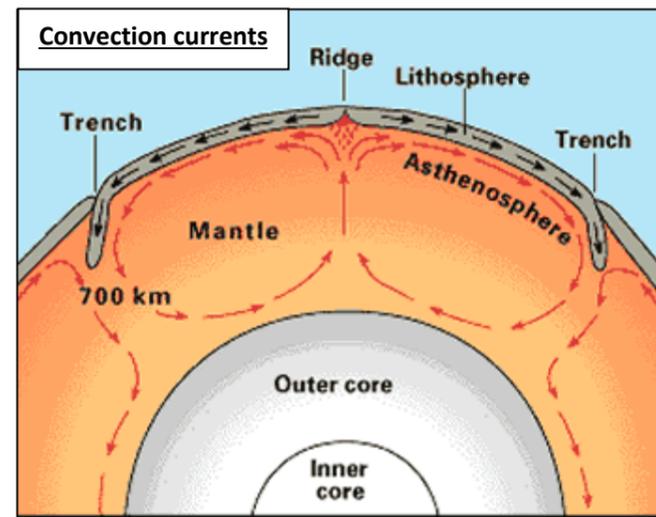
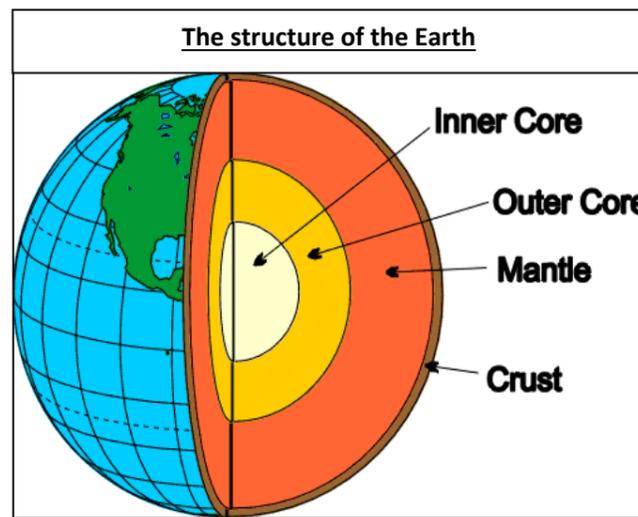




Unit 1: The Challenge of Natural Hazards

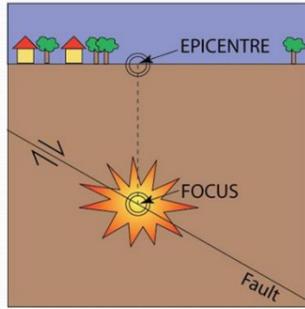
Vocabulary list	
Natural hazard	A natural process which could cause death, injury or disruption to humans, property and possessions.
Tectonic hazard	A hazard caused by the movement of tectonic plates
Tectonic plate	A section of the Earth's crust
Crust	The solid and thin outer layer of the Earth - cool
Mantle	The thickest layer of the Earth, mostly solid but moves like a liquid over long periods of time – hot near the core, cooler near the crust
Outer core	An liquid iron a nickel layer – very hot
Inner core	The centre of the Earth – a solid iron and nickel layer – very hot
Convection current	The circular movement of magma in the mantle due to the heat from the core
Plate tectonic theory	Convection currents move the tectonic plates
Magma	Molten rock found beneath the surface of the Earth
Destructive plate margin	When oceanic and continental crust collides, the more dense oceanic plate sinks under the continental plate, forming violent volcanoes and earthquakes.
Constructive plate margin	When two plates move apart, magma rises through the gap created forming volcanoes and ridges.
Conservative plate margin	When two plates move side by side they rub together and friction builds up, causing earthquakes.
Subduction zone	The area where the dense oceanic plate sinks under the continental plate in a destructive plate margin.



Vocabulary list	
Earthquake	When friction builds up between two tectonic plates and is suddenly released, causing shaking on the surface,
Focus	The point at which the pressure is released underground – the centre of the earthquake.
Epicentre	The point on the surface closest to the focus – where the earthquake is strongest for humans.
Seismic wave	The kinetic energy released in an earthquake.
Effect	What happens as a result of something.
Primary effect	Something directly caused by a hazard.
Secondary effect	Something indirectly caused by a hazard, often caused by a primary effect.
Response	Something people do during or after a hazard.
Immediate response	Occurs during or very soon after a hazard, often emergency reactions to keep people alive and safe.
Long-term response	Occurs in the days, weeks or months after a hazard in order to rebuild and get back to normal.
Geothermal energy	Using the hot form inside the Earth to generate electricity.
Monitoring	Observing the world to look for signs of a hazard occurring.
Prediction	Using the data gathered from monitoring to attempt to say when a hazard will occur.
Planning	Put in place to save lives should a hazard occur, e.g. an evacuation plan.
Protection	Improving buildings to make them more resistant to hazards, e.g. strengthening foundations.

What is an Earthquake?

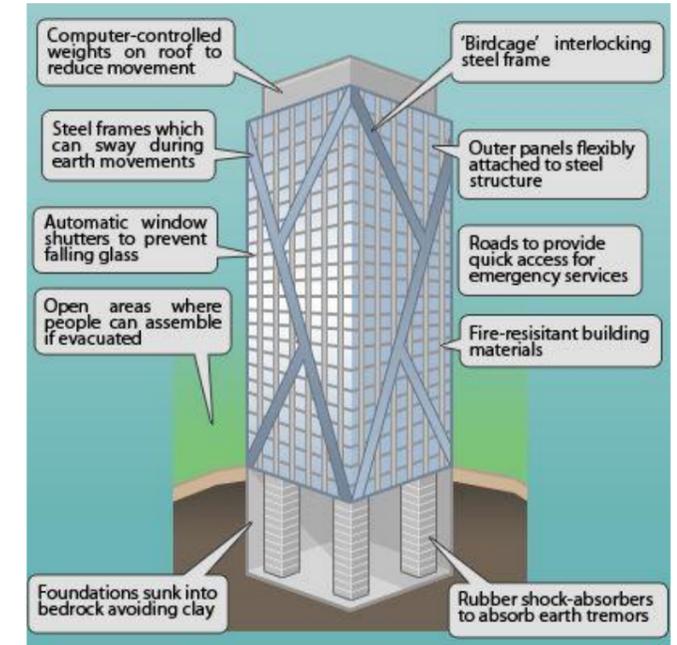
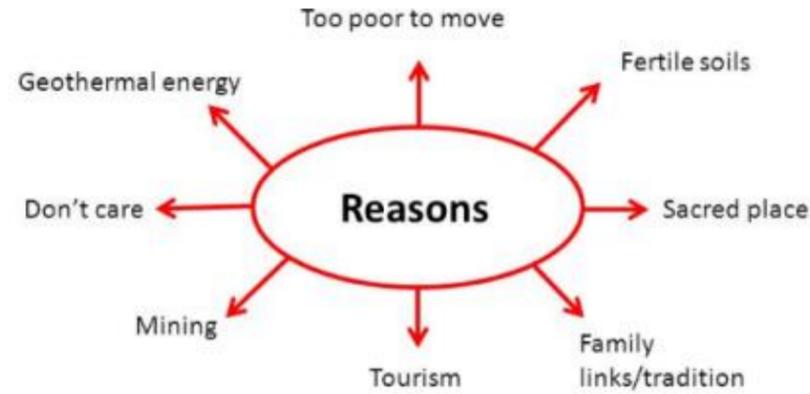
- Ground movement caused by the sudden release of seismic energy due to tectonic forces.



The **focus** of an earthquake is the actual location of the energy released inside the Earth's crust.

The **epicentre** is the point on the Earth's surface directly above the focus.

Why do people live near volcanoes and earthquakes?



LIC Example: Nepal earthquake

Causes

- 25th April 2015
- Destructive plate margin – Indo-Australian plate and Eurasian plate
- 7.9 on Richter scale
- Epicentre 80km north west of Kathmandu
- Shallow: 15km below the surface



Effects

Primary

- 9000 people died
- 8 million people affected
- 7000 schools destroyed
- 50% of shops destroyed

Secondary

- 3 million people homeless
- Avalanche on Mount Everest killed 19 people
- Landslide blocked roads
- Landslides blocked the Kali Gandaki River

Responses

Immediate

- Search and rescue teams from India, China and the UK
- 500,000 tents provided
- Field hospitals set up
- Financial aid pledged from countries

Long term

- Thousands of people rehomed
- Everest base camp repaired
- Stricter controls on building codes
- 7000 schools to be rebuilt

HIC example: Chile earthquake



Causes

- 27 February 2010
- Destructive plate margin – Nazca plate and South American plate
- 8.8 on Richter scale
- Epicentre under the Pacific Ocean

Effects

Primary

- 500 people killed
- 800,000 people affected
- 4500 schools destroyed
- Port of Talcahuanao badly damaged

Secondary

- 1500km of roads damaged
- Several coastal towns devastated by tsunami
- Fire at a chemical plant near Santiago

Responses

Immediate

- Emergency services acted swiftly
- Temporary repairs made to Route 5 within 24 hours
- Power and water restored to 90% of homes within 10 days
- US\$60 million raised by Chileans

Long term

- Housing reconstruction plan
- Not much need for foreign aid
- 4 years to fully recover