

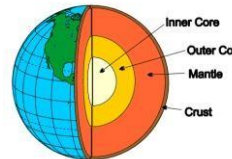
Year 10 Hazards

Game Changer – 'I can understand the challenges natural hazards bring and think through management strategies.'

This unit focuses on the impacts of natural hazards analysing locational factors that may increase vulnerability. The concept of MPPP will be explored with a range of management strategies being analysed.

Tectonic	Word used to describe the plates that the crust is split into.
Primary Effects	It happens immediately.
Secondary effects	Happen as a result of primary effects and therefore are later
Monitoring	Seismometers measure earth movement volcanoes give off gases
Prediction	By observing monitoring data, this can allow evacuation before event
Protection	Reinforced buildings and making building foundations that absorb movement. Automatic shut offs for gas and electricity.
Planning	Avoid building in at risk areas. Training for emergency services and planned evacuation routes and drills.

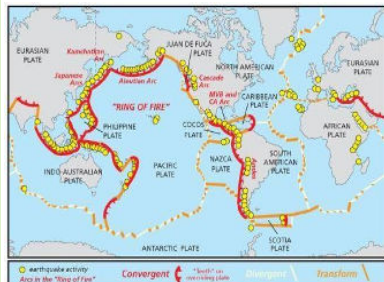
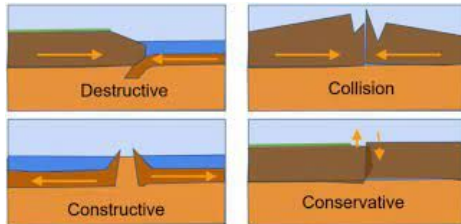
Structure of the Earth



The earth has 4 layers
 The inner core
 The outer core
 The mantle
 The crust

The crust is split into major fragments called tectonic plates. There are 2 types: Oceanic (thin and younger but dense) and Continental (old and thicker but less dense). These plates move and where they meet you get tectonic activity (volcanoes and earthquakes).

Plate Boundaries

Effects of Tectonic Hazards

Primary - Earthquakes	Secondary - Earthquakes
- Property and buildings destroyed. - People injured or killed. - Ports, roads, railways damaged. - Pipes (water and gas) and electricity cables broken.	- Business reduced as money spent repairing property. - Blocked transport hinders emergency services. - Broken gas pipes cause fire. - Broken water pipes lead to a lack of fresh water.
Primary - Volcanoes	Secondary - Volcanoes
- Property and farm land destroyed. - People and animals killed or injured. - Air travel halted due to volcanic ash. - Water supplies contaminated.	- Economy slows down. Emergency services struggle to arrive. - Possible flooding if ice melts - Tourism can increase as people come to watch. - Ash breaks down leading to fertile farm land.




Find out more:

BBC Bitesize Case Studies



Hazard Formation

Earthquakes - **Constructive** margins – usually small earthquakes as plates pull apart. **Destructive** margins – violent earthquakes as pressure builds and is then released. **Conservative** margins – plates slide past each other. They catch and then as pressure builds it is released e.g. San Andreas fault.

Volcanoes - **Constructive** margins – Hot magma rises between the plates - **Destructive** margins – an oceanic plate subducts under a continental plate. Friction causes oceanic plate to melt and pressure forces magma up.

MPPP

Monitoring	Prediction	Protection	Planning	Responses
Seismometers measure earth movement. Volcanoes give off gases.	By observing monitoring data, this can allow evacuation before event	Reinforced buildings and making building foundations that absorb movement Automatic shut offs for gas and electricity	Avoid building in at risk areas Training for emergency services and planned evacuation routes and drills.	Immediate (short term) - Issue warnings if possible. - Rescue teams search for survivors. - Treat injured. - Provide food and shelter, food and drink. Long-term - Repair and re-build properties and infrastructure. - Restore utilities. - Resettle locals elsewhere. - Install monitoring technology.