

1. Expert Vocab

Slab-push
Convection currents
Magma Lava (know the differences)
Magnitude
Epicentre
Richter scale
Effects
Impacts
Response
Urbanisation
Infrastructure
Seismic
Foreshock / Aftershocks

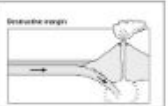
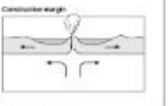

2. The birth of the Earth

Mantle Convection: Heat from Earth's core causes the mantle material to slowly rise, spread out beneath the plates, cool, and then sink. This creates convection currents that drag the overlying tectonic plates along.

Slab Pull: As oceanic plates cool and become denser, they sink back into the mantle at subduction zones. The weight of this sinking slab pulls the rest of the plate along behind it, much like a heavy blanket pulling itself off a bed.

Ridge Push: At mid-ocean ridges, where new oceanic crust is formed, hot, buoyant material rises and creates an elevated ridge. Gravity then causes the newly formed lithosphere to slide down this gentle slope, pushing the plate away from the ridge.

3. Plate Margins

Plate subducts under another. Earthquake and Volcanoes are frequent, powerful and deadly e.g. Japan	
Two plates pulling apart, creates gaps that fill with magma from the mantle, which solidifies into new crust and landforms. Earthquakes and Volcanoes e.g. Iceland	
Two plates sliding past each other. Friction builds up as they move. No volcanoes E.g. San Andreas' fault USA	

4. Mt Etna
Primary Effect: Lava flows destroyed a section of forest on the southwestern flank.

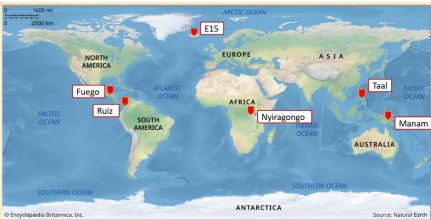


Secondary Effect: For more than two weeks the International Airport of Catania had to be closed due to ash on the runways.

Primary Response: A ship equipped with a medical clinic aboard was positioned off Catania to be ready in case of emergency.

Secondary Response: The Italian government provided financial assistance to people affected by the eruption.

5. Volcanoes Through time and Super Volcanoes



LIC - Impact of the eruptions is more significant
HIC - Able to afford protection strategies.

Supervolcano: A supervolcano is an unusually large volcano having the potential to produce an eruption with major effects on the global climate /ecosystem.

Yellowstone: This volcano has not erupted for 70,000 years, when will it next?

6. Managing and reducing the risks

Monitoring	Use of seismographs to monitor earth movements. Installation of GPS systems to detect land deformation.
Predicting	Earthquake is difficult but watching for foreshocks
Protecting	Engineering buildings and infrastructure to withstand seismic forces. Retrofitting older structures to improve earthquake resilience.
Planning	Developing strict building codes for earthquake-prone areas. Conducting earthquake drills and public education campaigns on preparedness.