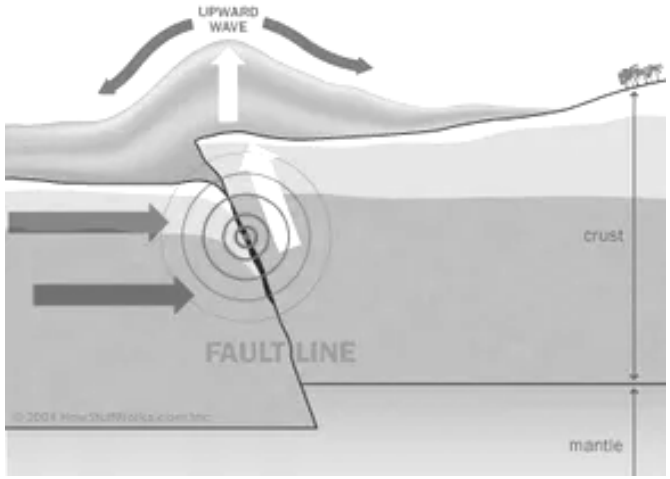
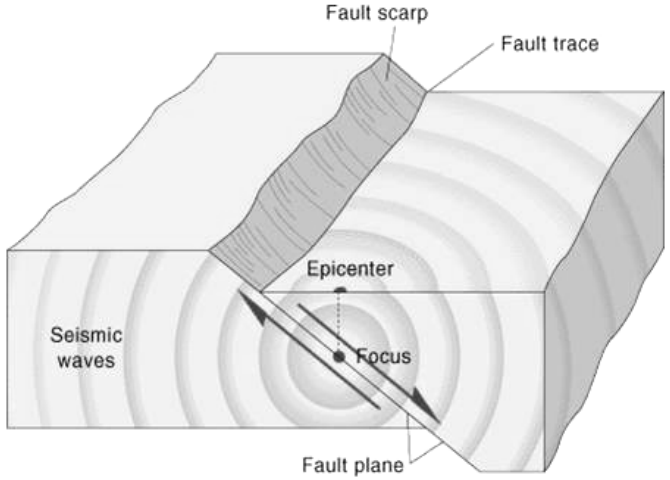
Formation of landforms

Tectonic activity

Plate movement	Description	Figure
Divergent: o-o	1. Fractures formed at plate boundary 2. **Sea-floor spreading**: magma rise from mantle at zone of divergence → cool + solidify → new sea floor 3. More magma pile up + solidify → **mid-oceanic ridge** (chain of mountains on sides of spreading zone) 4. Plates continue to diverge: mountains move away from spreading zone + new mountains formed ● youngest ones: nearest ● oldest ones: furthest 5. At points along mid-oceanic ridge: magma build up + solidify → **undersea volcanoes** 6. Volcanoes grow above sea level → **volcanic islands**	
Divergent: c-c	1. **Faulting**: tensional forces → **fractures** produced at boundary as plates are stretched 2. Sections of crust extend along fault lines: tensional forces → central block of land subside b/w a pair of parallel faults → **rift valley** (valley with steep sides) 3. **Volcanoes** & **earthquakes** found along valley 4. Tensional forces: land masses surrounding block of land to subside b/w a pair of parallel faults → **block mountain**	
Convergent: o-o	1. Denser plate **subduct** under less dense plate 2. **Oceanic trench** formed at subduction zone 3. Subducted plate → mantle material above it melt → **magma** 4. Magma rise through fractures → **volcanoes** Many volcanoes → **chain of volcanic islands** 5. Friction produced during subduction: trigger **earthquakes**	

Convergent: o-c	1. Denser oceanic plate **subduct** under less dense continental plate 2. **Oceanic trench** formed at subduction zone 3. Subducted plate → mantle material above it melt → **magma** 4. Magma rise through fractures → **volcanoes** 5. Continental plate **buckle + fold** → **fold mountains** 6. **Earthquakes** may occur on continental plate	
Convergent: c-c	1. Too thick + buoyant for subduction to occur → **break + slide** along fractures in crust 2. **Layers of rock** on upper part of crust: compressed together 3. **Folding**: **compressional force** → immense pressure → layers of rock **buckle + fold** → **fold mountains** 4. **Earthquakes** may be triggered	
Transform	1. Plates **slide past** each other → **transform fault** 2. **Friction** b/w moving plates → **stress** build up → **energy** stored in crust 3. Rocks no longer contain pressure: energy released → radiate out in **shock waves** through crust onto surface 4. Rocks break up + move in series of sudden jerks → **earthquakes**	

Occurrences

Occurrence	Description	Figure
Tsunami	1. **<u>Seismic energy</u>** from offshore earthquake: **<u>displace</u>** mass of seawater 2. Large volume of water lifted → wave of large wavelength + low height 3. Wave **<u>travel towards land</u>** 4. Shallow water: friction **<u>slows</u>** waves → water behind catch up 5. Waves: **<u>increase height</u>**	
Earthquake	1. Plate movements → **<u>stress build-up</u>** on rocks on either side of fault 2. Rocks no longer **<u>withstand increasing stress</u>**: suddenly **<u>slip</u>** → sudden **<u>release of stored energy</u>** in rocks along fault lines → **<u>vibration</u>** in crust → earthquake 3. Focus: point of sudden energy release Epicentre: point on surface above focus Aftershock: smaller earthquake due to stress from ground	
Volcano eruption	1.	