Keywords	
Subduction	The process where an oceanic plate sinks below a continental plate at a convergent plate boundary.
Fault	A giant crack in the earth's surface.
Plate Boundary	(Where two tectonic plates meet)
Volcanic Explosivity Index (VEI)	Measures the destructive power of a volcano from 1-8.
Primary Effect	Caused instantly by the eruption and directly linked to the volcano/earthquake e.g. lava, gases ash fall.
Secondary effect	In the hours, days and weeks following the eruption. Often caused by the primary effect e.g. disease, unemployment, shortage of water and food.

Structure of the Earth	
Crust	The outermost, thinnest layer of the earth. It is split into tectonic plates.
Continental Crust	Forms the land. Made of igneous rock called granite. Buoyant/less dense (can't subduct). 30-50km thick. Made of granitic rock.
Oceanic Crust	Forms under the oceans. Made of igneous rock called basalt. Dense (can subduct). 6-8km thick. Made of basaltic rock.
Lithosphere	The crust + the upper mantle. Solid rock. Peridotite. 80-100km thick.
Asthenosphere	Below the lithosphere but still the top part of the mantle. The tectonic plates move on this. It is made of partly molten and solid rock that can flow slowly. Temperatures +1300°C
Core	The outer core is liquid (iron and nickel) due to intense temperatures (4500°C-5500°C). We know this because seismic waves released by earthquakes struggle to travel through it. The inner core is solid iron and nickel, despite higher temperatures (6000°C) due to the pressure and weight of the layers above it, compressing it.
Convection Currents	Created in the mantle due to heat from the core. This heat rises as plumes and can move tectonic plates on the lithosphere by dragging them apart or pulling them together. The heat source in the core is due to radioactive decay of elements such as uranium and thorium.
Mantle	Thickest layer (2900km). Solid however the upper mantle flows slowly like warm toffee. 1000°C-3700°C.

Type of Plate Boundary	
Divergent	Where two plates move APART. They DIVERGE AWAY from each other. Magma rises to fill the gap created, forming small earthquakes (lack of friction) and volcanoes – but not the explosive type!
Convergent	Two plates move TOGETHER. They CONVERGE towards each other. If a oceanic plate moves towards a continental plate, the oceanic plate will subduct because it is denser. During subduction it will melt. This will rise through the crust causing explosive volcanoes and powerful earthquakes.
Conservative	Two plates slide past each other. Friction and pressure builds up between them as they snag. This is released in seismic waves and causes destructive earthquakes.
Convergent (collision)	Two plates move TOGETHER. They CONVERGE towards each other. Both plates are continental. They cannot subduct. They rise upwards, forming mountain ranges such as the Himalayas and causing earthquakes.

Predicting Volcanoes	
Tiltmetres	Instruments that measure changes in the shape of the volcanoes surface. Bulges in the surface could indicate magma rising through the crust.
Gas samples	When a volcano is close to erupting it starts to release gases. The higher the sulphur content of these gases, the closer the volcano is to erupting. Measured by an aeroplane.
Seismometer	Hundreds of small earthquakes are caused as magma rises up through cracks in the Earth's crust.

Earthquakes	
Seismometer	Measures the strength of an earthquake using the Richter scale. Measured in "magnitude"
Focus	The point in the crust where the earthquake originates. Seismic waves travel out from here.
Epicentre	The place on the earths surface directly above the focus.
Tsunami	Waves caused by earthquakes that cause the sea bed to jolt upwards. As they approach land, wave height increases and they bunch up. They cause coastal flooding and damage to infrastructure.
Protection and preparation	Make buildings earthquake proof: Cross bracing with shock absorbers makes structures stronger, gas supplies automatically shut off reducing fire risks, base isolators reduces shaking, weights on the roof counters shaking. Earthquake drills and kits prepare people.

Volcano Characteristics	
Hot Spot	Volcanoes found in the middle of tectonic plates, away from plate boundaries e.g. Hawaii. Caused by rising plumes of heat eating away at the crust.
Shield Volcanoes	Low, gently-sloping volcanoes with a wide base. Formed at divergent plate boundaries and hot spots. Frequent but gentle eruptions. Built from lava only.
Composite volcanoes	Steep-sided, tall, cone-shaped volcanoes, made of alternate layers of ash and lava, formed at convergent plate boundaries. Infrequent but explosive eruptions.
Andesitic lava	Thick (viscous) lava with a high silica content which flows slowly and travel short distances before cooling. Associated with composite volcanoes.
Basaltic lava	Thin, runny lava which can easily flow long distances before cooling. Low silica content.