

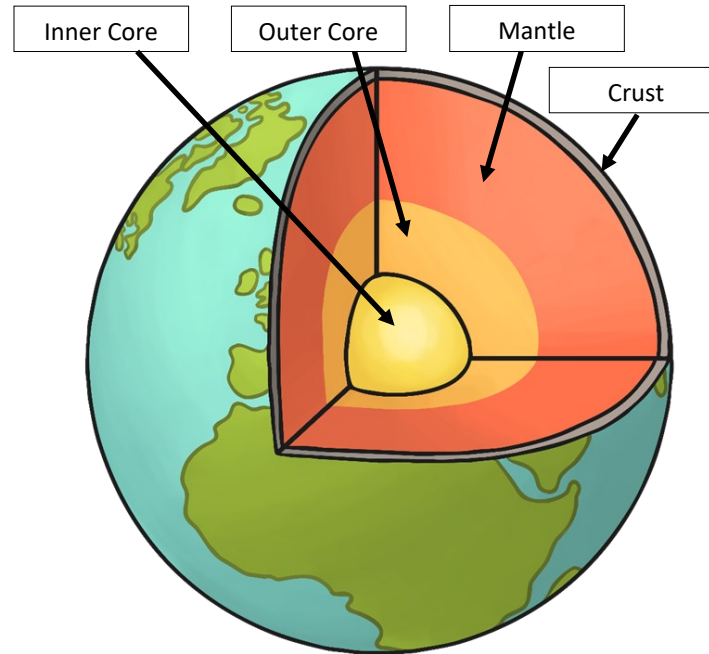
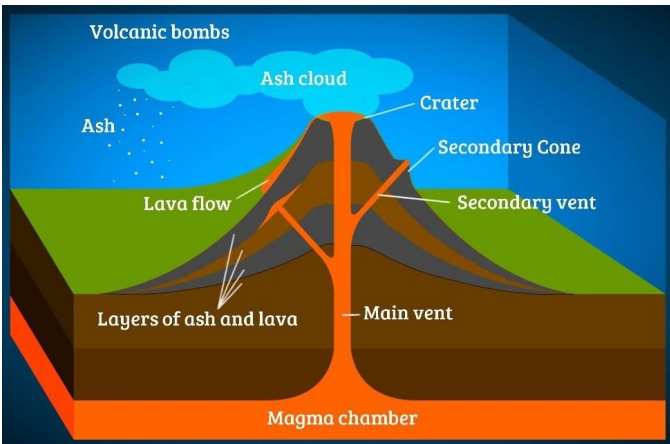
GEOGRAPHY KNOWLEDGE ORGANISER - ACTIVE EARTH: VOLCANOES, EARTHQUAKES AND MOUNTAINS (a)

Planet earth is a massive ball of extremely hot metal and rock, with a thin, brittle outer shell. The shell has fractured over time, to make a giant spherical jigsaw of pieces. The plates rest on a layer of hot fluid-like rock which is constantly in motion. People study plate tectonics to understand how earthquakes, volcanoes and mountains are formed.

Ocean rifts and mountain ranges, as well as patterns of small volcanic islands have emerged as a result of plate tectonics. By plotting the world's ocean rifts, mountains, earthquake/tsunami regions, and volcanic regions on a map, it is clearly visible where many of the earth's tectonics plates meet.

Volcanoes

The mantle, the mass of hot rock beneath the earth's crust, is kept solid by the intense pressure around it. Sometimes, when this pressure is released, liquid rock escapes up through the earth's crust in volcanoes, from streams of lava to sudden explosions of ash, gas and magma. When magma reaches the surface, it is known as lava

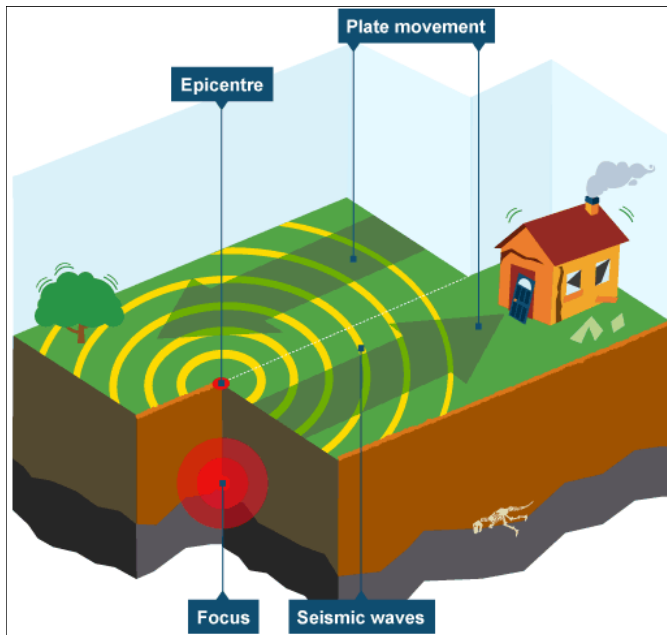


Active	Volcano with at least one eruption in the last 10,000 yrs
Dormant	Active volcano, expected to erupt again
Eruption	When magma escapes to the Earth's surface
Hotspot	An area of volcanic activity
Cone	A conical mountain of volcanic origin
Vent	Opening through which gas, ash or lava are emitted
Crater	Large hollow forming a volcano's mouth
Mountain	Large, steep hill/elevation of Earth's surface
Mt Everest	World's tallest mountain above sea-level
Mauna Kea	World's tallest mountain (half under Pacific Ocean)
Ben Nevis	UK's highest mountain (in Scotland)
Snowdon	Wales' highest mountain
Scafell Pike	England's highest mountain

Tectonic Plate	Giant section of the earth's crust
Tectonics	Properties/movement of the crust
Plate boundary	Area where two or more plates meet
Crust	The outermost rocky layer of a planet
Mantle	Mostly solid layer between core and crust
Magma	Molten liquid rock in crust & outer mantle
Lithosphere	Outer layer of earth (crust & outer mantle)
asthenosphere	Slow moving layer allowing crust to move
Inner core	Thick layer of solid, heavy metals
Outer core	Thick layer of molten liquid metals
Earthquake	Sudden movement in the Earth's crust
Volcano	An opening in the crust allowing magma to the surface
friction	Action of a surface rubbing against another
Pressure	Continuous force exerted on an object
Tremor	A slight earthquake
Shockwave	Sudden wave of pressure caused by an earthquake
Epicentre	The point on earth directly above the focus
Focus	The point of origin of the earthquake
Seismometer	A device for measuring the movement of the Earth
Richter scale	A numbered scale for measuring earthquake size
tsunami	Long, high sea wave caused by an earthquake
Tension	Strain between two moving tectonic plates
Rift	A large crack, split or break in a surface
Ash	Powdery residue left after burning a substance
Gas	State of matter where particles can move freely
lava	Molten or cooled semi-liquid rock (magma)
Ring of Fire	Horseshoe-shape volcanic area around Pacific Ocean

GEOGRAPHY KNOWLEDGE ORGANISER - ACTIVE EARTH: VOLCANOES, EARTHQUAKES AND MOUNTAINS (b)

Earthquakes



An earthquake is a sudden shaking of the ground, caused by movement deep within the earth. Earthquakes are most common near plate boundaries, where two plates get stuck as they move past each other and pressure can build. Sudden release of pressure leads to vibrations (tremors) through the earth's crust. Violent tremors can be destructive to all living things, and scar the land.

Mountains

Mountains are created by the movements of the earth's tectonic plates: different types include volcanic, fold, block, dome and plateau mountains. Mountains often feature several distinct ecosystems, and even make their own weather by forcing air up and over them.

The World's Tallest Mountains (By continent)

Name	Height	Range	Continent
Mt Kilimanjaro	5995m	Eastern Rift Mts	Africa
Vinson Massif	4892m	Ellsworth Mts	Antarctica
Mt Everest	8850m	Himalayas	Asia
Mt Kosciuszko	2228m	Gt Dividing Range	Australia
Mt Elbrus	5642m	Caucasus Mts	Europe
Mt McKinley	6190m	Rocky Mts	North America
Mt Aconcagua	6960m	Andes Mts	South America
Mauna Kea*	10,000m+	Hawaii	North America

The United Kingdom's Tallest Mountains...

Ben Nevis	1345m	Grampian Mountains	Scotland
Snowdon	1085m	Snowdonia	Wales
Scafell Pike	978m	The Lake District	England
Norton School	49m	Norton	Suffolk

*Note: All measurements from sea level; Mauna Kea in Hawaii stands at 4027m, although around 6000m more lies under water... technically the tallest mountain on Earth!

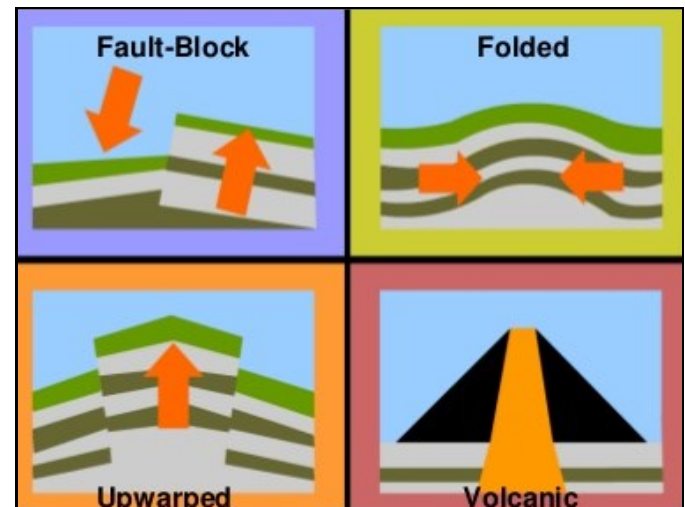
Different Types of Mountains

Fault-Block: These mountains form when faults or cracks in the earth's crust force some materials or blocks of rock up and others down, eg Sierra Nevada range, North America

Fold: Fold mountains are formed when two plates collide head on, and their edges crumbled, much the same way as a piece of paper folds when pushed together, eg Himalayas, Alps, Andes, Rocky Mountains

Upwarped: These mountains are formed when large amounts of molten rock or magma push the earth's crust from underneath, eg Black Hill Mountains, N. America

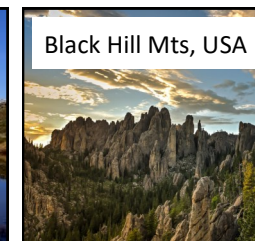
Volcanic: Volcanic Mountains are formed when molten rock (magma) deep within the earth, erupts, and piles upon the surface, eg Mount St Helens, N. America.



Sierra Nevada, USA



Black Hill Mts, USA



Mauna Kea, Hawaii