

Volcanoes and Earthquakes – UKS2

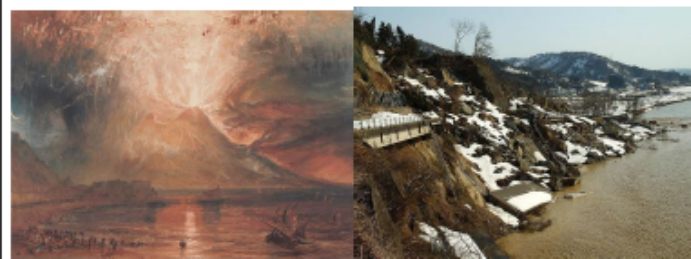
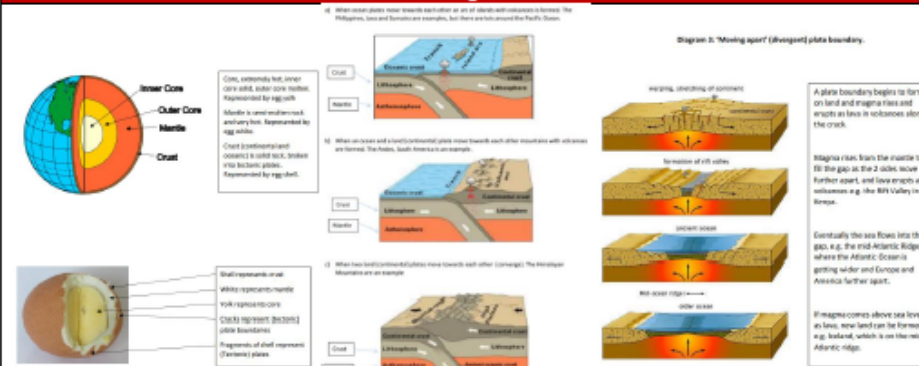
What should I already know?

- The seven continents and five oceans of the world.
- The location of some countries, including the UK and Kenya.
- What climate means and how it effects the vegetation in an area.

Maps



Diagrams



Geographical Skills and Enquiries

- Describe the layers of the earth using key vocabulary.
- Locate tectonic plates on a map.
- Locate key mountain ranges around the world.
- Investigate and compare different mountains around the world, looking at height, vegetation, animals that live there and the range of the mountains. Which countries do they run through?
- Discuss the climate of mountains and explain why this may be the case.
- Locate volcanoes around the world.
- Locate where earthquakes have happened.
- Discuss what you notice about the location of volcanoes and earthquakes and the edges of tectonic plates.

Vocabulary

Active volcano	a volcano that has had an eruption in the last 10,000 years, and it is possible it may erupt in the future
Crater	a cup-shaped depression in the surface of the earth, caused by volcanic activity
Dormant volcano	a volcano that has not erupted in the last 10,000 years, but it is possible that it will erupt in the future
Earthquake	movements, fractures and vibrations in the earth's crust as tectonic plates move
Eruption	the ejection of rock and gas from a volcano
Extinct volcano	a volcano that has not had an eruption in the last 10,000 years, and will not erupt in the future
Lava	molten, fluid rock that is ejected from a volcano and solidifies as it cools
Plate boundary	where two tectonic plates meet
Richter scale	a scale to measure the magnitude of an earthquake
Tectonic plate	a massive slab of rock that 'floats' on top of the mantle (and inner layer) of the Earth
Tsunami	a series of waves of water caused by the movement of tectonic plates below the surface
Volcano	a vent in the earth's crust where lava, steam and ash is ejected during an eruption.
climate	the general weather conditions that are typical of a place
continent	a very large area of land that consists of many countries. Europe is a continent.
core	the central part of the earth, beneath the mantle
crust	The Earth's crust is its outer layer
fault lines	a long crack in the surface of the earth. Earthquakes usually occur along fault lines
form	move or arrange
gas	something that is neither liquid nor solid. A gas rapidly spreads out when it is warmed and contracts when it is cooled.
magma	molten rock that is formed in very hot conditions inside the earth
mantle	the part of the earth between the crust and the core
molten	Molten rock, metal, or glass has been heated to a very high temperature and has become a hot, thick liquid
peak	the highest point of a mountain, Also known as a summit
pressure	force that you produce when you press hard on something
range (mountains)	A range of mountains or hills is a line of them
summit	the highest point of a mountain, Also known as a peak
vegetation	plants, trees and flowers
vent	the part of a volcano through which lava and gases erupt

Important facts

The rigid outermost shell of the Earth (called the 'crust' and 'upper mantle') is broken up into 7 or 8 major interlocking 'tectonic plates', and numerous smaller plates. An egg with a cracked shell is a useful analogy to share with children. It gives them an idea of the structure of the Earth, and helps them to understand earthquakes and volcanoes. With the cracked shell representing the thin crust and upper mantle, the white represents the hot magma of the semi-molten lower mantle, and the yolk represents the extremely hot core. The tectonic plates move (a few centimetres a year) towards, away from, or sliding past, each other. This results in volcanoes and earthquakes at their boundaries – the cracks in the egg shell. Converging plates (plates moving towards each other) are associated with mountain building and/or volcanoes, such as the Himalayas (India meets Asia), Andes (active volcanoes e.g. Cotopaxi) and the Circum-Pacific Ring ('Ring of Fire'). Subduction is when one plate is forced underneath another when they meet. At depth, the rocks in the sunken plate melt and lava is forced up through fractures, to erupt as volcanoes. An example of diverging plates is the mid-Atlantic ridge, where the Eurasian plate and the North American plate are moving apart. Magma from the earth's mantle rises to create new crust in the gap – Iceland sits on this ridge and is very actively volcanic. The San Andreas Fault, San Francisco, is an example of plates sliding past each other. Tension increases along faults in the earth's crust as the plates grind together, and which sudden movement – an earthquake – relieves. The 'Ring of Fire', with all three types of plate boundary, is by far the world's most active earthquake and volcanic zone

Quiz

1. A group of mountains close together is called a
2. What is a volcano that could erupt soon called?
3. The highest point of a mountain is called a
4. The Earth's crust is divided into sections called...
5. When magma comes up from under the core and shoots out from the top of a volcano, this is called?
6. What does the movement of tectonic plates cause?
7. Where is the Ring of Fire?
8. Explain what there are so many volcanoes along the tectonic plate boundaries
9. Describe what the climate is like at the peak of a mountain