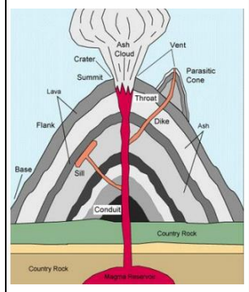
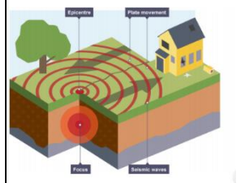
Key Questions
How are volcanoes formed? How are earthquakes caused? Where are some of the world's most famous volcanoes?

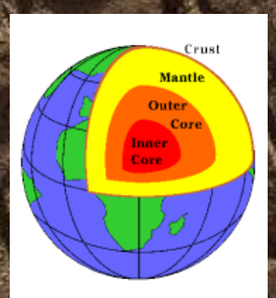
Right Beneath Your Feet...

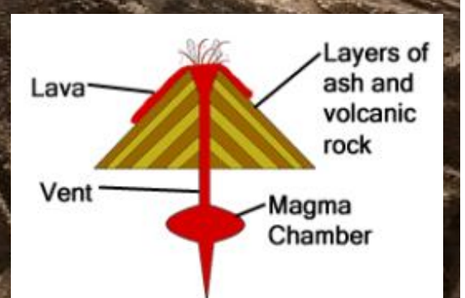
KNOWLEDGE ORGANISER

Autumn 1 Year 3

Key Questions	Key information	Diagrams
How are volcanoes formed?	Magma rises through cracks or weaknesses in the Earth's crust. 2. Pressure builds up inside the Earth. 3. When this pressure is released, e.g. as a result of plate movement, magma explodes to the surface causing a volcanic eruption. 4. The lava from the eruption cools to form new crust. 5. Over time, after several eruptions, the rock builds up and a volcano forms.	
What causes an earthquake?	An earthquake is the shaking and vibration of the Earth's crust due to movement of the Earth's plates (plate tectonics). Earthquakes can happen along any type of plate boundary. Earthquakes occur when tension is released from inside the crust. Plates do not always move smoothly alongside each other and sometimes get stuck. When this happens pressure builds up. When this pressure is eventually released, an earthquake tends to occur.	
Where are some of the world's most famous volcanoes?	• Mount Vesuvius, near Naples, Italy • Krakatoa, Indonesia • Mount St. Helens, Washington, USA • Mount Tambora, Indonesia • Mauna Loa, Hawaii • Eyjafjallajökull, Iceland • Mount Pelée, Martinique, Caribbean	

Books





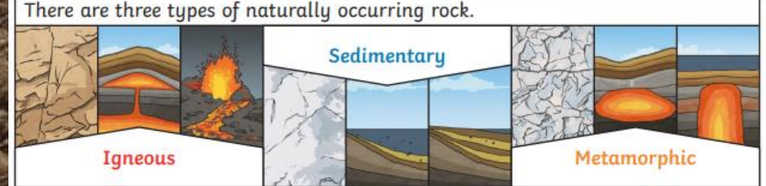
STICKY LEARNING

By the end of the topic you should:

- Know the sites of volcanoes and earthquake zones on a map of the world
- Know why volcanoes and earthquakes only occur in certain parts of the world
- Know what causes an earthquake and a volcanic eruption
- use a model or diagrams to explain how volcanic eruptions and earthquakes occur
- Know the reasons why people live in active areas
- Know the different parts of a volcano
- Be able to sequence the events of a volcanic eruption
- Know about the effects of earthquakes and volcanoes in different parts of the world and why aid is needed after a natural disaster
- Understand and explain some ways in which humans seek to protect themselves against earthquakes and volcanoes.

Key Knowledge

There are three types of naturally occurring rock.



VOLCANO VOCABULARY

active volcano	A volcano that is erupting or likely to erupt.
ash	The bits of rock dust that are thrown into the air during volcanic activity.
ashfall	This is when the ash from ash clouds fall to the earth.
crater	The big hollow areas inside the volcano.
dormant volcano	Seen as a 'sleeping volcano', it is a volcano that has not erupted for a while but technically could in the future.
eruption	The event where magma from beneath the earth's crust forces its way out, exploding out of a volcano in the form of lava.
Etna	Found in Sicily, this is the most active volcano in Europe.
extinct volcano	A volcano that has not erupted for a long time and is unlikely to erupt at all in the future.
igneous (or volcanic) rock	The cooled, and therefore solid, rock that came out of the volcano as lava.
lava	Magma that has reached the surface and come out of the volcano.
magma	The extremely hot, molten rock layer that lies beneath the earth's crust.
Ring of Fire	The circle of earthquake sites and volcanoes in the Pacific Ocean.
tsunami	A giant wave caused by an earthquake under the ocean or an eruption of an underwater volcano.
vent	The opening of a volcano.
Vesuvius	An active volcano (near Naples in Italy) that destroyed the towns of Pompeii and Herculaneum. It last erupted in 1944.
volcanologist	Someone who studies volcanoes.
Vulcan	The Roman god of fire who volcanoes were named after.

EARTHQUAKE VOCABULARY

aftershock	A smaller earthquake that happens after, and because of, a larger earthquake.
epicentre	The central point of the origin of the earthquake.
fault line	A crack in the earth's surface where the risk of earthquakes can be higher.
foreshock	A smaller earthquake which comes before a main earthquake.
mainshock	The main and biggest earthquake.
magnitude	The number given to show the size of the earthquake.
Mercalli scale	The scale used to measure effects of earthquakes. It ranges from 'not felt', meaning no quake was felt by anyone, to 'extreme', where well-built buildings are destroyed.
microquake	The smallest measurable earthquake.
Richter scale	Developed by Charles Richter in 1935, it is a scale of levels from 0–10 used to measure the strength of an earthquake. Each level is ten times more than the level before it so level 4 is ten times greater than level 3.
Ring of Fire	The circle of volcanoes and earthquake sites in the Pacific Ocean.
seismic	An adjective that describes things to do with earthquakes, for example 'there has been some seismic activity in this area'.
seismograph	The instrument used to measure earthquakes.
seismologist	Someone who studies earthquakes.
tectonic plates	Sections of the earth's crust which are like huge jigsaw pieces.
tremor	Seismic activity that measures less than 4.0 on the Richter scale.
tsunami	A giant wave caused by an earthquake under the ocean or an eruption of an underwater volcano.
Valdivia earthquake	It occurred in 1960 and is the largest, recorded earthquake, measuring 9.5 on the Richter scale.