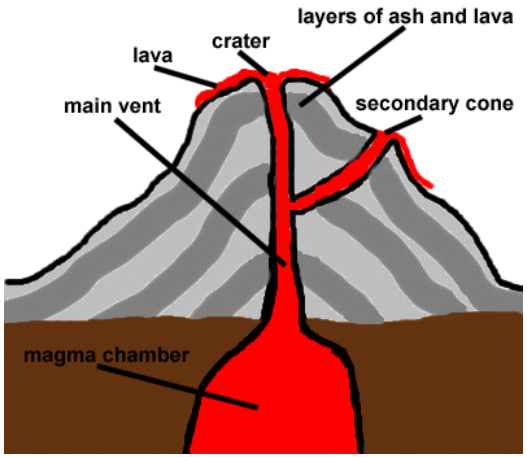
Great Links Tor 'VOLCANOES, MOUNTAINS AND EARTHQUAKES' Knowledge Organiser

Volcano Facts:

There are more than 1500 active Volcanoes.	More than 80 Volcanoes are under the Ocean
Largest active volcano is Muana Loa in Hawaii – its 13,677 feet above sea level. From its base below sea level to its summit it is taller than Mount Everest.	The word Volcano comes from the island Vulcano in Italy. It gets its name from the Roman god of fire - Vulcan
Scotland and Northern Ireland have many ancient, extinct and eroded volcanoes that were formed millions of years ago.	People live near volcanoes because the material they emit produces fertile soil.

A simple cross section of a volcano



10 Deadliest Volcanic Eruptions

Place	Date	Death toll
Mt. Galunggung, Java Indonesia	1882	4,011
Mt. Kelut, Indonesia	19th May 1919	5,110
Mt. Vesuvius, Italy	1631	6,000
The Laki Volcanic system, Iceland	8th June 1783 – 8th February 1784	9,350
Mt. Vesuvius, Italy	24th August AD79	10,000+
Mt. Unzen, Japan	1792	12,000 -15,000
Nevado Del Ruiz, Columbia	13th November 1985	23,000
Mt. Krakatoa, Indonesia	16th – 28th August 1883	36,000
Mt. Pelee, West Indies	25th April – 8th May 1902	40,000
Mt. Tambora, Indonesia	10th – 15th April 1816	92,000

Famous Eruptions

Mt. Vesuvius, the active volcano that looms over the Bay of Naples in southern Italy, has erupted well over 30 times that we know of. Its most famous eruption took place back in A.D. 79.

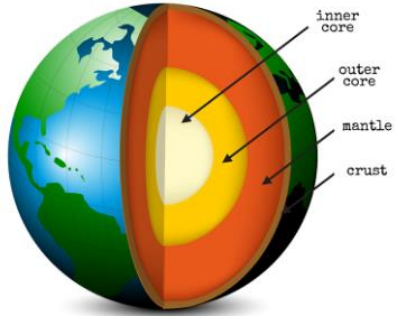
Pliny the Younger wrote two letters describing a sudden explosion followed by blankets of ash that fell on people as they tried to escape. He was the author of the only surviving eye-witness account.

What causes volcanoes to erupt?

The Earth's crust is made up of huge slabs called tectonic plates, which fit together like a jigsaw puzzle. These plates sometimes move. Between the Earth's crust and the mantle is a substance called magma which is made of rock and gases. When two plates collide, one section slides on top of the other, the one beneath is pushed down. Magma is squeezed up between two plates.

Tectonic plates

LAYERS OF THE EARTH



World's Tallest Mountains:

Mountain Peak	Range	Location	Height	
			Feet	Metres
Everest	Himalayas	Nepal, Asia	29,035	8,850
K2 (Godwin Austen)	Karakoram	Pakistan, Asia	28,253	8,612
Kanchenjunga	Himalayas	Nepal, Asia	28,169	8,586
Lhotse I	Himalayas	Nepal, Asia	27,920	8,501
Makalu I	Himalayas	Nepal, Asia	27,765	8,462
Cho Oyu	Himalayas	Nepal, Asia	26,906	8,201
Dhaulagiri	Himalayas	Nepal, Asia	26,794	8,167
Manaslu	Himalayas	Nepal, Asia	26,758	8,156
Nanga Parbat	Himalayas	Pakistan, Asia	26,658	8,125
Annapurna	Himalayas	Nepal, Asia	26,545	8,091

Why do we get earthquakes?

The huge pieces of flat rock called **tectonic plates**, which make up the Earth's surface, move very, very slowly, and the places where they meet are called **faults**. When these plates rub together, the movement creates **waves of energy** which come to the Earth's surface. We feel this as an earthquake. Earthquakes can sometimes be nothing more than small tremors or shakes, but sometimes they can cause damage and devastation. Earthquakes can make buildings fall down and set off **landslides**, as well as having many other deadly effects. An earthquake that occurs at the bottom of the sea can push water upwards and create massive waves called **tsunamis**.

Mountain Facts:

- Mountains are higher and steeper than hills (600m or more) and are made from rocks and earth.
- Common features of mountains are: a **summit** (the top), the **slope** (side) and steep valleys between mountains (a **gorge**).
- Some of the highest mountains are in the oceans.
- Mountains cover one fifth of the world's surface
- Mountain ranges are groups of mountains hundreds, or even a thousand, miles long.
- Mountains are measured from sea level to the mountain's peak.
- Mountains are formed in different ways. There are: fold mountains, fault-block mountains, dome mountains and volcanic mountains.

Earthquake Facts:

Almost 80% of all the planet's earthquakes occur along the rim of the Pacific Ocean, called the "**Ring of Fire**"; a region that encircles the Pacific Ocean and is home to 452 volcanoes (over 75 percent of the world's active and dormant volcanoes).
Seismometers are used to measure seismic waves and the movement of the Earth. You are unlikely to feel a magnitude 3 earthquake but magnitude 6 earthquakes could potentially cause large damage.
A **Richter Scale** is a device that gauges the power (the energy it generates) of the earthquake. It was originated by American geophysicist Charles Francis Richter.
The **largest recorded earthquake** in the world was a magnitude 9.5 in Chile on May 22, 1960. More recently, an earthquake that hit the Tohoku region of Japan on March 11, 2011, had a magnitude of 9.0 and killed over 15,000 people.
It is important for earthquake-prone countries such as Japan to build houses and buildings that react well to earthquakes. Good **engineering** can help stop buildings collapsing under the stress of large earthquakes, for example by building structures which can 'wobble' when an earthquake hits.
In Ancient Greece, people believed that the god of the sea, **Poseidon**, caused earthquakes. When he was angry, Poseidon would strike the ground with his trident and set off an earthquake. His unpredictable, violent behaviour earned him the nickname 'Earth-Shaker'.
Tectonic plates move less than 3 inches (17 cm) per year. However, a **tectonic plate movement** of just 20 cm is enough to set off a major earthquake.
Scientists think that **animals may sense weak tremors before a quake**. Other scientists think that animals may sense electrical signals set off by the shifting of underground rocks.