Year 3 Knowledge Organiser: Volcanoes

Assessment question: How and why does a volcano erupt?

Important concepts

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Key words

Volcano: A volcano is a rupture in the Earth's crust that allows hot lava, volcanic ash, and gases to escape from a magma chamber below the surface.

Magma: The extremely hot, molten rock layer that lies beneath the earth's crust.

Lava: Magma that has reached the surface and comes out of the volcano.

Ash: The bits of rock dust that are thrown into the air during volcanic activity.

Crater: The big hollow areas inside the volcano.

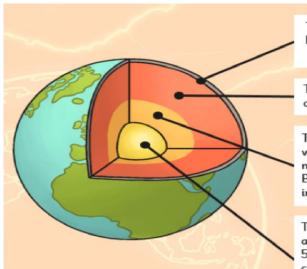
Eruption: The event where magma, from beneath the earth's crust, forces its way out, exploding upwards.

Ring of fire: The circle of earthquake sites and volcanoes in the Pacific Ocean.

Volcanoes around the world

- Kilauea (Hawaii)
- Yellowstone National Park: super- volcano
- Klyuchevskaya Sopka (Russia)
- Mount Vesuvius (Italy)

Layers of the Earth

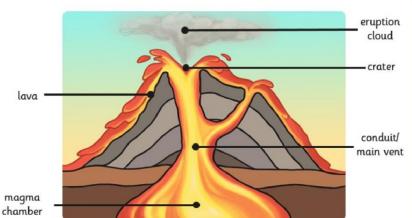


The **crust** is the thin outer layer of cold hard rock that covers the world (10km-90km thick).

The mantle (extremely hot rock that often flows like treacle) is 3,000 km thick.

The **outer core** is mostly made of iron with some nickel. It is over 4000°C. It is mostly liquid with some rocky parts. Because the outer core moves around the inner core, Earth's magnetism is created.

The **inner core**, which is made of iron and nickel, is the hottest layer at over 5000°C. It melts the metals in the outer core to form magma.



How a volcano erupts

Inside the earth, heat and pressure causes rock to melt and turn into magma. The magma is forced up from the magma chamber, through the main vent, to the earth's crust where it erupts. This happens through the crater cone.