Volcanoes Knowledge Organiser

Volcanoes and Earthquakes

mantle - the thickest layer of the Earth, split into the lower and upper **mantle**. It is a semi solid layer below the **crust**.

modified Mercalli Scale - a 12-point scale to measure the intensity of an **earthquake**.

outer core - a liquid layer of the Earth's core, which lies below the **mantle**.

Moment Magnitude Scale - this scale measures the **magnitude** of an **earthquake** (how powerful it is).

tectonic hazard - a hazard or threat that is caused from the movement of tectonic plates, e.g. **earthquakes**.

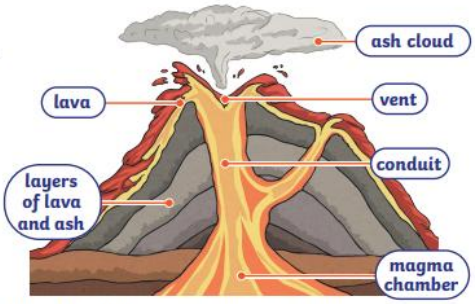
tectonic hazard zone - an area that is prone to hazards caused by the movement of tectonic plates.

tsunami - a large wave or series of waves caused by movement in the Earth's **crust**.

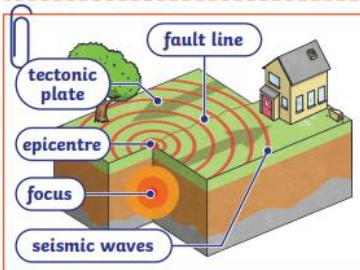
volcano - an opening in the Earth's **crust** shaped like a mountain which allows **magma**, hot ash and gases to escape.

Volcanoes

Pressure builds below the Earth's **crust**. Alongside plate boundaries, **magma**, hot ash and gas rises and escapes, forming a **volcano**. The shape of a **volcano** depends on the type of **eruption** that occurs.



- Composite **volcanoes** are cone shaped with steep sides and have explosive eruptions due to its sticky **magma**.
- Shield **volcanoes** are bowl/shield shaped with wide gentle slopes due to its runny **lava** travelling distances before it cools down and hardens.



Earthquakes

An **earthquake** is the shaking of the Earth's **crust**. When the tectonic plates scrape or slip against each other, or sometimes get stuck, friction builds up deep underground.

- **Earthquakes** create fault lines, which are cracks or fractures in the Earth's surface.
- They can cause severe damage to roads and buildings.

Why Do People Live Near Tectonic Hazards?


fertile soil


geothermal energy


mining


tourism

Volcanoes and Earthquakes

Key Vocabulary

crust - the rocky outer layer of the Earth.

earthquake - intense shaking of the Earth's surface caused by movements happening beneath the **crust**.

epicentre - the central point where an **earthquake** begins.

eruption - when a **volcano** throws out **lava**, ash, gases and rock from the central crater.

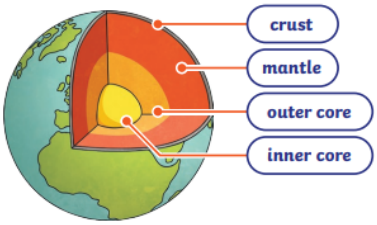
inner core - the very hot centre of the Earth. It is solid due to the high pressure.

lava - hot, liquified rock that flows from the opening of a **volcano**.

magma - molten or hot, liquified rock that is located deep under the Earth's surface.

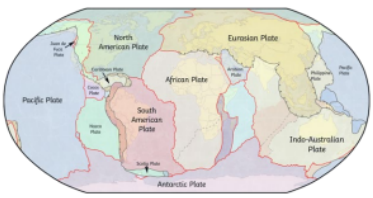
magnitude - the number given to show the size of an **earthquake** (how powerful it is).

The Earth's Structure



Tectonic Plates

The Earth's crust is made up of different rocky sections called tectonic plates, which fit together like a puzzle covering the Earth. Most tectonic activity occurs along the plate boundaries (convergent, divergent and transform). Some **volcanoes** form over hotspots in the **mantle**, e.g. Hawaii.



The Ring of Fire

The Ring of Fire is a horseshoe-shaped belt of tectonic activity that outlines the Pacific Ocean and traces many plate boundaries.

It is home to 75% of the world's **volcanoes** and 90% of the world's **earthquakes** occur within the belt.

There are at least 452 **volcanoes** in the Ring of Fire!

Ring of Fire