

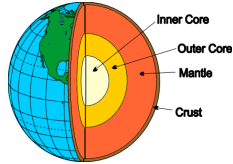
Year 6 Geography: Extreme Earth



How are volcanoes formed and why are they found in particular locations?

What is the link between volcanoes and the structure of the earth?

Space



The earth has four layers: the crust, mantle, inner core and outer core. We live on the crust, which is the thinnest layer.

Volcanoes occur when magma, which is found in the mantle and crust, erupts under huge pressure.

What is the link between volcanic activity and tectonic plates?

Space



Environmental impact and sustainability



The ground beneath our feet is made up of giant slabs of rock called tectonic plates. These plates are constantly moving very slowly and, as a result, the shapes and positions of the continents gradually change. Volcanoes usually occur where these plates meet because this is where the earth's crust is weakest.

Active volcano – a volcano that has erupted recently.

Dormant volcano – a volcano that has not erupted recently but may do so again.

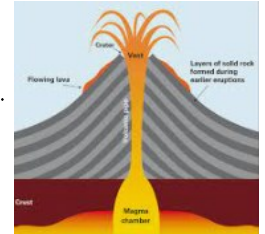
Extinct volcano – a volcano that is not expected to erupt again.

How are volcanoes formed?

Environmental impact and sustainability



Magma builds up in a chamber beneath the surface of the earth. The pressure increases until the magma – now called lava – erupts through a fault in the earth. The lava cools, forming a dome of rock. The magma builds up once more and eventually erupts again creating another layer of rock. This process repeats, with the layers of rock giving the volcano its familiar shape. The key parts of a volcano include the magma chamber, the main vent (and sometimes a secondary vent), the crater and the ash cloud. **Did you know...?** Volcanoes are named after Vulcan, the Roman god of fire!



Why are so many volcanoes found in the Ring of Fire?

Space



Environmental impact and sustainability



Many of the world's volcanoes are located on the edge of the Pacific plate in the 'Ring of Fire'. They are found here because of faults (weaknesses) where the Pacific plate meets other tectonic plates. Magma can erupt through these faults, causing volcanoes.



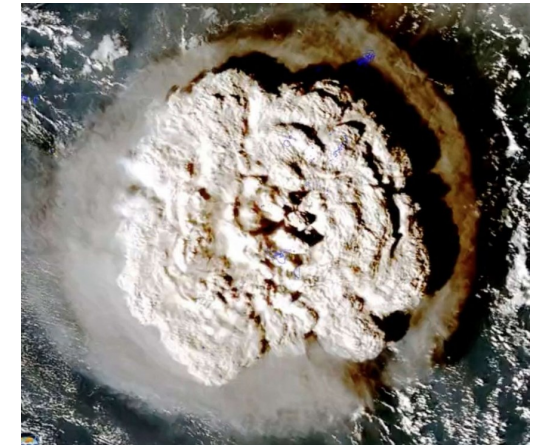
What is an example of a recent volcanic eruption? What impact did it have?



Environmental impact and sustainability



On 15 January 2022, the Hunga-Tonga-Hunga-Ha'apai volcano erupted under the ocean, triggering tsunami waves that reached the coasts of the USA and Japan and sending up a 36 mile volcanic plume. The volcano is located on the boundary between the Pacific and Indo-Australian plates. Although only three people lost their lives, most of the population of Tonga was affected by ash clouds and tsunami waves while many homes were also destroyed. Over 100,000 Tongans are thought to have suffered from this dramatic natural disaster.



Place



Space



Scale



Environmental impact and sustainability



Interconnection

