

Earthquakes & Volcanoes

How does the earth shake, rattle and roll?

<https://www.bbc.co.uk/bitesize/topics/z849q6f/articles/zd9cxyc>



Watch the 2 short videos on the link above.

A volcano is an opening in the Earth's **crust** that allows **magma**, hot ash and gases to escape. Volcanoes can look like mountains or small hills, depending on what type they are.

Magma is **molten rock** - rock that is so hot it has turned into liquid. When magma reaches the surface of the Earth it is called lava and comes out of the volcano as a volcanic eruption, along with gases and ash.

Volcanic eruptions

Most volcanic eruptions are caused by **tectonic plates** moving towards each other, which usually produces violent eruptions. Other volcanoes, such as Mauna Loa in Hawaii are caused by **hot spots** in the Earth's crust. These do not erupt violently and lava usually flows slowly out of them. Eruptions from volcanoes can be very dangerous. They can produce:

- **pyroclastic flows** - fast moving clouds of hot ash, gas and rock
- **ash clouds** - small pieces of rock and glass that can be carried in the air for many kilometres
- **volcanic bombs** - large bits of very hot rock blown out of a volcano

Volcanoes can, however, help people living near them earn money by bringing in tourists to the area and improving the soil so that crops can be grown.

Task 1:

What can you find out about volcanoes?

What is a volcano?

How is a volcano formed?

Name some famous volcanoes?

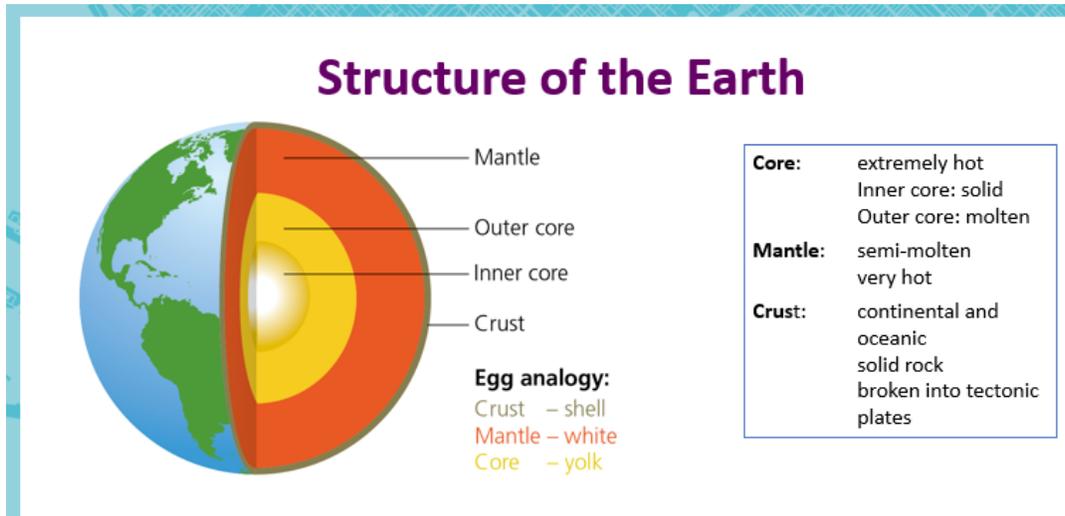
Where are some of the most famous volcanoes?

What other interesting facts are there about volcanoes?

You can present your information in any way you choose.

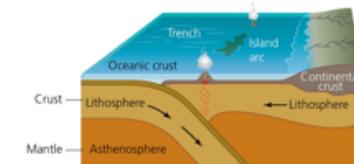
How does the earth rattle and roll?

Study the following two images.

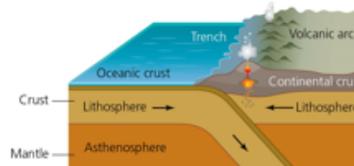


The core, mantle and crust are the three major 'layers' of the Earth, with the inner core being solid, the outer core being molten, the mantle semi-molten and the crust solid. The temperature increases towards the centre of the Earth.

a) When ocean plates move towards each other, an arc of islands with volcanoes is formed. The Philippines, Java and Sumatra are examples, but there are lots around the Pacific Ocean.



b) When an ocean and a land (continental) plate move towards each other, mountains with volcanoes are formed. The Andes, South America is an example.



c) When two land (continental) plates move towards each other (converge). The Himalayan Mountains are an example.



Earthquakes & Volcanoes - the Story of Earth as a Violent Place | Down to Earth

<https://www.youtube.com/watch?v=0SK-jYdEgfE>

Volcanoes 101 | National Geographic

<https://www.youtube.com/watch?v=VNGUdObDoLk>

Watch the above links about volcanoes and earthquakes.

Key vocabulary

Richter Scale, magnitude, Japan, Pompeii, Vesuvius, Italy

Task 2

Can you investigate recent earthquakes and volcanic eruptions? Use the key vocabulary to help with your research. Use Kiddle to help with your research.

The Richter scale measures an earthquake. How interesting is this? What magnitude and effects will your research bring up?

How we measure an earthquake

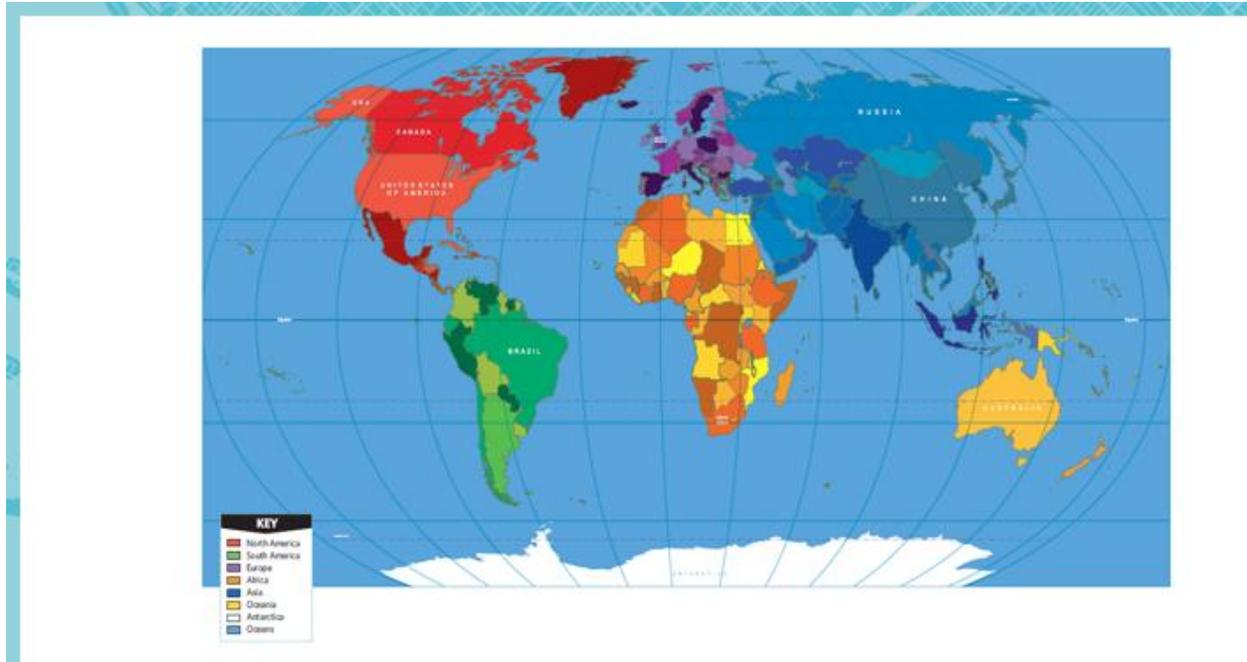
We measure earthquakes on the Richter scale.

| Class | Magnitude | Effects |
|----------|-----------|--|
| Great | 8 or more | At or near total destruction. Felt across great distances. |
| Major | 7–7.9 | Causes damage to most buildings. Felt across great distances. |
| Strong | 6–6.9 | Causes damage to many buildings. Felt in wider areas. |
| Moderate | 5–5.9 | Slight damage to buildings. Felt by everyone. |
| Light | 4–4.9 | Noticeable shaking of indoor objects. Felt by most people in the area. |
| Minor | 3–3.9 | Often felt, but rarely causes damage. |

When complete share your learning with your teacher!

Extension – Have a go at this task.

Where in the world might you find earthquakes and volcanic eruptions?



Write down the names and locations of 5 earthquakes and 5 volcanic eruptions.