



Year 3 and 4 Knowledge Organiser - Earthquakes and Volcanoes

Key vocab

earthquakes: shaking of the ground caused by movement of the Earth's crust

volcanoes mountains from which lava, gas, steam and ash from inside the Earth sometimes burst

erupt to start suddenly or violently with great force

dormant not active, but capable of becoming active in the future

collision when one moving object hits another

magnitude the size or scale of something

meteoric sudden and extremely strong

intensity magnitude

tsunami a very large wave, caused by an earthquake

The Earth has an inner and outer core, a mantle and a crust. The crust is the rocky surface that makes up the surface of the Earth and floats on top of the mantle. The crust has 'cracks' in it and so it is actually in pieces. These pieces are called plates. The plates move very slightly - by no more than a few centimetres a year - and when they do, earthquakes occur and volcanoes form or erupt. Plate tectonics provides an explanation of how earthquakes, mountains, volcanoes and oceans are formed.



Exciting books!



Sticky Knowledge

- The boundaries of the plates are called fault lines and movement along these lines causes earthquakes and volcanoes.

- The Pacific Ring of Fire is a result of plate tectonics: plates are colliding with each other which causes a process called subduction where one plate is pushed below another.

- The plates move in three different ways:
- away from each other, which forms ridges
- towards each other, which causes earthquakes and forms volcanoes and mountains
- side by side, which causes earthquakes.

- The heat and the pressure forms mountains and volcanoes. Earthquakes and volcanoes differ in their magnitude. Some are more violent than others.

- The Pacific Ring of Fire is an arc around the Pacific Ocean where most of the world's volcanoes and earthquakes are formed.

- The scale for measuring the magnitude of earthquakes is called the Richter scale.

- It follows the eastern side of Australia and Asia and the western side of North and South America

- Micro earthquakes measure less than 2.0 on the scale, while meteoric earthquakes measure 10 or above.

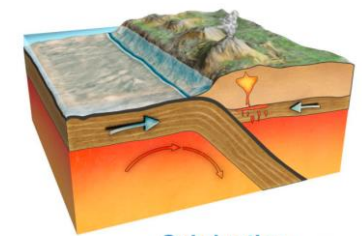
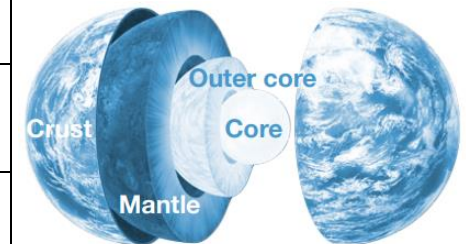
- The ring is 25,000 miles (40,230 km) long, and there are 452 volcanoes on it. About 90 per cent of the world's earthquakes, including 15 per cent of the world's largest earthquakes occur along the Ring of Fire.

- When earthquakes with high magnitude occur and volcanoes with high explosivity erupt they can cause natural disasters.

- The Ring of Fire is a result of plate tectonics - the movement and collision of the plates that make up the Earth's crust.

- In 79 CE, Mount Vesuvius in Italy erupted with tremendous force. It sent a deadly cloud of gas into the air and ejected ash, rocks and lava which fell on the nearby Roman towns of Pompeii and Herculaneum.

The structure of the Earth



Subduction

