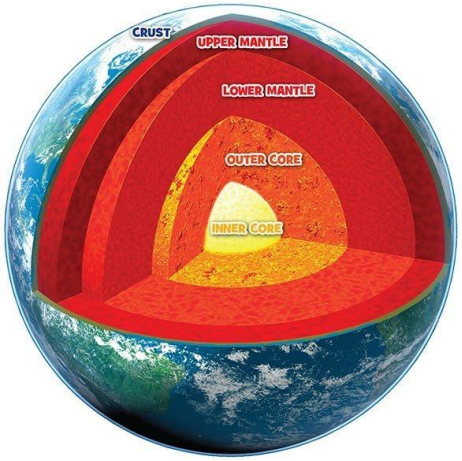
Year 3- Why do volcanoes form and how does this inform the land use around them?

Key information

How is the Earth structured?

The Earth has 5 layers

- Crust
- Upper Mantle
- Lower Mantle
- Outer Core
- Inner Core

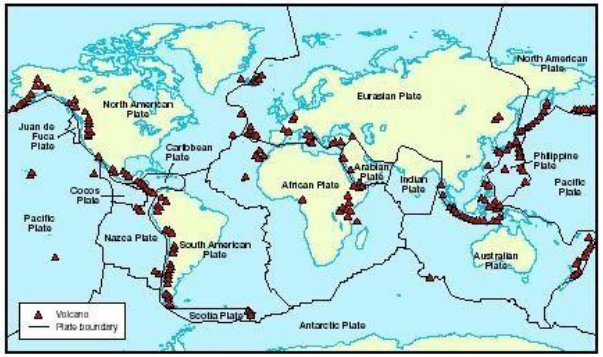


How are volcanoes formed?

- Volcanoes are formed when magma from within the Earth's upper mantle works its way to the surface.
- At the surface, it erupts to form lava flows and ash deposits.
- Over time as the volcano continues to erupt, it will get bigger and bigger.

Where do volcanoes occur and why?

- Sixty % of all active **volcanoes occur** at the boundaries between tectonic plates.
- Tectonic plates are pieces of the rocky outer layer of the Earth known as the crust. These plates are constantly moving, and volcanoes, earthquakes and sometimes mountains are found at the plate boundaries.
- Most **volcanoes** are found along a belt, called the "Ring of Fire" that encircles the Pacific Ocean.



What impact do volcanoes have on landscapes and human geography?

- Volcanoes can change the weather. They can cause rain, thunder and lightning. Volcanoes can also have long-term effects on the climate, making the world cooler.
- volcanic rock and ash provide fertile land which results in a higher crop yield for farmers
- tourists are attracted to volcanoes, which increases money to the local economy
- geothermal energy can be harnessed, which provides cheaper electricity for locals
- minerals are contained in lava, e.g. diamonds - these can be mined to make money

Key vocabulary

mountain	a large natural elevation of the earth's surface rising abruptly from the surrounding level
valley	a low area of land between hills or mountains
crust	the outermost layer of rock of a planet
upper mantle	This layer is up to 670km below the Earth's surface. Made from both solid and melted rock
lower mantle	The lower mantle is found between 670km and 2,890km below the surface, and is made from solid rock.
outer core	This liquid metal layer of iron and nickel is 5,150km deep.
inner core	The Earth's inner core is a huge metal ball, 2,500km wide. Made mainly of iron
volcano	a mountain or hill, typically conical, having a crater through which lava, rock fragments, hot gas have been erupted from the earth's crust
erupt	become active and eject lava, ash, and gases
magma	hot fluid or semi-fluid material below or within the earth's crust from which lava and other igneous rock is formed on cooling
lava	hot molten or semi-fluid rock erupted from a volcano
natural resources	materials or substances occurring in nature which can be exploited for economic gain
Geothermal energy	relating to or produced by the internal heat of the earth