Key Vocabulary

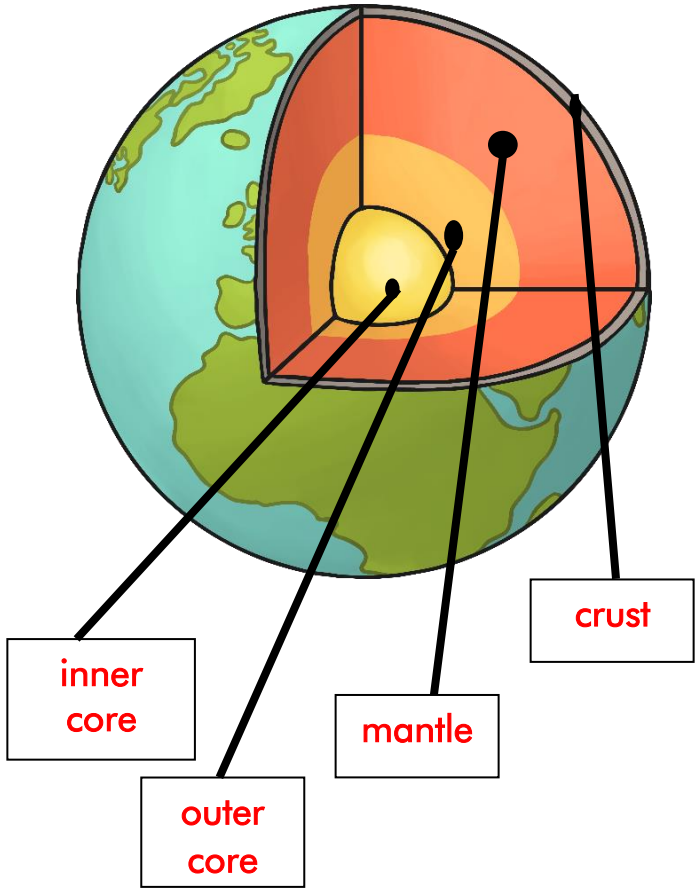
dormant volcano	A volcano that has not erupted in the last 10,000 years but could erupt again.
active volcano	A volcano that has erupted in the last 10,000 years.
extinct volcano	A volcano that has not erupted in the last 10,000 years and will not erupt again.
crust	Earth's thin outer layer of cold, hard rock.
mantle	Extremely hot rock that flows like treacle.
outer core	Mostly made of iron. It is over 4000°C. Mostly liquid with some rock.
inner core	The hottest layer, over 5000°C.
magma	Molten, hot, liquefied rock located deep below the Earth's surface.
tectonic plate	The Earth's crust is broken into huge pieces called tectonic plates.

Objectives

Human and Physical:

- To describe and understand key aspects of: physical geography, including: climate zones, biomes and vegetation belts, rivers, mountains, volcanoes and earthquakes

The Earth



Key Events and People

Inge Lehmann 1888 – 1993:

She was a scientist who discovered under the Earth's surface is a solid core surrounded by molten rock.

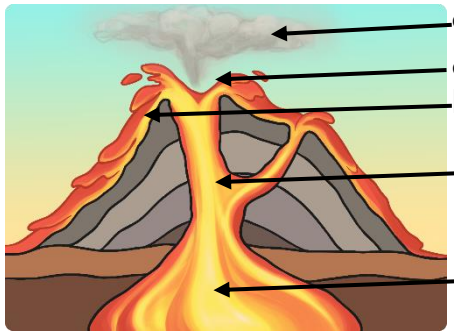
Case Study 1: Mount Vesuvius

In 79AD a Roman Town in southern Italy called Pompeii was buried under volcanic ash and rock following the eruption of Mount Vesuvius. 1,600 years later it was excavated and the remains of many items, buildings and people were found in a 'petrified state'.

Case Study 2 : Boxing Day Tsunami

26th December 2004, in the Indian Ocean. It devastated many countries including Malaysia, Thailand and Indonesia. It measured 9.3 on the Richter scale and had waves as high as 30m.

Volcano



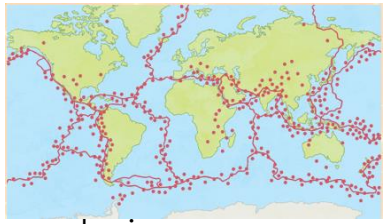
How are volcanoes formed?

1. Pressure builds up inside the Earth.
2. Magma can then sometimes erupt through.
3. The lava and ash that are erupted through the crust build up to form the classic volcano cone shape over time.
4. This process repeats!

Most of the world's volcanoes are located on the **ring of fire.**

Earthquake

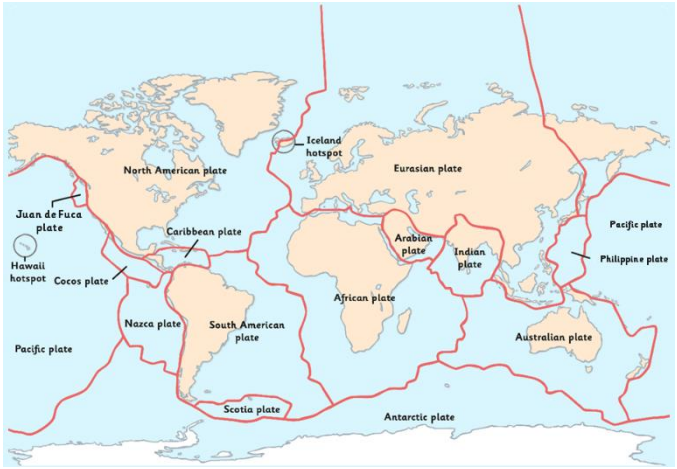
This image shows the Earthquake hotspots.



Earthquakes are measured using a seismograph on a scale of 1 – 12.

Mercalli Intensity	Effect
1	Felt by no-one.
2	Felt by very few people. Hanging objects may swing.
3	Felt by many but they don't realise it is an earthquake.
4	Felt indoors by most people. Vibrations similar to a lorry hitting a building.
5	Felt by nearly everyone. Sleeping people may be woken. Trees and telegraph poles sway.
6	Felt by all. People run outside. Furniture moves. Slight damage to property.
7	Felt by all. People run outside. Moderate damage to buildings
8	Specially designed buildings damaged, others collapse.
9	All buildings damaged. Cracks appear in ground.
10	Many buildings destroyed. Ground is badly cracked.
11	Almost all buildings destroyed. Wide cracks in the ground. Water, gas and electric out of action.
12	Total destruction. Waves seen on the ground.

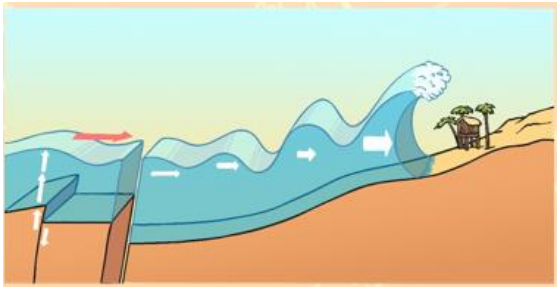
Tectonic Plates



Tsunami

Tsunamis are giant waves that begin under the ocean. They can be caused by:

- Underwater earthquake or volcano
- A landslide
- A meteorite



Tornado

Tornadoes are a swirling funnel of air that can come down from some of the biggest clouds, called Cumulonimbus.

EF Level	Wind Speed	Damage Profile
EF0	40-72 MPH	**Minor Damage:** Some damage to chimneys, branches break off trees, shallow-rooted trees are pushed over and sign boards are damaged.
EF1	73-112 MPH	**Moderate Damage**: Surface of roofs are blown off, mobile homes are pushed off foundations or overturned and moving cars pushed off the roads.
EF2	113-157 MPH	**Considerable Damage:** Roofs are torn off houses, mobile homes are demolished, large trees are snapped or uprooted and light objects fly through the air.
EF3	158-206 MPH	**Critical Damage:** Roofs and some walls are torn off well-constructed houses; trains are overturned, most trees are uprooted and heavy cars are lifted into the air and thrown.
EF4	207-260 MPH	**Severe Damage:** Well-constructed houses are demolished, structures with weak foundations are blown some distance, cars are thrown and large objects fly through the air.
EF5	261-318 MPH	**Total Destruction:** Strong framed houses are lifted off foundations and carried considerable distances, large objects such as cars and trees fly through the air and steel-reinforced concrete structures are badly damaged.