

Plate tectonics, mountains and earthquakes.

Lesson sequence

1. What is the earth made of?
2. Plate tectonics and types of mountains
3. Volcanoes
4. Earthquakes
5. Earthquake protection
6. Topographical maps
7. Seven summits
8. Mountaineers
9. Human use of mountains
10. Changing and protecting mountains

Concept links/Prior Knowledge

- To be able to locate countries, capital cities and environmental regions on world map.
- To know the main mountain ranges in Italy.
- To name active volcanoes in Italy.
- Understand that the Earth has different layers within its structure.
- To know that there are tectonic plates around the world.

Physical geography- To learn how tectonic plates cause earthquakes and their role in the formation of mountains, and volcanoes.

Human geography- To learn about how humans use mountains and the effect this has on the natural environment. To discuss the ways in which these natural formations can be conserved and protected.

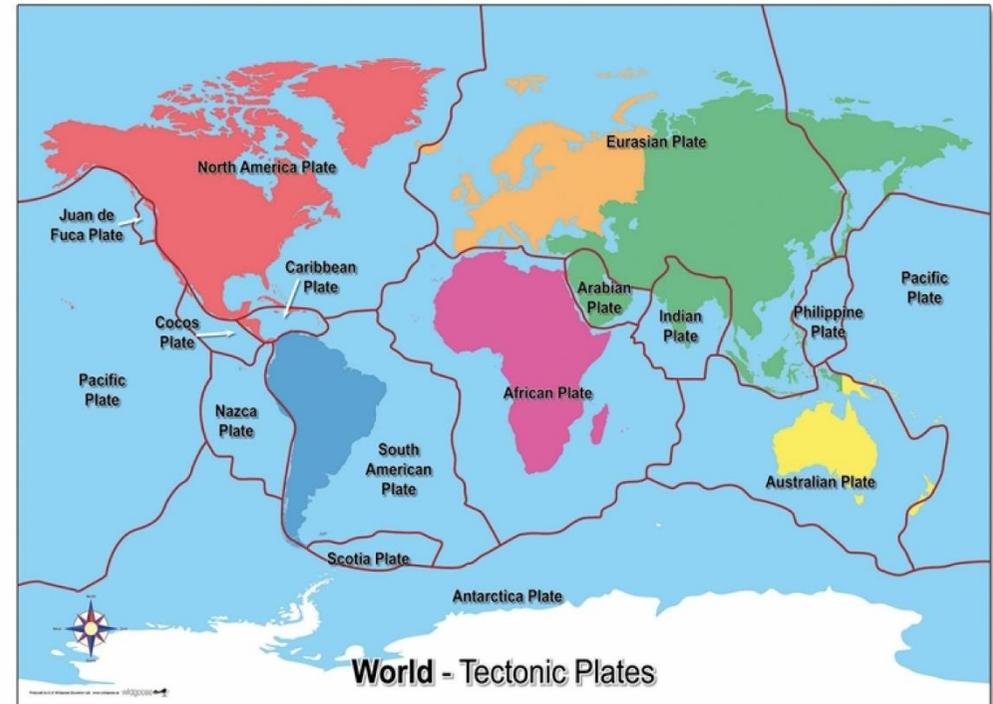
Sticky learning

New Knowledge

- To name mountain ranges around the world
- To describe and identify the different layers of the Earth's structure.
- To know what the different types of mountains are and how they are formed.
- To know the processes that lead to change in a mountain environment over time.
- To name and identify the seven summits of the world.
- To know how we can protect World Mountains.
- To know how we can protect ourselves from the effects of earthquakes.
- To be able to describe, and identify tectonic plates on a map

New Skills

- To use topographical maps to identify mountains.
- Use different types of thematic maps in atlases and on the computer to locate places, features.
- Read and use compass points and bearings to 10 degrees, four and six figure grid references, keys and colour coding to represent information on a map.
- Relate digital images to maps.



New vocabulary

Earthquake - movements, fractures and vibrations in the earth's crust as tectonic plates move

Mantle - the layer of the earth's structure between the crust and the core

Crust - The Earth's crust is its outer layer

Plate boundary- where two tectonic plates meet. There are two types deconstructive and constructive

Inner core - hot solid layer of the Earth made from iron and nickel

Outer core - thick liquid layer of the Earth between the mantle and inner core

Magma - molten rock that is formed in very hot conditions inside the earth

Fault lines - a long crack in the surface of the earth. Earthquakes usually occur along fault lines

Richter scale - a scale to measure the magnitude of an earthquake

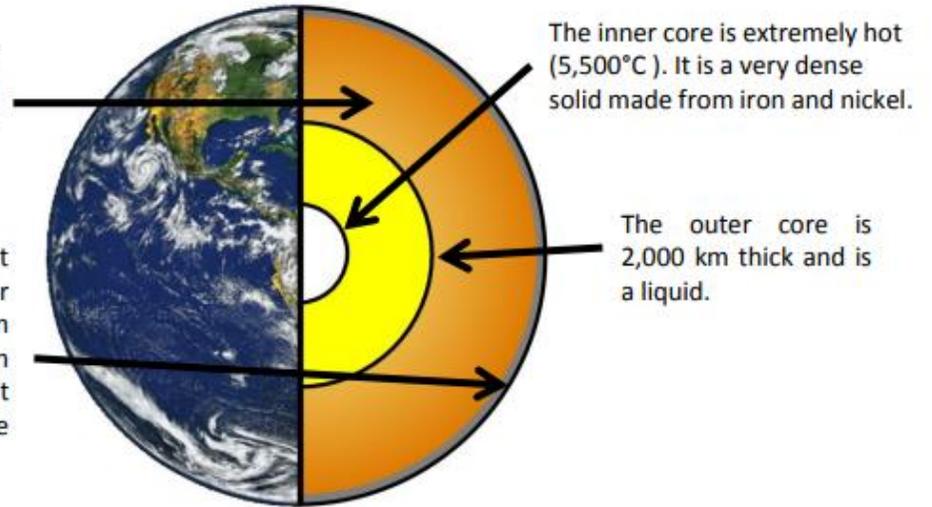
Summit - the highest point of a mountain, also known as a peak

The earth's structure:

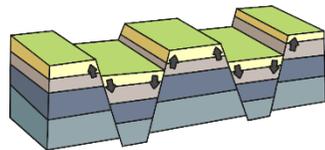
The Earth has four main layers : the **inner core**, the **outer core**, the **mantle** and the **crust**.

The mantle is semi-molten and about 3,000 km thick. The closer the mantle is to the core, the more liquid it is.

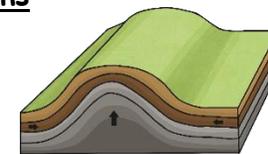
The crust is the rocky outer layer. It is thin compared to the other sections, approximately 5 to 70 km thick. If the Earth was scaled down to the size of an apple, the crust would be about the thickness of the apple skin.



Types of mountains



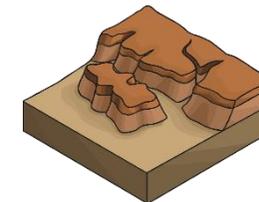
Fault block mountains (Sierra Nevada)



Fold mountains (The Alps)



Volcanic mountains (Mount Vesuvius)



Plateau mountains (Allegheny)



Dome mountains (Devils tower)