



WALT understand how mountains are formed.

WILF:

- Explain the structure of the earth in layers.*
- Understand how mountains are formed*
- Explain what the three types of mountain are.*



Let's take a look at the Earth's structure.

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Crust: *this is the outer layer and is the thinnest. It's solid rock on the top layer of mantle. It's 60km thick, and is where mountains are formed.*

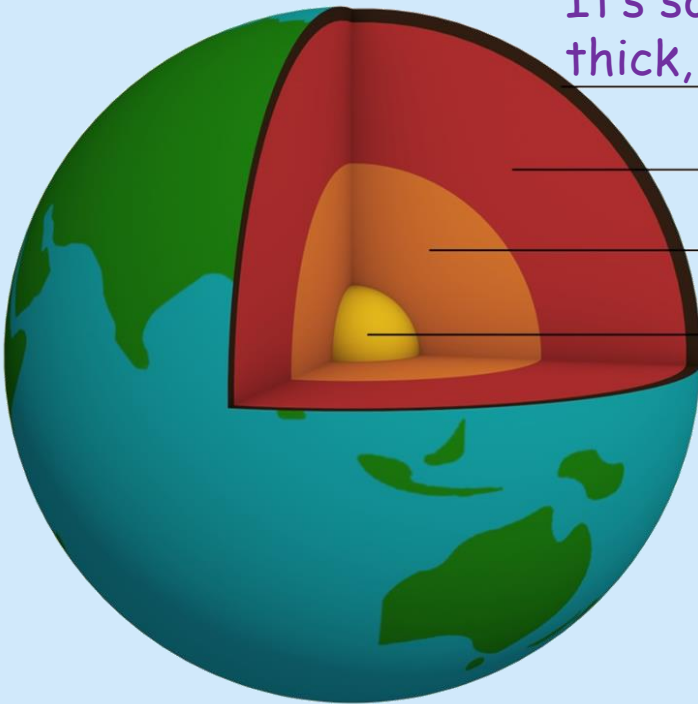
Mantle: *this is the thickest layer, and is made of molten rock (magma).*

Outer core

This is made of liquid iron and nickel.

Inner core

This is a solid ball of iron. It's 5500 degrees Celsius, which is almost as hot as the sun's outer layer!

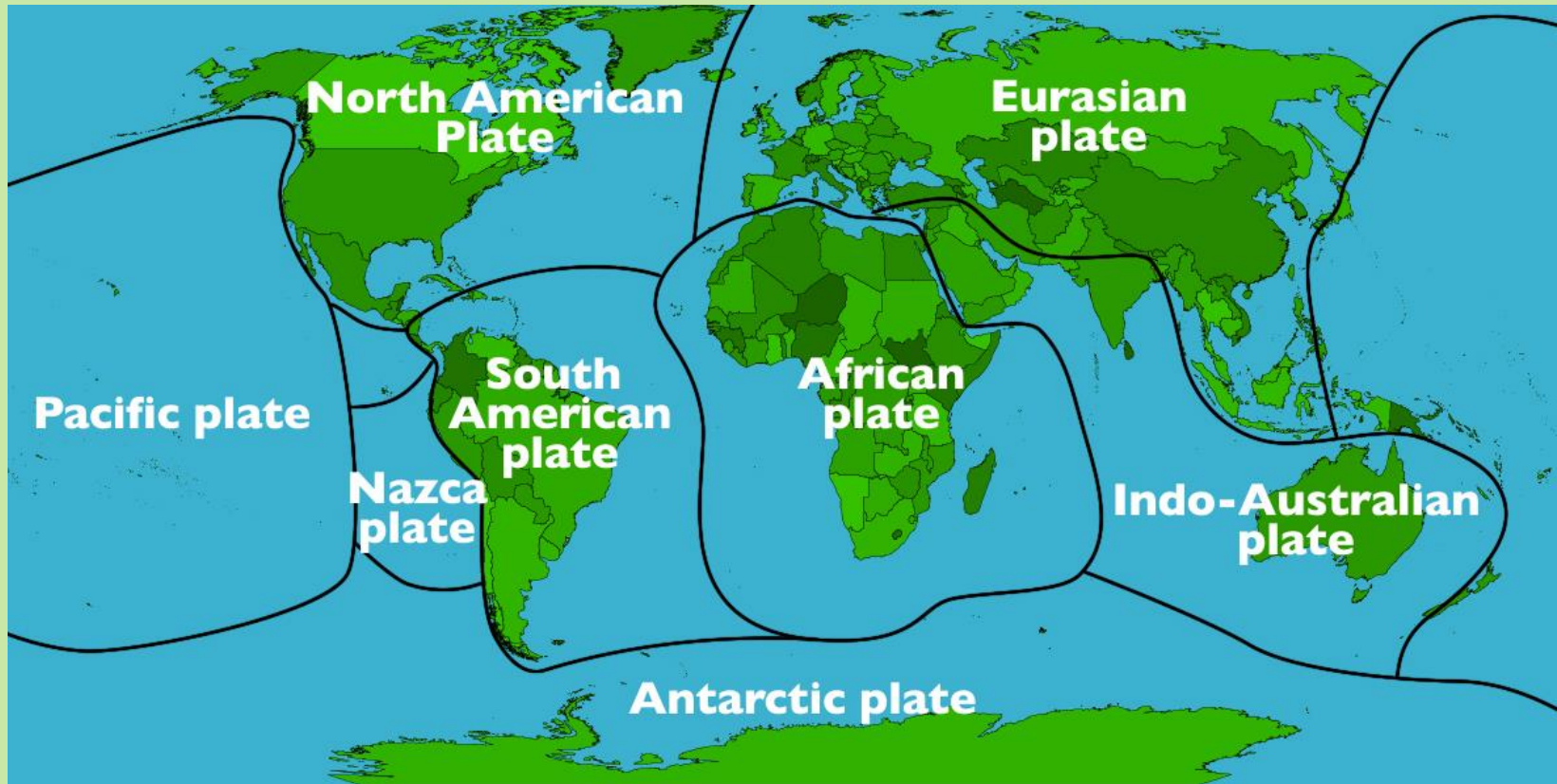


● ● ● The Earth's crust is made up of tectonic plates, which move very slowly. Click on the image to find out more about these, if you like.

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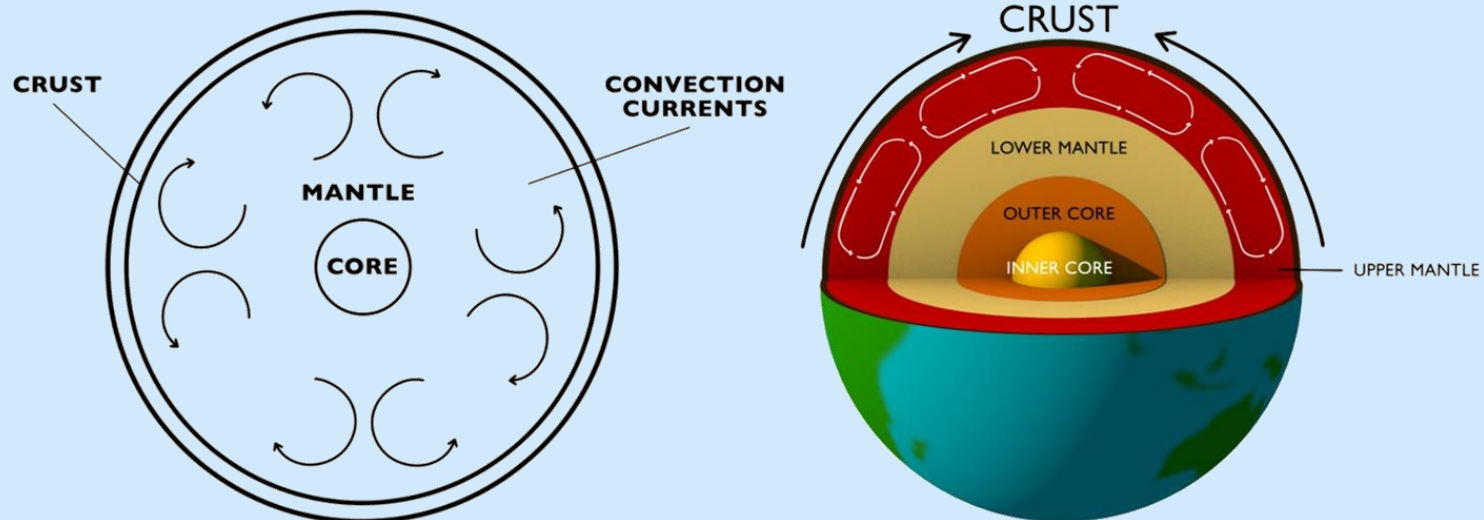
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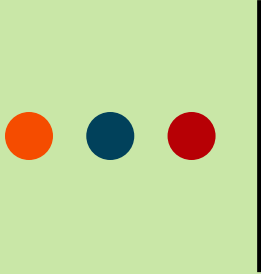
There are 8 major plates, which you can see above. There are also some much smaller ones. These can be on land, or under the sea.

● ● ● The Earth's plates are constantly moving; on average, between 1 and 10 cm per year.

Convection currents in the mantle cause the plates to move. Heat rises and falls throughout the molten rocks that compose the mantle. As the magma in the mantle moves, so do the plates above.



Click on the crust to travel back in time and see how the plates have moved into the continents we know now.



There are three different types of Mountain.

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These are made from plates moving - let's take a closer look...

During these slides, you're more than welcome to pause and take a look at them on Google Maps Satellites - I've linked them to the pictures in walk around mode for each Mountain.



Fold Mountains

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Fold Mountains take millions of years to form. The Himalayas and Zagros Mountains are both examples of these.

To see how they are formed, get two pieces of paper, then slowly, gently push them together so the ends meet and rise.

This is what happens in their formation - the plates meet and make the land rise over time.

National Geographic have a fantastic video showing this - click the Zagros mountain to watch.



Zagros Mountains

Fault block mountains

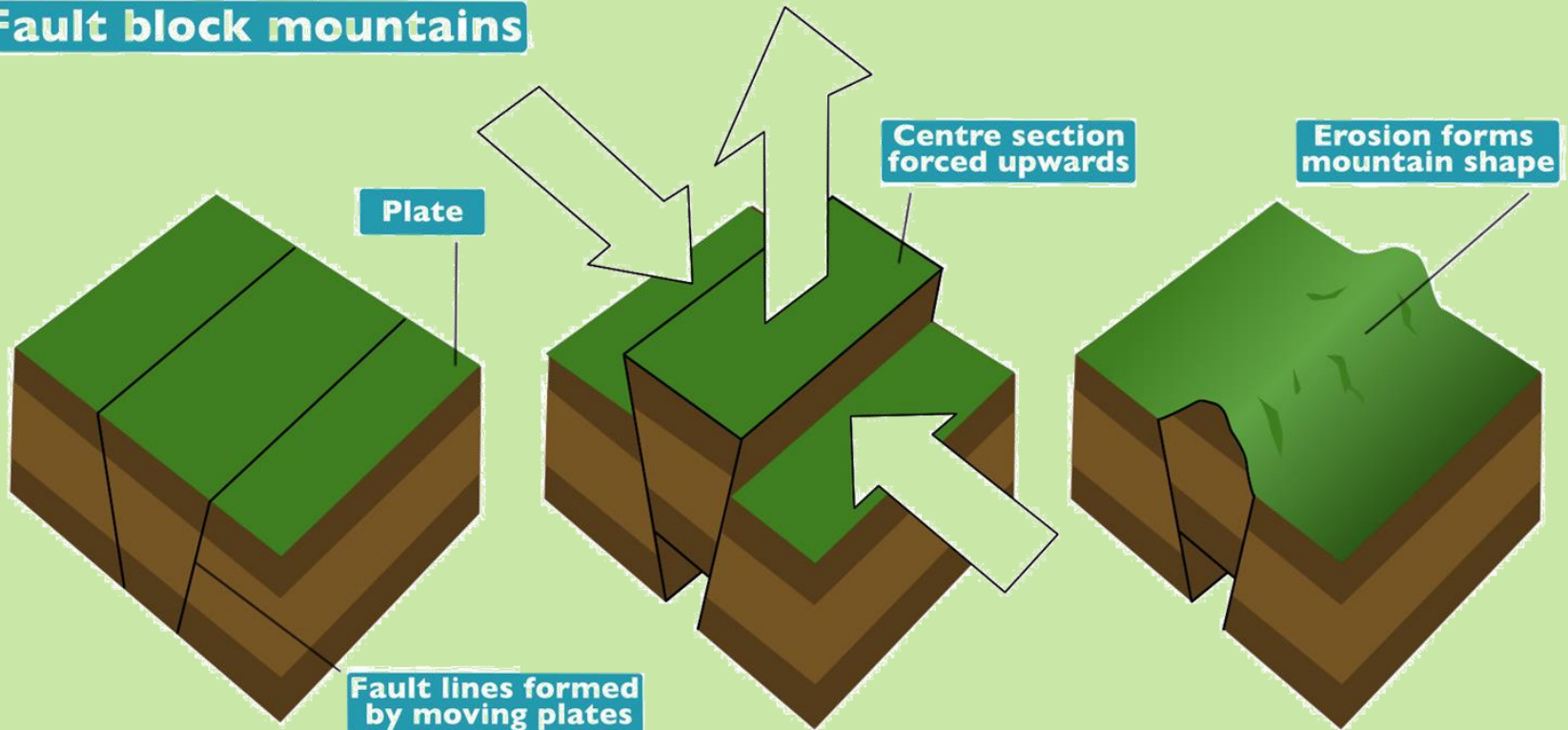
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These are formed when plates make **fault lines**, which are small cracks in the Earth's crust.

Fault block mountains



Fault block mountains

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When plates move toward each other and the pressure cracks lines of weakness. These don't make straight lines.

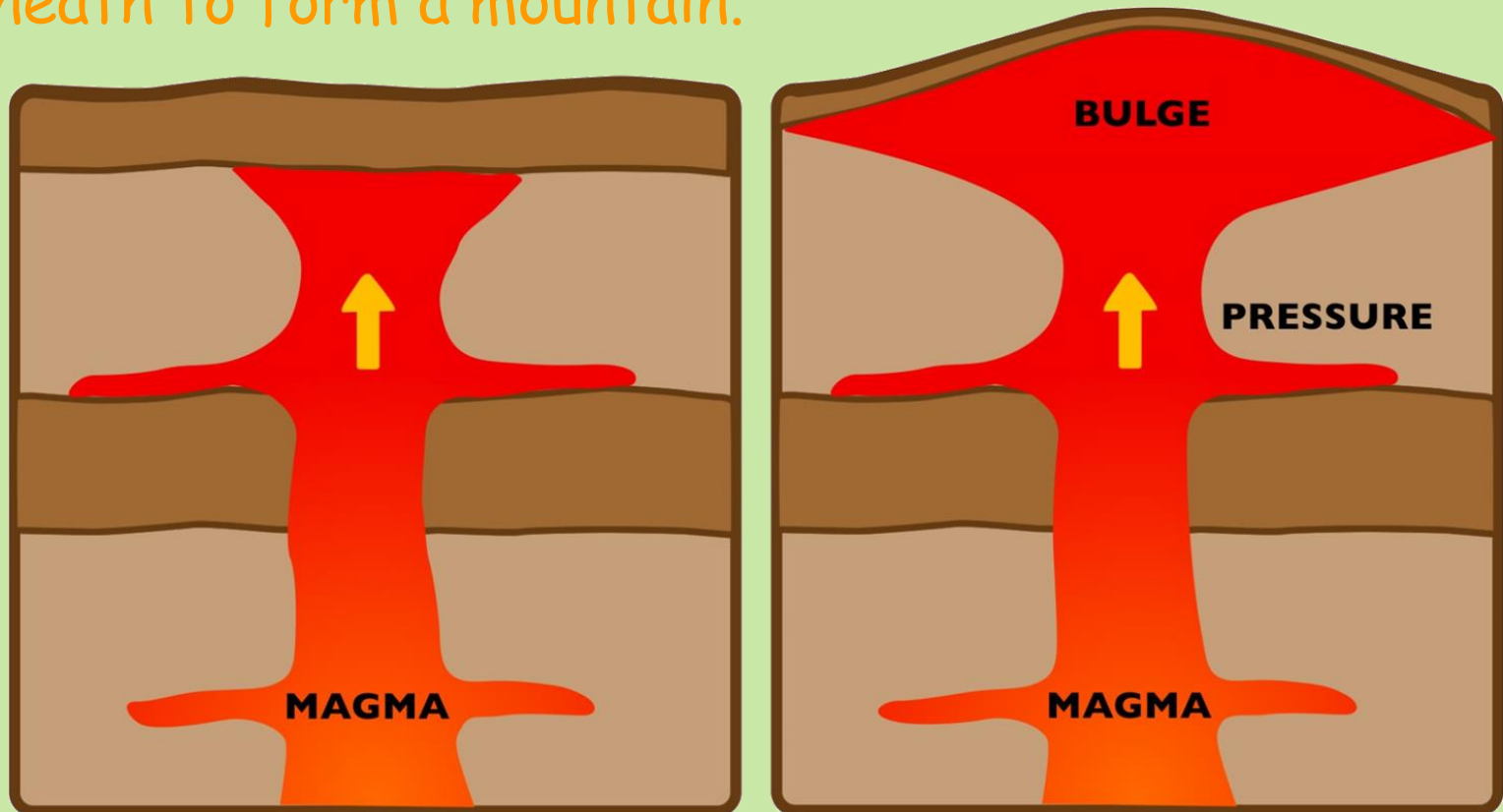
They are shaped over years by erosion (when water or wind pressure wears the rock down). *Sierra Nevada Mountains - California* are an example of these.



Sierra Nevada from the east © Mary, Flickr

Dome mountains

These are formed when molten rock (magma) pushes up to the crust without erupting to the surface. It pushes the rock up, then cools and hardens underneath to form a mountain.



Dome mountains

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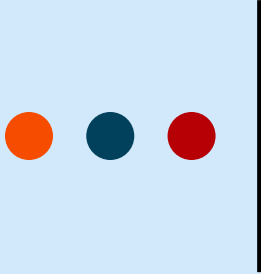


Mount Rushmore © Flickr, Paul Weimer



Bear Butte © Flickr, bl0ndeeo2

Mount Rushmore, USA and Bear Butte, USA are Dome mountains.



Today's activity...

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Sketch one of each type of Mountain, label it and describe how it is formed using the vocabulary:

Vocabulary list

Use these words to label your diagrams and complete the sentences about each type of mountain. You may need to use some of these words more than once.

Fold

Plate

Syncline

Upwards

Eroded

Fault Block

Magma

Crust

Mount Everest

Pressure

Dome

Anticline

Together

Fault lines

Rock strata (sedimentary rock on the surface)

If you're stuck, you can use the 'Week 2 - Geography - Mountain Fill in Gaps' sheet.