

The New Topic is.....

Plate Tectonics !!!!!

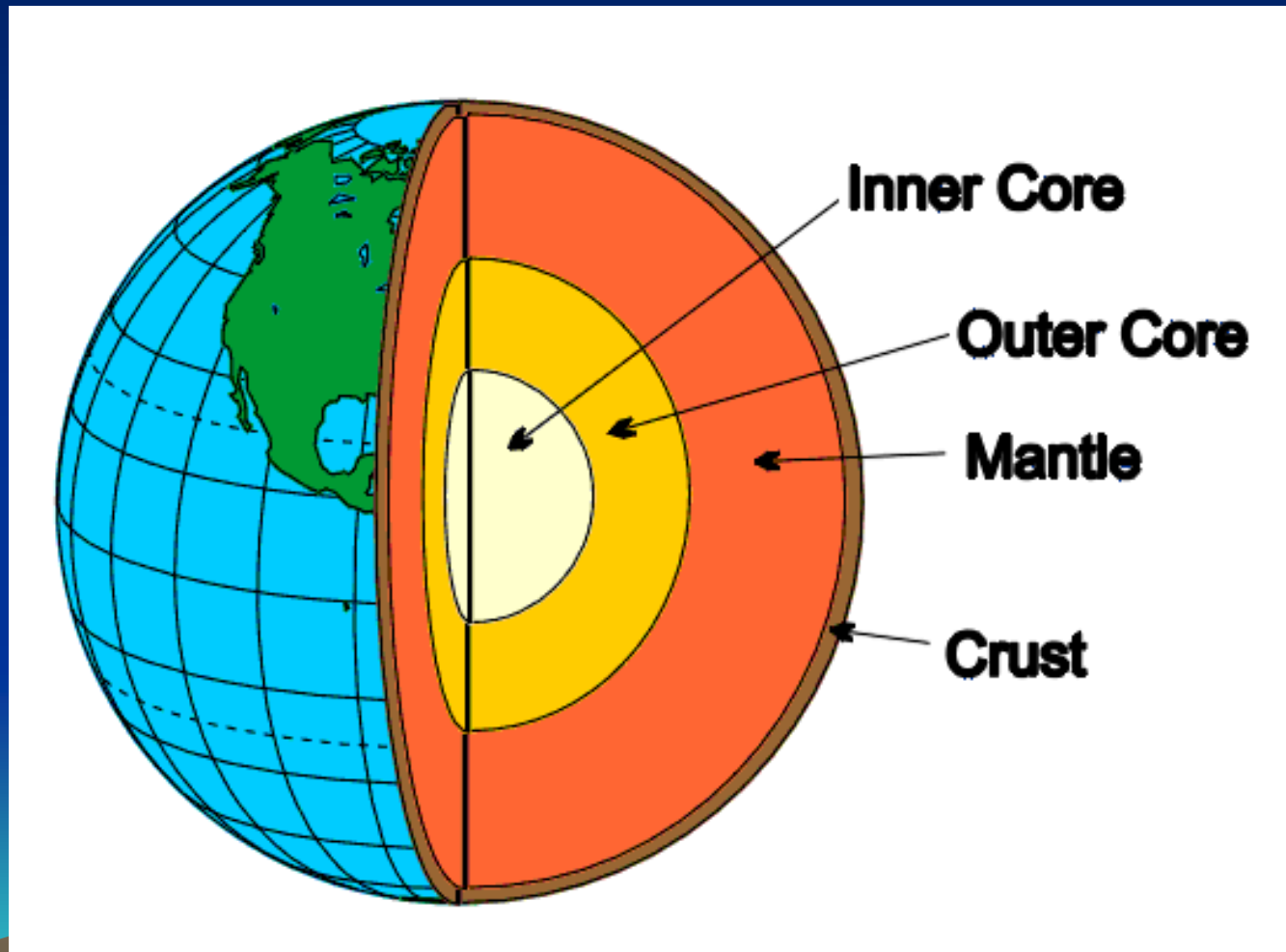


Plate Tectonics

- WALT: to begin to recognise features of risky worlds
- SUCCESS CRITERIA
 - Bronze - carry out tasks to find information
 - Silver - offer reasons for information
 - Gold - suggest questions and use skills to learn



How is our earth made up?



- <https://www.youtube.com/watch?v=OinfMLdornU>
- <https://www.youtube.com/watch?v=tcPghqnnTVk>



<https://www.youtube.com/watch?v=OinfMLdornU>



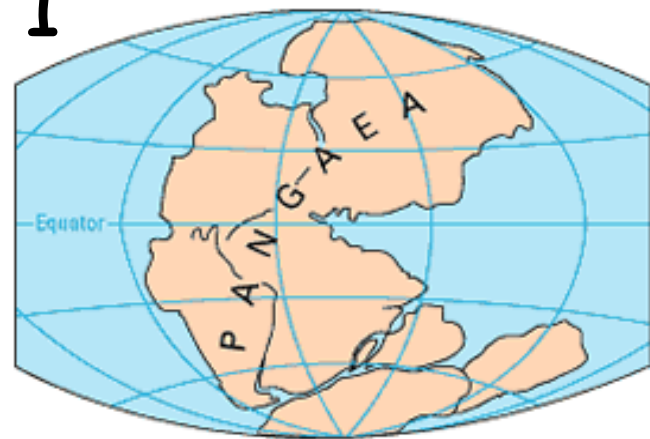
Mountains



[https://www.youtube.com/watch?v=tcPghqnnTV
k](https://www.youtube.com/watch?v=tcPghqnnTVk)



1



220 Million Years Ago

There was one supercontinent called Pangaea.

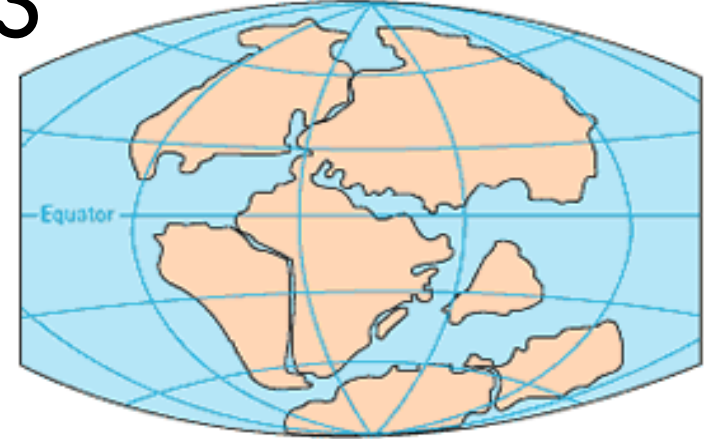
2



200 Million Years Ago

There are now two large continents.

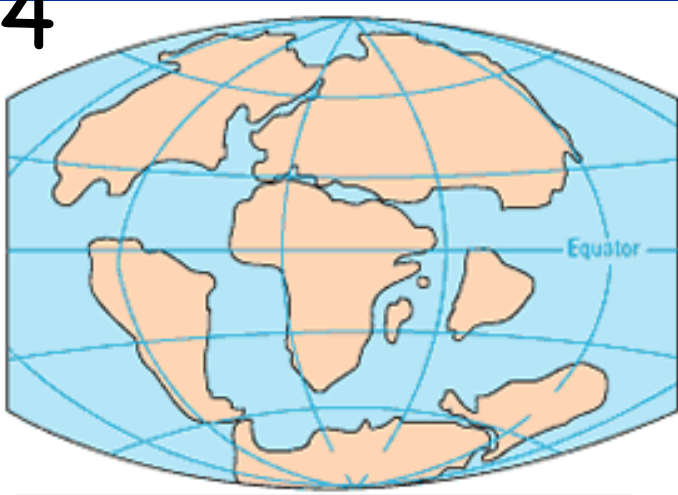
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135 Million Years Ago

This is when the dinosaurs roamed the Earth.

4



65 Million Years Ago

This is when many dinosaurs became extinct.

5

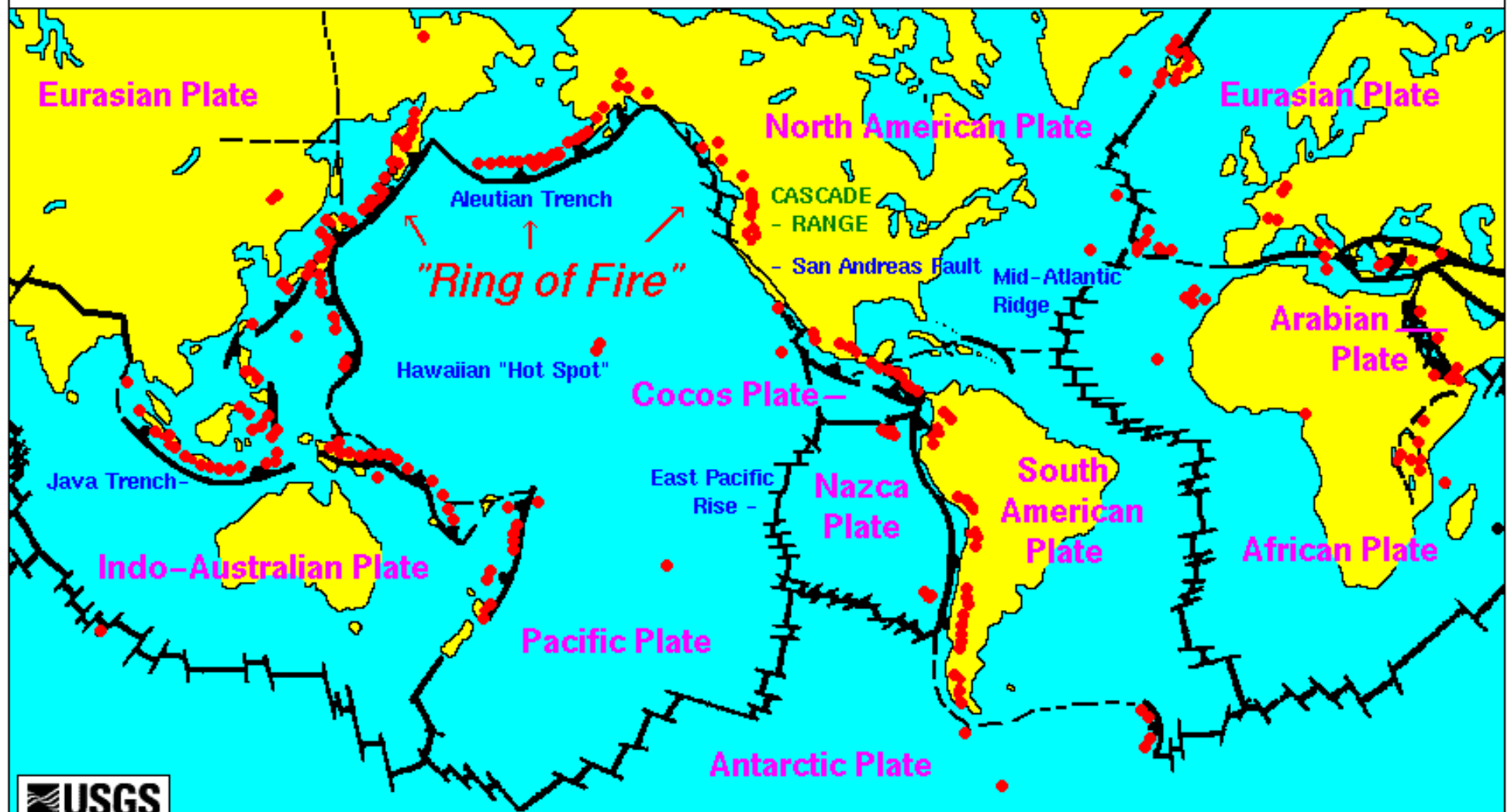


Present Day

This is how the Earth looks today.

The Risky World

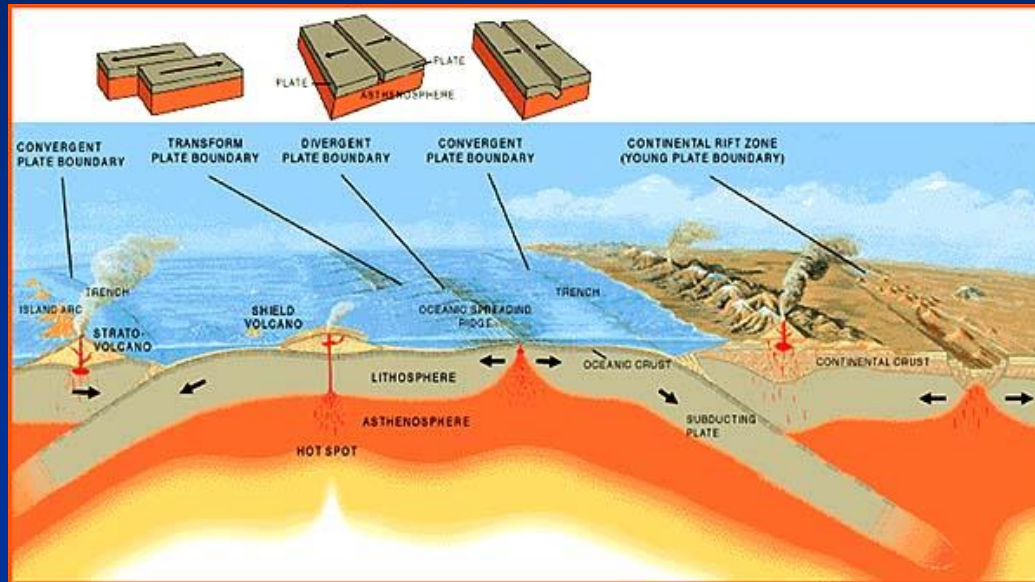
Active Volcanoes, Plate Tectonics, and the "Ring of Fire"



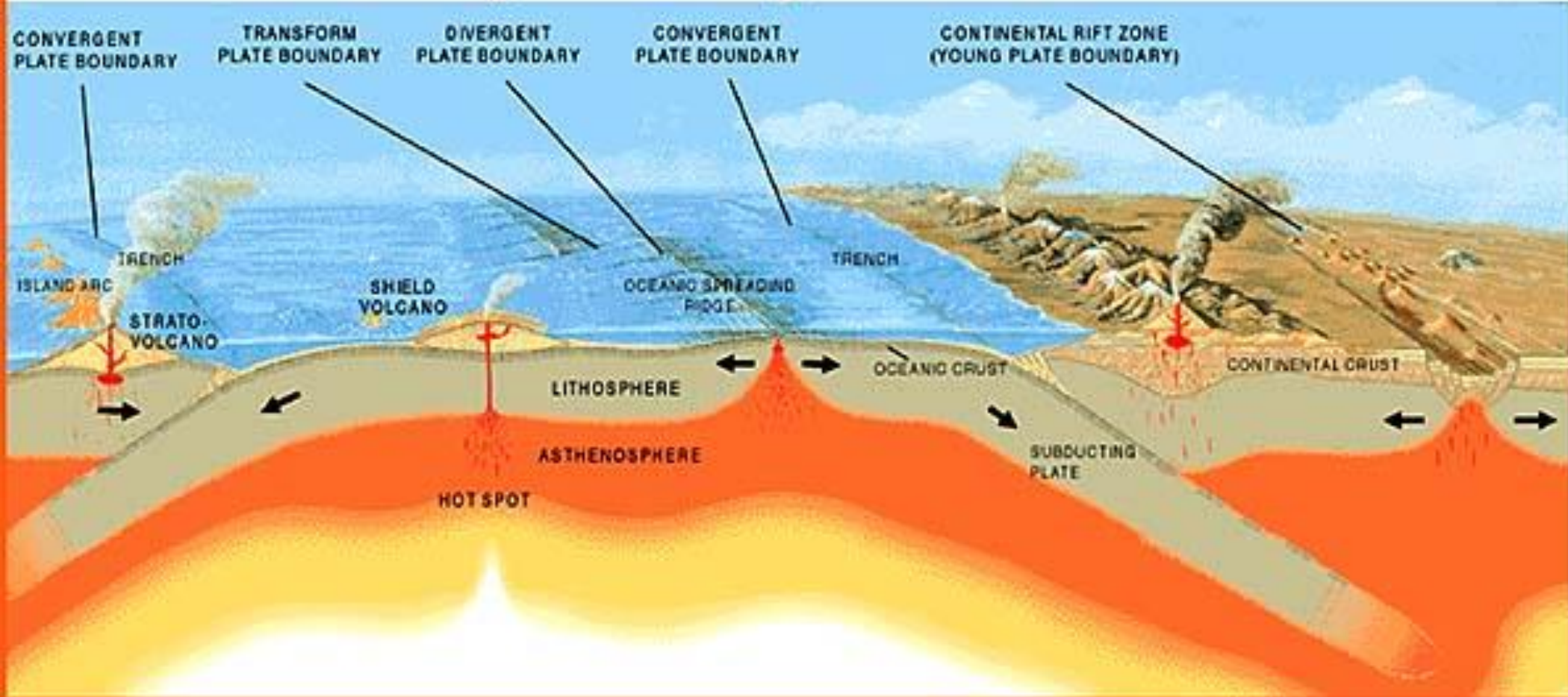
Tectonic Plates

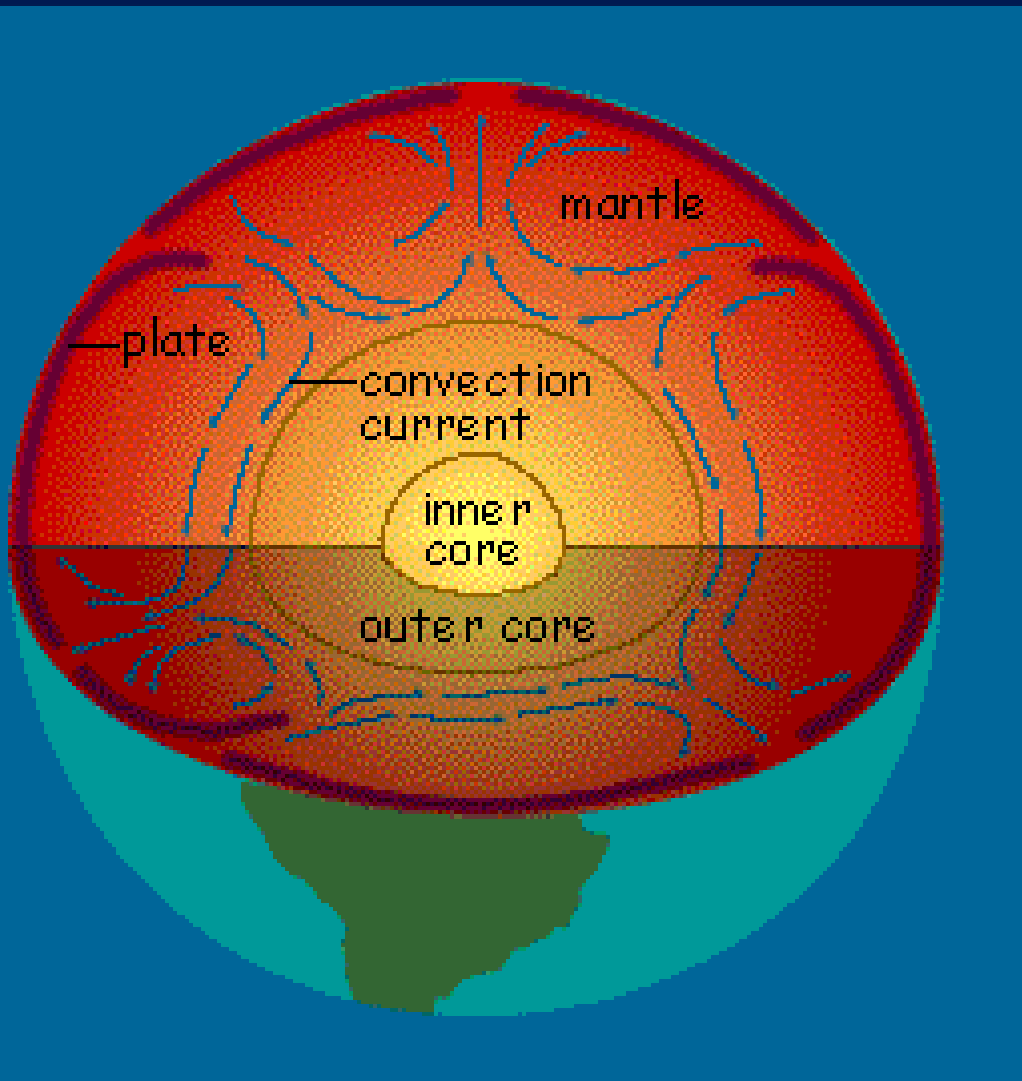


- Earthquakes (major ones) and volcanoes do not occur in Britain.
- If you look at a map, you will notice that they occur in distinct lines and belts.



- The reason for this is that the earth's crust is split into a series of **tectonic plates** that fit together like pieces of a jigsaw puzzle.
- Where these plates meet, at their edges, are "hotspots" where volcanoes and earthquakes occur.





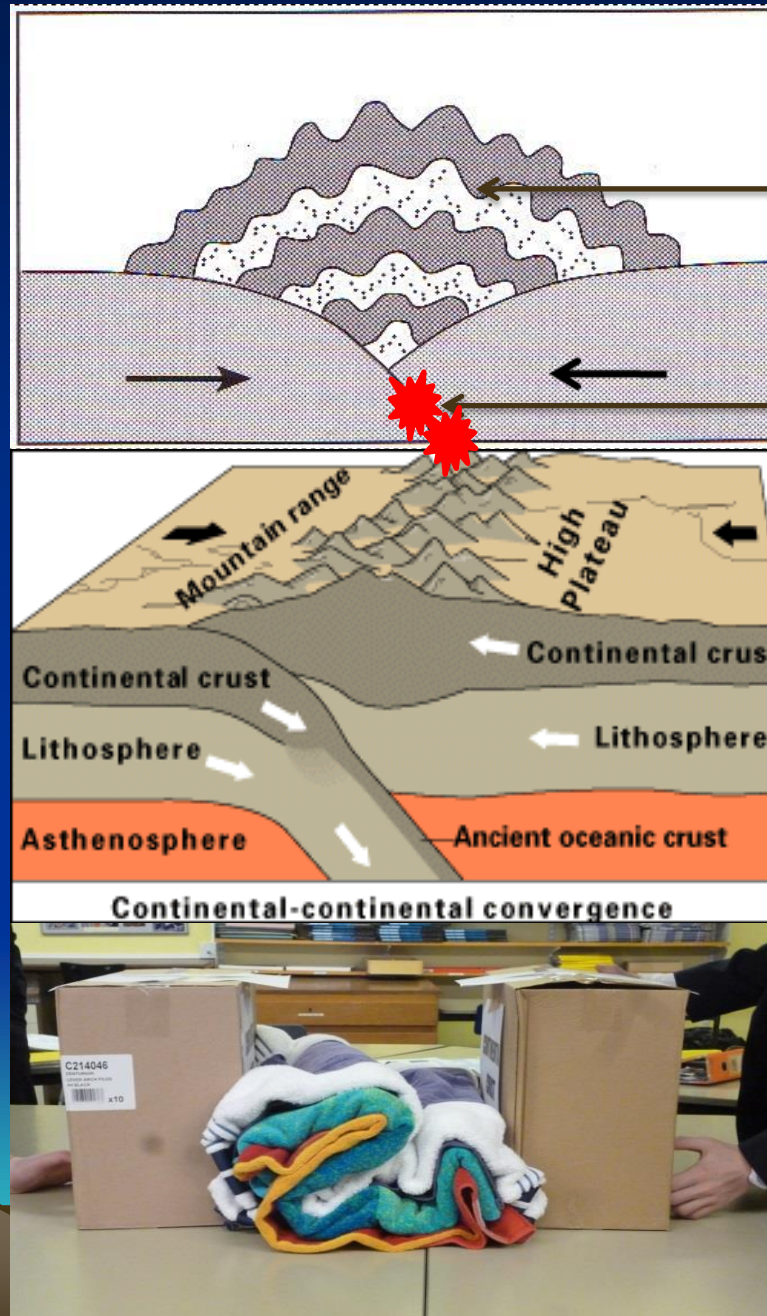
- The mantle is the part immediately below the earth's crust.
- It is soft and rocky, but is also very hot because it is heated from below by natural radioactivity.
- Because it is heated from below, this causes convection currents in the mantle - which means the plates are moved slightly.

Convergent plate boundary. Continental to continental

Convergent plate boundaries are plates that are moving together.

Because both pieces of crust are low density rocks, the plates are pushed upwards.

This causes earthquakes and the fold mountains.



Fold mountains

Earthquake zone

Everest was formed about 60 million years ago by this plate movement. It is 8,850m high.

The Eurasian and Indo-Australian plate move in this way

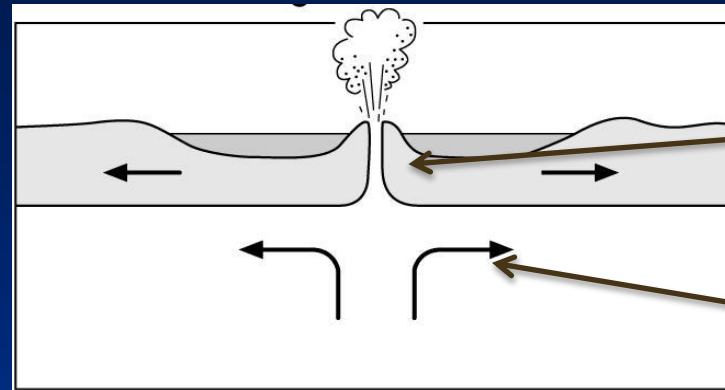
Divergent plate boundary

Happen when two oceanic plates are moving away from each other.

The pressure of these plates moving away from each other causes cracks in the crust.

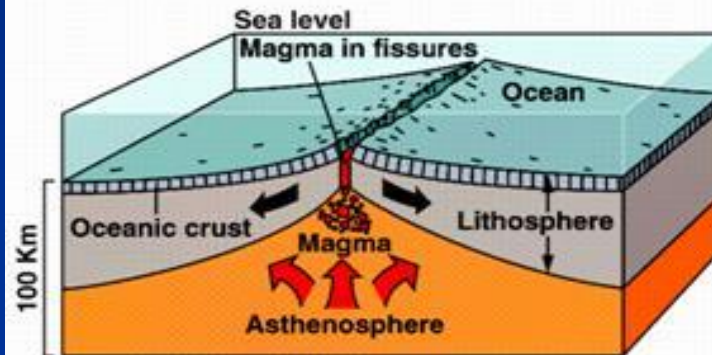
Rising magma then escapes out of these cracks causing volcanoes.

Over time, volcanic islands are formed



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A Divergent Boundary



Volcanic islands

Convection currents cause the plates to move apart, causing a rift valley

The Eurasian and the North American plate move in this way.



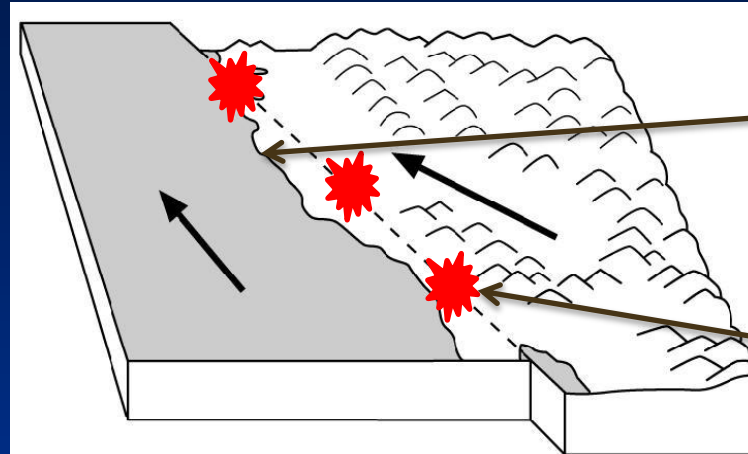
Conservative plate boundary

The two plates are sliding in the same direction. However the Pacific plate is moving faster

As the plates slide past each other they snag

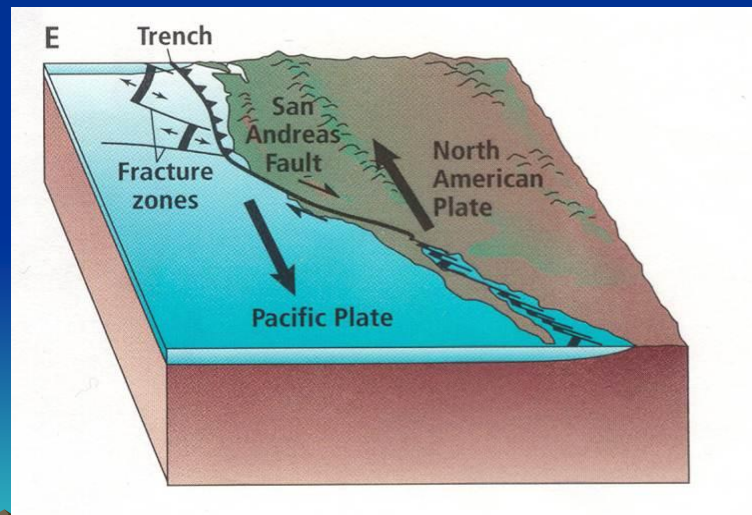
Pressure and tension builds up as the plates lock together

Eventually the plates break causing a sudden surge forward



San Andreas fault

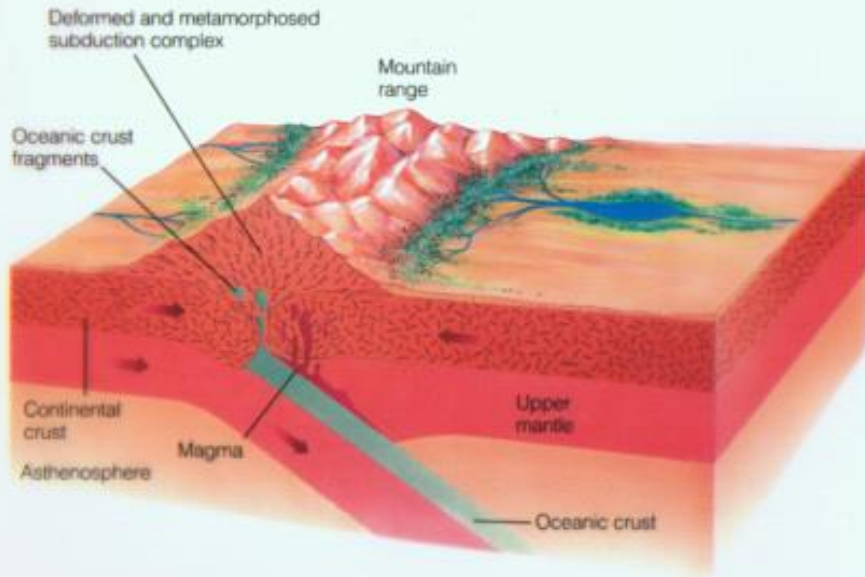
Earthquake zone



The San Andreas Fault is a line of weakness that runs a length of roughly 810 miles California in the USA.

The Pacific plate and North American plate move in this way

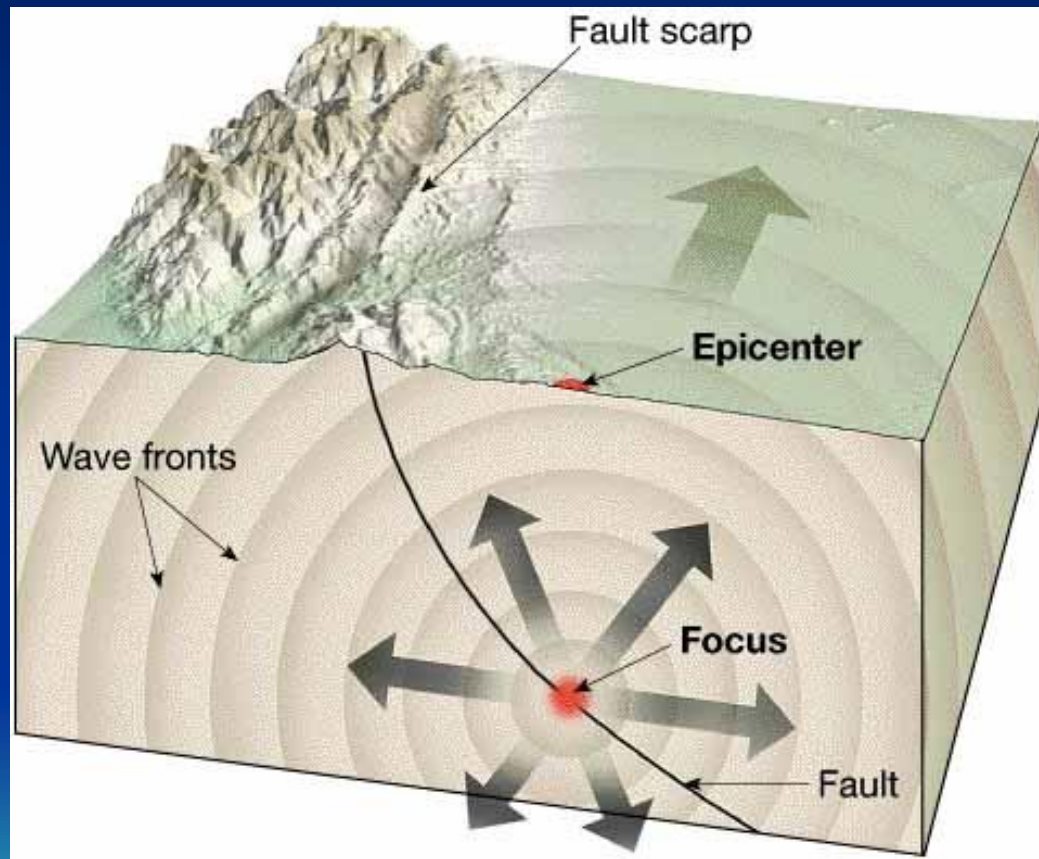
Continental-Continental Convergent Plate Boundary



Acetate 38 (Figure 7.19)

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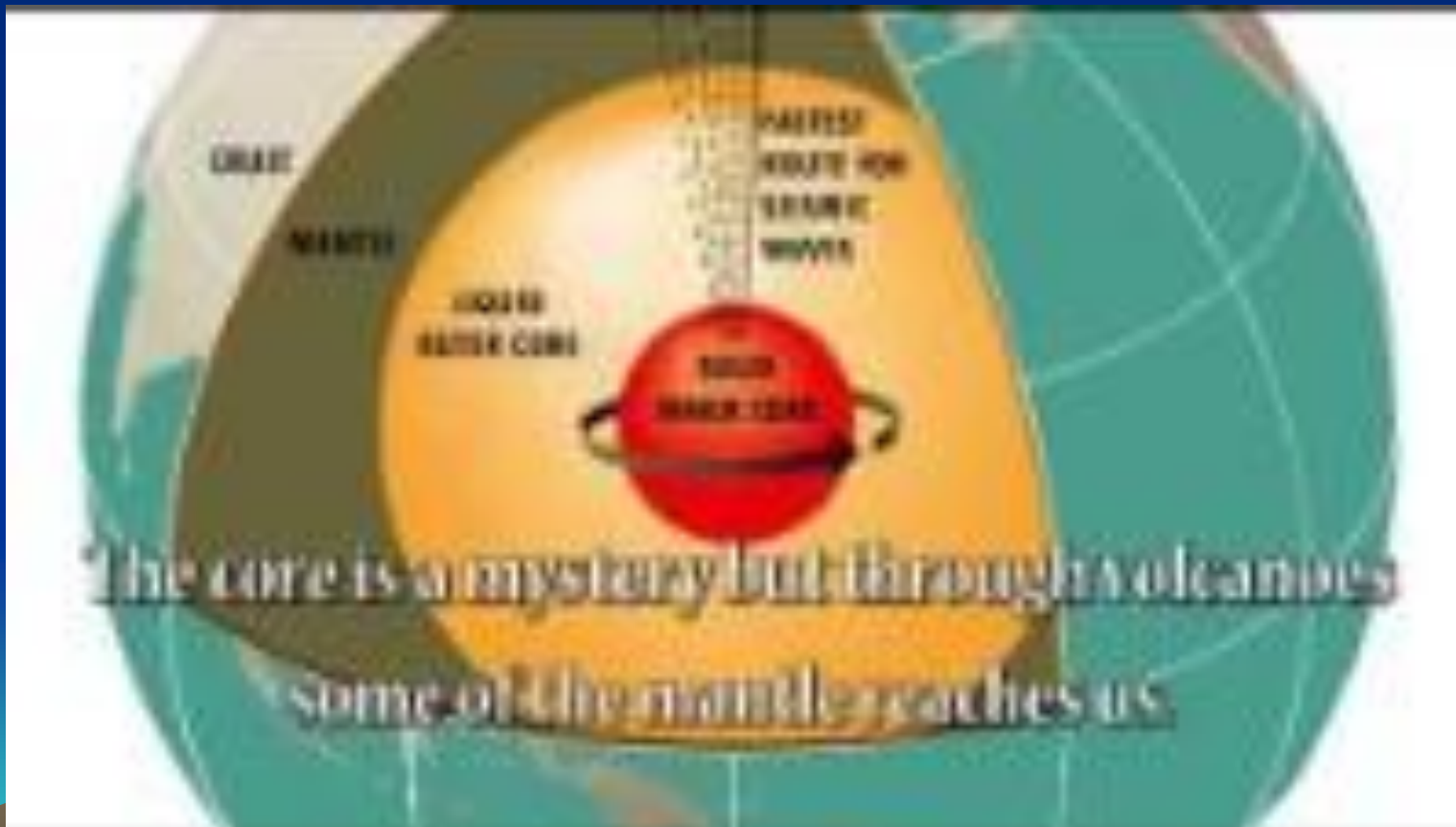
- Where the plates move away from each other, this causes a dip that creates new oceans.
- Where the plates move together this causes rocks to pile up, so creates mountains.



- Earthquakes are caused by plates hitting each other, or rubbing against each other.
- Volcanoes form where **magma** escapes through weakened points in the crust where the plates meet.

Plenary

- <https://www.youtube.com/watch?v=KPhvNrp-Jv0>



Your tasks today ...

- 1. Recreate a map of Pangea – use the sheet to recreate the jigsaw puzzle. Try to match the key to see if you are correct – glue down when checked.
- 2. Explain the 3 main form of plate boundaries (choose your level)

