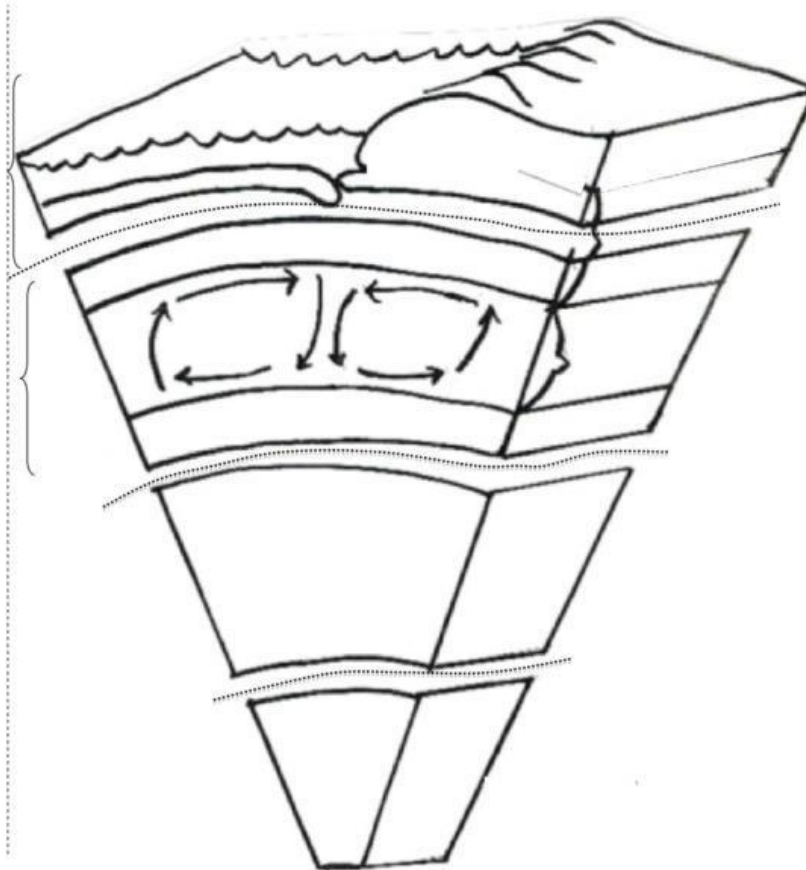


THE STRUCTURE AND MOVEMENT OF EARTH'S LAYERS

- 1) Go to: <https://www.learner.org/wp-content/interactive/dynamicearth/structure/index.html> to complete the following WebQuest

- i. colour and label the layers of the Earth.



- ii. Write a short summary for each layer. Make sure to include key statistics.

Inner Core: _____

Outer Core: _____

Mantle: _____

Crust: _____

- iii. In a separate tab, go to: <https://www.youtube.com/watch?v=0mUU69ParFM> and <https://www.britannica.com/video/185603/roles-convection-currents-forces-movement-tectonic-plates> to find out about convection currents.

In your own words, define convection currents and explain how they cause **tectonic plates** to move.

Go back to the interactive learner.org page.

- iv. What does Pangea stand for in Greek? _____
- v. What is **plate tectonic theory**? _____
- _____
- _____
- vi. What are the two types of crust, and which is the thickest? _____
- _____

Add to your

WORD GLOSSARY

Tectonic plate: The sections into which the earth's lithosphere (crust and upper mantle) is cracked. There are two types: **oceanic plates**, that lie primarily under the ocean, and **continental plates** that contain continents at the crust.

Plate tectonic theory: The scientific theory that Earth's lithosphere (crust and upper mantle) comprises a number of large tectonic plates, which have been slowly moving since about 3.4 billion years ago.

- vii. Draw a diagram and provide an example of each type of plate boundary movement.

Convergent Boundary	Divergent Boundary	Transform Boundary

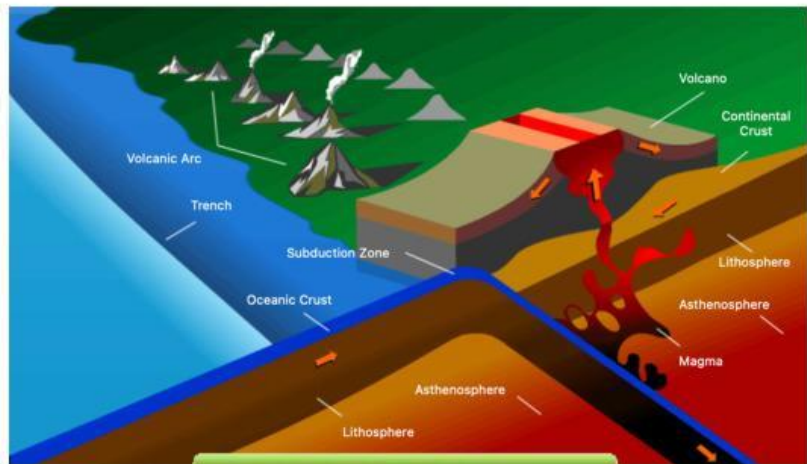
viii. Add the definitions to this diagram of a subduction zone (**convergent plate boundary**)

Oceanic crust:

_____. This crust
tends to be denser and thinner
than continental crust.

Continental crust:

_____.



Subduction zone: _____.

The denser oceanic crust is pulled under, or subducted, the lighter and thicker continental crust.

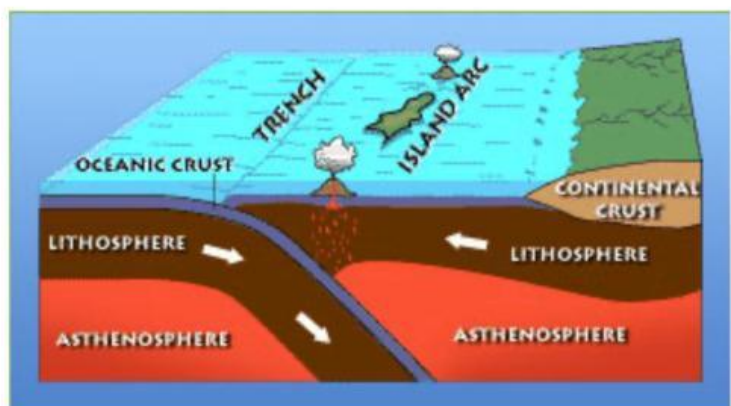
Trench: _____. The trench is formed as the
oceanic crust sinks.

Magma: _____.

Magma is formed when the base of the oceanic crust melts as it is forced deeper into the earth
where there is higher heat and pressure.

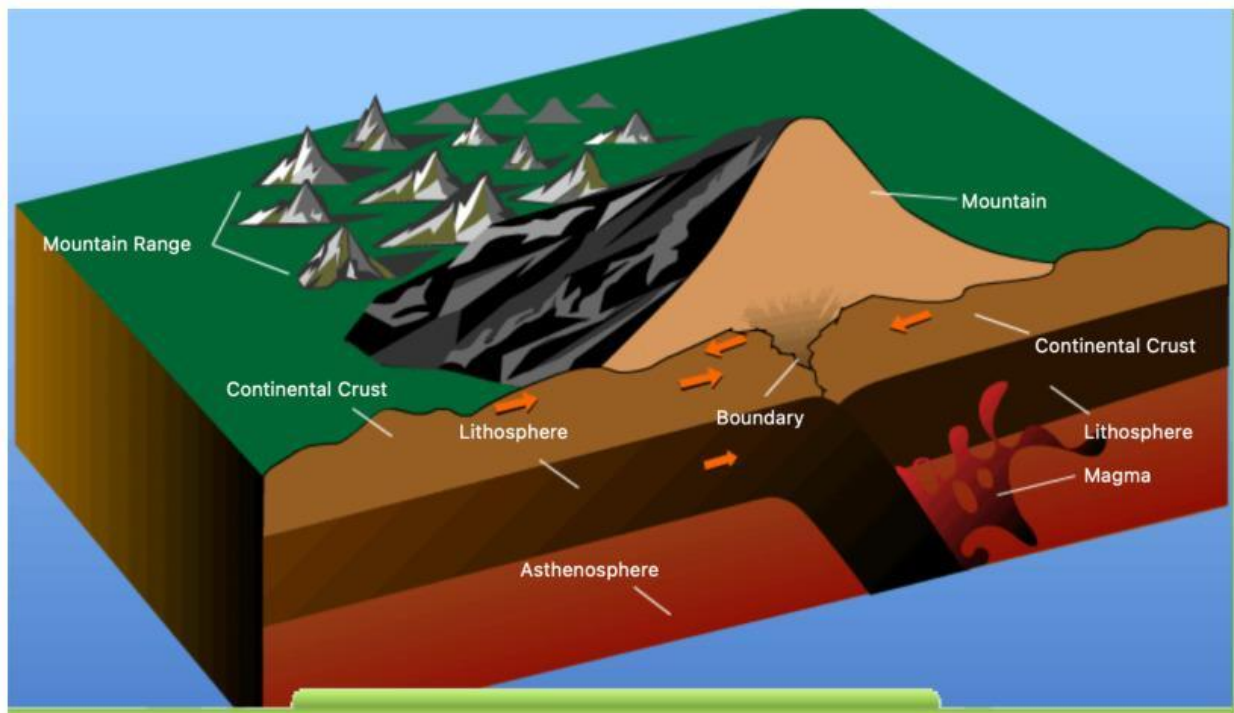
Volcano: _____. The magma
formed at a subduction zone rises towards the Earth's surface, building up in magma chambers,
where it feeds and creates volcanoes through a vent in the crust.

ix. A subduction zone is also generated
when two oceanic plates collide — the
older plate is forced under the younger
one — and it leads to the formation of
chains of volcanic islands known
as _____.



- x. Fill in the blanks in the description of a collisions zone (**convergent plate boundary**).

What happens when two continental plates collide? Because the rock making up continental plates is generally _____ and less _____ than oceanic rock, it is too light to get pulled under the earth and turned into magma. Instead, a collision between two continental plates _____ and _____ the rock at the boundary, lifting it up and leading to the formation of _____ and _____.



- xi. Draw a diagram to show how seafloor spreading (divergent plate boundary) creates a mid-ocean ridge.

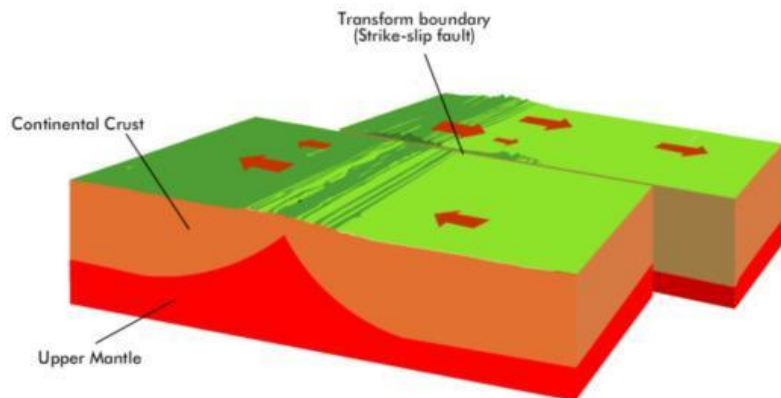


- xii. Draw a diagram to show how a rift is formed between two diverging continental plates.



- xiii. A fault is a _____ associated with transform boundary movement. Transform boundaries and the resulting faults produce many _____ because edges of tectonic plates are _____ rather than _____. As the plates grind past each other, the jagged edges strike each other, catch, and stick, _____ the plates in place for a time. Because the plates are locked together without moving, a lot of _____

_____ builds up at the fault line. This stress is released in quick bursts when the plates suddenly _____ into new positions. The sudden movement is what we feel as the shaking and trembling of an **earthquake**.



- xiv. Test your skills on the interactive site.

