**The Structure of the Earth and Plate Tectonics**

**The Earth’s Crust**



* This is where we \_\_\_\_\_\_\_\_!
* The Earth’s crust is made of:

**Continental Crust**

* \_\_\_\_\_\_\_\_\_\_ (10-70km)
- buoyant (less \_\_\_\_\_\_\_\_ than oceanic crust)
- mostly \_\_\_\_\_\_\_\_\_

**Oceanic Crust**

* \_\_\_\_\_\_\_\_\_\_ (~7 km)
- \_\_\_\_\_\_\_\_\_ (sinks under continental crust)
-\_\_\_\_\_\_\_\_\_

**What is Plate Tectonics?**

* If you look at a map of the world, you may notice that some of the continents could fit together like\_\_\_\_\_\_\_\_\_ of a \_\_\_\_\_\_\_\_\_\_\_\_.
* The Earth’s crust is divided into \_\_\_\_\_\_\_\_\_major\_\_\_\_\_\_\_ which are moved in various directions.
* This plate \_\_\_\_\_\_\_\_ causes them to \_\_\_\_\_\_\_, pull \_\_\_\_\_\_, or \_\_\_\_\_\_\_\_ against each other.
* Each type of \_\_\_\_\_\_\_\_\_\_\_\_ causes a characteristic set of Earth structures or “tectonic” features.
* The word, \_\_\_\_\_\_\_, refers to the deformation of the crust as a consequence of \_\_\_\_ interaction.

 **What are tectonic plates made of?**

* Plates are made of rigid \_\_\_\_\_\_\_\_\_\_\_\_.
* The lithosphere is made up of the \_\_\_\_\_\_\_ and the upper part of the \_\_\_\_\_\_\_\_\_.

What lies beneath the tectonic plates?

* Below the lithosphere (which makes up the tectonic plates) is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Plate Movement

* “Plates” of lithosphere are moved around by the underlying hot \_\_\_\_\_\_\_\_ convection cells



**What happens at tectonic plate boundaries?**

\_\_\_\_\_\_\_\_ types of plate boundaries

* Divergent 
* Convergent 
* Transform 

**Divergent Boundaries**

* Spreading \_\_\_\_\_\_\_\_

As plates move apart new material is \_\_\_\_\_\_\_\_\_ to fill the gap

**Convergent Boundaries**

* There are \_\_\_\_\_\_\_\_\_ styles of convergent plate boundaries
	+ Continent-\_\_\_\_\_\_\_\_ collision
	+ Continent-\_\_\_\_\_\_\_ crust collision
	+ Ocean-\_\_\_\_\_\_ collision
* Continent-Continent Collision
* Forms \_\_\_\_\_\_\_\_, e.g. European Alps, Himalayas



**Continent-Oceanic Crust Collision**

* **Subduction: At a \_\_\_\_\_\_\_\_\_\_ boundary where continental \_\_\_\_\_\_\_\_ pushes against \_\_\_\_\_\_\_ crust, the oceanic crust which is thinner and more \_\_\_\_\_ than the continental crust, \_\_\_\_\_\_\_ below the continental crust.**



**Subduction**

* Oceanic lithosphere subducts \_\_\_\_\_\_\_\_\_ the \_\_\_\_\_\_\_\_\_l lithosphere
* Oceanic lithosphere \_\_\_\_\_\_\_ and dehydrates as it subsides
* The \_\_\_\_\_\_\_\_\_\_ rises forming volcanism or a volcano
* E.g. The Andes

**Ocean-Ocean Plate Collision**

* When two \_\_\_\_\_\_\_\_\_ plates collide, one runs over the other which causes it to \_\_\_\_ into the \_\_\_\_\_\_\_\_\_ forming a **subduction \_\_\_\_\_\_\_\_\_\_\_\_.**
* The subducting plate is \_\_\_\_\_\_\_\_ downward to form a very deep depression in the ocean floor called a \_\_\_\_\_\_\_\_\_\_.
* The world’s\_\_\_\_\_\_\_\_\_\_ parts of the ocean are found along trenches.
	+ E.g. The Mariana Trench is 11 km deep!

**Transform Boundaries**

* Where plates \_\_\_\_\_\_\_ past each other

**Volcanoes and Plate Tectonics…**

What’s the connection?

**Pacific Ring of Fire**

Volcanism is mostly focused at \_\_\_\_\_\_\_\_ margins

**Volcanoes are formed by:**

Subduction - Rifting - Hotspots

The tectonic plate \_\_\_\_\_\_ over a fixed \_\_\_\_\_\_\_ forming a chain of volcanoes.

**Earthquakes and Plate Tectonics…**

What’s the connection?

* As with volcanoes, earthquakes are **not \_\_\_\_\_\_\_\_\_\_** distributed over the globe
* At the boundaries between plates, \_\_\_\_\_\_\_\_\_ causes them to stick together. When built up \_\_\_\_\_\_\_\_\_\_\_ causes them to break, \_\_\_\_\_\_\_\_\_\_ occur.

**Where do earthquakes form?**

**Plate Tectonics Summary**

* The Earth is made up of \_\_\_ main layers (core, \_\_\_\_\_\_\_, crust)
* On the surface of the Earth are \_\_\_\_\_\_\_\_\_\_ plates that slowly \_\_\_\_\_\_\_ around the globe
* Plates are made of \_\_\_\_\_\_\_\_ and upper \_\_\_\_\_\_\_ (lithosphere)
* There are\_\_\_\_\_2 types of plates
* There are \_\_\_\_\_\_\_ types of plate boundaries
* Volcanoes and \_\_\_\_\_\_\_\_\_\_ are closely linked to the margins (edges) of the \_\_\_\_\_\_\_\_ plates