**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period:\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Cut and Grow – Layers of the Earth**

|  |  |
| --- | --- |
| **Word** (in order) | **Definition** |
| **1st** Crust | It is very thin in comparison to the other three layers. The crust is only about 3-5 miles (8 kilometers) thick under the oceans (oceanic crust) and about 25 miles (32 kilometers) thick under the continents (continental crust). The crust of the Earth is broken into many pieces called plates. The plates "float" on the soft, semi-rigid asthenosphere. The crust is composed of two rocks. The continental crust is mostly granite. The oceanic crust is basalt. Basalt is much denser than the granite. Because of this the less dense continents ride on the denser oceanic plates. When the two plates collides the oceanic crest **subducts** under the continental crust. The **temperature** and the **density** increases the deeper you go into the Earth. |
| **2nd** Mantle | It is the largest layer of the Earth when comparing each layer separately. The middle mantle is composed of very hot dense rock that flows like asphalt under a heavy weight. The movement of the middle mantle (asthenosphere) is the reason that the crustal plates of the Earth move. The middle mantle "flows" because of convection currents. Convection currents are caused by the very hot material at the deepest part of the mantle rising, then cooling and sinking again --repeating this cycle over and over. When the magma is heated it becomes less dense and starts to float up (rise). When the magma cools, it becomes more dense and sinks. This is why there are convection currents in the mantle. |
| **3rd** Upper Core | It is so hot that the metals in it are all in the **liquid state**. The outer core is composed of the melted metals of **nickel and mostly iron**. |
| **4th** Inner Core | It is even hotter than the upper core, but it is a solid because of the extreme high pressure caused by gravity. The **inner core** is metals of **nickel and mostly iron**. |

**Writing Prompt:** Explain and diagram the layers of the Earth.

**Directions:** 1.) Complete the **Do, What, How to** table below. Write a well-written response for the writing prompt given above. You may use you’re the Graphic Organizer above, Interactive notes, and text to help you develop your response.

2.) Meet with your group and develop a cut and grow paper. Your paper should explain the four layers of the Earth. It should also show neatly labeled diagrams to help you explain the layers.

3.) Be ready to have your group present their Cut and Grow to the class. Each person in your group should take one or two of the layers to talk about what they learned.

|  |  |  |
| --- | --- | --- |
| **Do**  | **What** | **How to** |
|  |  |  |
|  |  |  |
|  |  |  |