**Layers of the Earth Webquest** Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Hr\_\_\_\_

**\*\*Explore the following websites and answer the corresponding questions below to help you figure out what is so special about the structure of our Earth!\*\***

Part I. The Layers of Earth :

1. **Structure of the Earth**: <http://volcano.oregonstate.edu/earths-layers-lesson-1>
2. **Label the layers of the Earth**



1. What causes the **mantle to “flow”**? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. What are the **two main metals that make up the Earth’s core**? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Describe, in your own words, **how the earth’s layers were formed**? (see “The Four Layers”)

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1. The **Crust and Lithosphere** *(Earth’s Crust & the uppermost part of the Earth’s Mantle):*

Use the following sites to help you understand the Crust and Lithosphere--[https://web.archive.org/web/20160121223454/http://www.mnh.si.edu/earth/text/index.html](https://web.archive.org/web/20160121223454/http%3A/www.mnh.si.edu/earth/text/index.html)(click on “Plate Tectonics 🡪“Inner Earth”, read the Introduction (2 slides/pages) and then click on CRUST, MANTLE (info on Lithosphere here!), and CORE) &

<http://www.harcourtschool.com/activity/science_up_close/606/deploy/interface.html>

1. **What is special about the Lithosphere?** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Complete the following table:

|  |
| --- |
| ***Types of Crust*** |
| **Oceanic** | **Continental** |
| Thickness: | Thickness:  |
| Made of:  | Made of:  |
| VIP #1:  | VIP #1 |
| VIP #2: | VIP #2: |

1. **Tectonic Plates**: [https://web.archive.org/web/20160310144919/http://www.sciencemonster.com/earth-science/layers-of-the-earth.html](https://web.archive.org/web/20160310144919/http%3A/www.sciencemonster.com/earth-science/layers-of-the-earth.html)–only use the first 3 pages!!!
2. What are **tectonic plates**? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. What is something else that you learned from pages 1-3 that helps **you** understand what is special about the Earth’s structure? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**Part II. Convection Currents and the Mantle**

**Heat transfer** is the movement of heat energy from a warmer object/place to a colder object/place. There are three ways in which heat can be transferred: **radiation,** **conduction**, and **convection**. Click on the following links and discover the awesomeness of what heat transfer can (& does) do for YOU!

1. Go to <https://www.wisc-online.com/learn/natural-science/earth-science/sce304/heat-transfer--conduction--convection--radiation> , [**Convection, Conduction and Radiation**](http://www.mansfieldct.org/schools/mms/staff/hand/convcondrad.htm) and [**Heat Transfer**](http://www.school-for-champions.com/science/heat_transfer.htm)  websites.
2. How is heat transferred by **conduction**? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Explain the process of **convection**. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. How is heat transferred by **radiation**? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. On the [**Heat Transfer**](http://www.school-for-champions.com/science/heat_transfer.htm) web page, click here and take the “[**Mini Quiz**](http://www.school-for-champions.com/science/mini-quiz_heat_transfer.htm#.WeDiSU-QwdU)”. Put your answers below.
2. \_\_\_\_\_ 2. \_\_\_\_\_ 3. \_\_\_\_\_
3. Go to [www.universetoday.com/26717/earths-mantle/](http://www.universetoday.com/26717/earths-mantle/) to learn about what influence convection currents have on Earth. Read and answer the following questions.
4. Describe how **convection currents occur in Earth’s mantle**. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. What is a **constructive** **force** caused by the convection in the mantle? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. What is a **destructive** **force** caused by the convection in the mantle? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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