Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_Block: \_\_\_\_\_\_\_\_\_

**Layers of the Earth**



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| **Crustal Facts:** 1. Crust is either Oceanic (rock: ) or Continental (rock: ). The density of the continental crust is \_\_\_\_\_\_\_\_\_\_\_g/cm3. The density of oceanic crust is \_\_\_\_\_\_\_\_g/cm3.
2. The densest crust is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. It is thinner than \_\_\_\_\_\_\_\_\_\_\_\_ crust.
3. The depth of the crust ranges from \_\_\_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_\_\_\_\_ km.
4. The Crust is in a \_\_\_\_\_\_\_\_\_\_\_\_\_\_ state (solid or liquid).
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| **Mantle Facts:** 1. The uppermost part of the mantle that has liquid and plastic properties is called the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. The density of the mantle ranges between \_\_\_\_\_\_\_ g/cm3 to \_\_\_\_\_\_\_\_\_\_\_\_ g/cm3
3. The depth of the mantle from the upper asthenosphere to the bottom of the mantle is \_\_\_\_\_\_\_\_\_\_\_\_\_\_ km.
4. The actual temperature at the 2000 km depth is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
5. Pressure in the mantle (increases, decreases, or remains the same) as depth increases.
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| **Outer Core Facts:** 1. The outer core is inferred to be made up of? \_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. The **distance** from the top of the outer core to the bottom is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_km.
3. The actual temperature is near 6000 degrees Celsius. The melting point of iron is (greater of, or less than) the actual temperature. This means the outer core is made up of (solid, liquid, or gaseous) iron.
4. The pressure of the outer core is between \_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_ millions of atmospheres.
5. The density of the outer core is between \_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_ g/cm3.
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| **Inner Core Facts:** 1. The depth of the inner core from its top to center is approximately \_\_\_\_\_\_\_\_\_\_\_\_ km.
2. The actual temperature of the inner core is approximately \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ °C.
3. The dotted melting curve line is (above or below) the actual temperature. Therefore the rock in the inner core is in the (solid, liquid, or gaseous) state.
4. The actual elements in the inner core are \_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_. This is inferred from meteorite studies.
5. The density of the inner core is between \_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_ g/cm3.
6. The pressure at the center of the Earth is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ millions of atmospheres.
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1. State the **relationship for pressure** as you travel towards Earth’s inner core (State your answer in an ‘As’ statement for any relationship questions).

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1. State the relationship for density as you travel from the crust to the inner core.

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1. State the relationship for temperature as you travel from the lithosphere to the inner core. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. The layer of the earth that is inferred to be in a plastic (not *exactly* like a free flowing LIQUID) state is called the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. This is because the interior (actual) temperature at these depths is above/below/at (circle one) the melting curve.
3. Using pg. 1 of your ESRT, list the following elements that compose the lithosphere by **volume.**
	1. Silicon \_\_\_\_\_\_\_\_\_\_ c. Aluminum\_\_\_\_\_\_\_ e. Calcium \_\_\_\_\_\_\_ g. Magnesium\_\_\_\_\_\_
	2. *Oxygen\_\_\_\_\_\_\_\_\_\_ d. Iron \_\_\_\_\_\_\_\_\_ f. Sodium\_\_\_\_\_\_\_\_\_h. Potassium\_\_\_\_\_\_\_\_*