**Use the labeled cards with characteristics and bags to fill in the chart and then answer the questions below:**

Comparison Matrix for Earth’s Layers:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ***Attributes*** | ***Crust*** | ***Mantle*** | ***Outer Core*** | ***Inner Core*** |
| *Composition* | Rocky, sediments. It contains more silica than the mantle. | Semisolid, molten rock. It flows very slowly, like hot asphalt. This layer is made of oxygen, silicon, aluminum, and magnesium. 870-3700 degrees F. | Made of iron and nickel, liquid (be sure to stress that the outer core is not made of water). | Solid ball of iron and nickel. It should be liquid, but because of the great pressure it is solid. |
| *Temperature* | The temperature of the crust of the Earth is the same temperature as the air. So, it might be as hot as 35 °C in the desert and below freezing in Antarctica. If you dig down, the temperature goes up. | 870-3700 degrees F. | 3700-4300 degrees F. | 4300-7200 degrees F. |
| *Thickness* | The crust is very thin, just 5-70 km. | 2900 km thick. | 200 km thick. | 1250 km thick. |
| *Summary: As you dig down the temperature and pressure increases from the Crust to the Inner Core. The thicker layer is the Mantle; the differences in density in the mantle cause it to flow slowly forming convection currents. The upper Mantle is cooler than the lower Mantle. The Outer Core is the only liquid layer of the Earth.* | | | | |

1. What causes the thickness of the crust to vary?Crust, is not always the same. Crust under the oceans is only about 5 km thick while continental crust can be up to 65 km thick. Also, ocean crust is made of denser minerals than continental crust.
2. What is the primary composition of each layer?
   * Crust -Silica
   * Mantle- oxygen, silicon, aluminum, and magnesium
   * Outer and Inner Core- iron and nickel
3. How do each of Earth's layers compare to each other? The thicker layer is the Mantle and the thinner is the Crust. From the Crust to the Inner Core the temperature and pressure increases.