Student Sheet Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Period\_\_\_\_\_\_\_

**Title: Matching by Density**

**Introduction:** Scientists have made calculations to determine the densities of various Earth layers. In this activity you will measure common materials and see if you can correctly match them to the values scientists have calculated for the layers of Earth. These objects have not actually come from the inner Earth but they have similar densities to rocks in those layers.

**Materials:** 5 different objects, triple beam balance, beakers, graduated cylinders

**Procedures:**

1. Calculate the density for each object. Record your results on the data table.

2. Use the data provided to match your results to Earth’s layers.

3. Put the density you calculate for each object on the board or overhead.

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| --- | --- | --- | --- | --- |
| Object | Mass | Volume | Density | Earth/Layer |
|  |  |  |  |  |
|  |  |  |  |  |
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Sample Earth density chart:

Layer Approximate Density

|  |  |
| --- | --- |
| Air | Less than .002 g/mL |
| Water | 1.0 g/mL |
| Crust | 2.7 – 3.0 g/mL |
| Mantle | 3.3 – 5.7 g/mL |
| Outer Core | 9.0-12.0 g/mL |
| Inner Core | 12.7 – 13.0 g/mL |

**Conclusion:**