**Density Column – Inquiry Activity Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Block: \_\_\_\_\_\_\_**

**Purpose** – to find the density of an object and predict where it will fall in the density column

**Materials:**

* 5 Object (chalk, wood, rubber stopper, iron ring, and cork)
* Graduated cylinder
* Triple Beam balance
* Water

**Procedure:**

1. Find the volume of the object – using water displacement (measure in mL) – record data in the chart below.
2. Find the mass of the object – using the triple beam balance (measure in g) – record data in the chart below.
3. Calculate the density and record the value in g/mL in the table chart below.

**My data – my object \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Volume** | | | **Mass of the object** | **Density Calculation** | **Density value** |
| Initial | Final | Volume of the object |
|  |  |  |  |  |  |

**Class data:**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Object** | **Trial** | **Volume** | | | **Mass of the object** | **Density Calculation** | **Density value** | **Average** |
| Initial | Final | Volume of the object |
| chalk | 1 |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |
| wood | 1 |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |
| rubber stopper | 1 |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |
| iron ring | 1 |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |
| plastic | 1 |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |

**Prediction:**

Where do you think each of the items will go in the density column?

|  |  |
| --- | --- |
| **Item** | **Layer (and top or bottom of the layer)** |
| Chalk |  |
| Wood |  |
| Rubber stopper |  |
| Iron ring |  |
| Cork |  |

1. Draw **and label** the layers (oil, glycerine, water, corn syrup) in the graduated cylinder.
2. Add the objects after we place them in the graduated cylinder.

**Summarize the results** (what are densities of the 4 liquids based on the known densities of the objects) – explain how you figured it out: