**Mass Lab** Name: \_\_\_\_\_\_\_\_\_\_\_\_\_

 Partner: \_\_\_\_\_\_\_\_\_\_\_\_

**Purpose:**

* To practice making accurate measurements using the centigram/ triple beam balance.

**Materials:** Triple beam balance, rubber stopper, marble, sand, tap water, salt water, small beaker, 25 ml graduated cylinder.

**Part A: Determine the Mass (in grams) of the solid objects:**

|  |  |  |  |
| --- | --- | --- | --- |
|  | 1 Marble  | Rubber stopper | Your Choice: |
| Mass |  |  |  |

**Part B: Determine the Mass of 20ml of sand using a beaker.**

* Step 1. Measure mass of empty beaker, record in table.
* Step 2. Measure 20ml of sand with graduated cylinder. Pour into empty beaker.
* Step 3. Measure mass of beaker + sand.
* Step 4. Calculate mass of sand by subtracting mass of beaker from beaker + sand.

|  |  |  |
| --- | --- | --- |
| Mass of Empty beaker | Mass of Beaker + Sand | Mass of Sand only(Beaker+Sand) - Beaker |
|  |  |  |

**Part C: Compare Masses of similar looking solutions**.

Measure 20ml of each solution using a graduated cylinder.

|  |  |  |  |
| --- | --- | --- | --- |
| **Substance (20ml)** | Mass of Empty beaker | Mass of Beaker + Solution | Mass of 20 ml of solution |
| Tap Water |  |  |  |
| Salt Water |  |  |  |

**Part D:** *Label the diagram below using the labels:* **pan, beams, riders, adjustment screw, pointer**



**Questions**

1. What is the definition of Mass?
2. What units would we use to measure mass of a candy bar? A person?
3. How many milligrams in ONE gram? 4. How many grams in ONE kilogram?
4. Convert: 23g to \_\_\_\_\_\_ mg convert 450 g = \_\_\_\_\_\_\_\_ kg
5. Compare the mass of 20ml of sand (Part B) to 20ml of water (Part C). Which weighs more? Why do you think this is?

Rate yourself:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Planning and Conducting** | Emerging | Developing | Proficient |  |
| I can handle the triple beam balance properly |  |  |  |  |
| I can take accurate measurements |  |  |  |  |

1. Other than grams, what other units is mass measured in?
2. Which weighs more, a kilogram of feathers or kilogram of steel? Justify your answer.