Name

 Date

 Period

**Density Lab**

1. Measure the mass of each object using a scale. Your answer will be in grams (g).

2. Find the volume of each object using the metric ruler and the equation: volume equals length x width x height (v = l x w x h) or by using the water displacement method. Your answer will be in cm3

3. Calculate the density of each object by dividing the mass by the volume. (Use the equation shown below- you can use the margin or back side for your work.)

4. Record the data below. Don’t forget the UNITS!!!

|  |  |  |
| --- | --- | --- |
| **Station 1** Empty BoxMass\_\_\_\_\_\_\_\_\_\_\_\_L\_\_\_\_\_\_W\_\_\_\_\_\_ H\_\_\_\_\_\_Volume of object\_\_\_\_\_\_\_\_\_Density \_\_\_\_\_\_\_\_\_\_\_\_\*How much food could you put in this box? \_\_\_\_\_\_\_\_\_ | **Station 2** Plastic knifeMass\_\_\_\_\_\_\_\_\_\_\_\_Final Volume\_\_\_\_\_\_\_\_\_\_\_Initial Volume \_\_\_\_\_\_\_\_\_\_\_Volume of object\_\_\_\_\_\_\_\_\_\_Density\_\_\_\_\_\_\_\_\_\_\*If a plastic spoon has a density of g/mL is it cheaper to make the spoon or knife? | **Station 3** Filled BoxMass\_\_\_\_\_\_\_\_\_\_\_\_L\_\_\_\_\_\_W\_\_\_\_\_\_ H\_\_\_\_\_\_Volume of object\_\_\_\_\_\_\_\_\_\_\_Density \_\_\_\_\_\_\_\_\_\_\_\*How much density would an empty box be if the contents are cm3? \_\_\_\_\_\_\_\_ |
| **Station 4** PencilMass\_\_\_\_\_\_\_\_\_\_\_\_Final Volume\_\_\_\_\_\_\_\_\_\_\_Initial Volume \_\_\_\_\_\_\_\_\_\_\_Volume of object\_\_\_\_\_\_\_\_\_\_\_\_Density\_\_\_\_\_\_\_\_\_\_\_\*If the pencil’s graphite has a density of 0.19 g/mL what can you say about the density of the wood, eraser, and tin clasp? \_\_\_\_\_\_\_\_\_\_\_ | **Station 5** Popsicle stick*(DOUBLE STATION)*Whole Mass\_\_\_\_\_\_\_\_\_\_\_Final Volume\_\_\_\_\_\_\_\_\_\_\_Initial Volume \_\_\_\_\_\_\_\_\_\_Whole Volume\_\_\_\_\_\_\_\_\_\_\_\_Whole Density \_\_\_\_\_\_\_\_\_\_\_***\*break the stick in half***Part 1 mass \_\_\_\_\_\_\_\_\_\_\_Part 2 mass \_\_\_\_\_\_\_\_\_\_\_Total mass (add) \_\_\_\_\_\_\_\_\_\_Part 1volume \_\_\_\_\_\_\_\_\_\_Part 2 volume \_\_\_\_\_\_\_\_\_\_Total volume (add)\_\_\_\_\_\_\_\_\_ | https://encrypted-tbn3.gstatic.com/images?q=tbn:ANd9GcRW458qUTVX9JjDpHEyy1JQnXD7OFp7w9J8yUKC6sweU0pWGrEDAg |

***Extra Credit-*** Explain why some items float and others sink when measuring their volumes in a beaker or graduated cylinder. (Hint- think about densities.)