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 Box  Mass\_\_\_\_\_\_\_\_\_\_\_\_  L\_\_\_\_\_\_  W\_\_\_\_\_\_  H\_\_\_\_\_\_  Volume of object\_\_\_\_\_\_\_\_\_  Density \_\_\_\_\_\_\_\_\_\_\_\_  \*How much food could you put in this box? \_\_\_\_\_\_\_\_\_ | **Station 2** Plastic knife  Mass\_\_\_\_\_\_\_\_\_\_\_\_  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 Box  Mass\_\_\_\_\_\_\_\_\_\_\_\_  L\_\_\_\_\_\_  W\_\_\_\_\_\_  H\_\_\_\_\_\_  Volume of object\_\_\_\_\_\_\_\_\_\_\_  Density \_\_\_\_\_\_\_\_\_\_\_  \*How much density would an empty box be if the contents are cm3? \_\_\_\_\_\_\_\_ |
| **Station 4** Pencil  Mass\_\_\_\_\_\_\_\_\_\_\_\_  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](http://www.google.com/imgres?imgurl=http://dyscalculiaforum.com/forum/attachments/density_triangle.png&imgrefurl=http://dyscalculiaforum.com/forum/viewthread.php?thread_id%3D4638&h=209&w=427&sz=6&tbnid=C-bPwIj4r77iYM:&tbnh=59&tbnw=120&zoom=1&usg=__RSyXoORCLjGtRhvruHXC3cNU9Hk=&docid=QI5anOPXKmzSqM&sa=X&ei=aeMnUtrSCKr3iwLKyIDABw&sqi=2&ved=0CDYQ9QEwAw&dur=850) |

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