SNC1P Name:

Density Investigation Quiz

Instructions:

You have six objects around the room. Your task is to do the following:

1. Make a hypothesis as to what the object is made out of (what and why!) 4. Calculate the density of each object (list units!)
2. Weigh each object to determine mass and record your data (use units!) 5. Discuss if your hypothesis is true or not based on your calculated values and the reference density table.
3. Determine the volume of each object using the most appropriate method (use units!)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Object | Observations | Hypothesis  (ie: I think it is made out of \_\_\_\_ because \_\_\_\_ | Mass  (g) | | | | Volume  (cm3 or ml) | Method of Volume  (overflow, displacement, measure /calculate) | Why did you use that method for volume? | Density  (g/cm3 or g/ml) | What material is it?  (use density table) | Was your Hypothesis Correct?  (yes/no) | Why or Why not? |
| Trial 1  Trial 2  Trial 3  Average | | | |
| A |  |  |  |  |  |  |  |  |  |  |  |  |  |
| B |  |  |  |  |  |  |  |  |  |  |  |  |  |
| C |  |  |  |  |  |  |  |  |  |  |  |  |  |
| D |  |  |  |  |  |  |  |  |  |  |  |  |  |
| E |  |  |  |  |  |  |  |  |  |  |  |  |  |
| F (rocks) |  |  |  |  |  |  |  |  |  |  |  |  |  |

Questions: 1. What are some variables that might have caused you to make errors in this lab?

2. If you were to do this lab again, list 3 things you would do differently and why.

|  |  |
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| **Material** | **Density (g/cm3)** |
| Air | 0.0012 |
| Wood | 0.700 |
| Ice | 0.917 |
| Oil | 0.942 |
| Water | 1.000 |
| Plastic | 1.175 |
| Glass | 2.500 |
| Aluminum | 2.700 |
| Diamond | 3.500 |
| Zinc | 7.000 |
| Steel | 7.830 |
| Nickel | 8.900 |
| Copper | 8.940 |
| Silver | 10.49 |
| Lead | 11.340 |
| Gold | 19.320 |

UNITS OF DENSITY

g/cm3 or g/ml

Density = \_mass\_

volume

m

V

D

Volume = length x width x height (rectangular prisim)

Volume= 3.14 x radius2 x height (cylinder)

* 1 mL is the same as cm3 for water!