Name:_____

Per:____

Density Lab

II. Purpose

To find the density of solids and liquids and determine the accuracy of their calculated densities.

III. Procedure

Tap H_2O/Distilled H_2O/Ethanol

1. Weigh graduated cylinder
2. Add liquid to graduated cylinder
3. Measure volume of the liquid in the graduated cylinder
4. Weigh graduated cylinder and liquid

Zinc/Aluminum

1. Weigh the metal
2. Add water to graduated cylinder
3. Measure the volume of the water
4. Gently add the metal to the water
5. Measure volume of the metal and water

IV. Data (be sure to add units)

Tap H_2O

Mass of graduated cylinder: _____

Mass of graduated cylinder and water: _____

Volume of liquid in graduated cylinder: _____

Distilled H_2O

Mass of graduated cylinder: _____

Mass of graduated cylinder and water: _____

Volume of liquid in graduated cylinder: _____

Ethanol

Mass of graduated cylinder: _____

Mass graduated cylinder and liquid: _____

Volume of liquid in graduated cylinder: _____

Zinc

Mass of zinc: _____

Volume of water in graduated cylinder: _____

Volume of water and zinc in graduated cylinder: _____

Aluminum

Mass of aluminum: _____

Volume of water in graduated cylinder: _____

Volume of water and aluminum in graduated cylinder: _____

V. Calculations

Tap Water

Mass of Water

Density Water

Percent Error (1.00g/ml)

Distilled Water

Mass of Water

Density Water

Percent Error (1.00g/ml)

Ethanol

Mass of Ethanol

Density Ethanol

Percent Error (0.79 g/ml)

Zinc

Volume of Zinc

Density Zinc

Percent Error (From Periodic Table)

Aluminum

Volume of Aluminum

Density Aluminum

Percent Error (From Periodic Table)

VI. Conclusions

Conceptually and mathematically, what is density?

Why is it that distilled water and tap water have different densities?

Explain the rule for estimating accuracy when making measurements. How did this rule impact the data you recorded with the graduated cylinder and the balance?

Using the concept of density, explain how taking a deep breath will make you float higher in a swimming pool.