Density of Liquids Lab

Name_____Date_____Group_____Period___

Objective: To calculate the density of specific liquids,and use this information to identify which liquid it is, from a list of known liquids and their densities.

Procedures:

1–Measure the mass of an empty graduated cylinder and record its mass in the chart below. **Make sure it is dry before massing it.**

2–Get from your teacher, between 5 and 10 ml of one of the liquids into the graduated cylinder and record its volume and mass below. Return the liquid to the teacher for recycling when you are done. **Remember to measure and record the volume before returning the liquid !**

3–Use this data, to calculate the liquids mass, and then the liquids density, recording each of them in the chart below.

Repeat the above method for each of the other two liquids drying the graduated cylinder before getting the next liquid! Be careful when drying the cylinder. Do not jam paper toweling into the cylinder. This will cause the cylinder to break.

Materials: 10 ml graduated cylinder (glass), Triple Beam Gram balance,liquids 1, 2, and 3

Safety: General. All liquids will be recycled for reuse by other classes.

Observations:

Liquid	Mass of Empty cylinder in grams (to .01g)	Mass of Liquid and cylinder in grams (to .01g)	Mass of Liquid in grams (to .01g)	Volume of Liquid in ml (cm^3) to 0.01 cm^3	Density of Liquid in g/cm^3 to 0.1 g/cm^3
1					
2					
3					

Question 1. Assume for this question that the three liquids each have a different density. What would happen to the density of liquid 2, if some of liquid 1 was still in the graduated cylinder when you filled it with liquid 2 ? (Complete sentence answer)

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Question 2. Are the three liquids the same or different,and if they are the same,which *ones* are the same ? **Explain your reasoning for either of the two results .** (Complete sentence answer)

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<u>Class Results</u>: Record all Densities to **1** decimal place

Group	Density of Liquid 1	Density of Liquid 2	Density of Liquid 3	Group	Density of Liquid 1	Density of Liquid 2	Density of Liquid 3
1				**9**			
2				**10**			
3				**11**			
4				**12**			
5				**13**			
6				**14**			
7				**15**			
8				**Mode(s)**			

Data Range (Low value – high value)

Liquid 1:_____ Liquid 2:_____ Liquid 3:_____

Substance A density is 0.79 g/cm^3	**Substance B density is 0.89 g/cm^3**	**Substance C density is 1.80 g/cm^3**
Substance D density is 0.71 g/cm^3	**Substance E density is 1.00 g/cm^3**	**Substance F density is 1.19 g/cm^3**

Question 3. Identify what substance from the list above that each of the three liquids is most likely to be**.**

Liquid 1:_____ Liquid 2:_____ Liquid 3:_____

Sources of Error : Identify ***two*** things that people may have done incorrectly that would have caused them to get totally different answers from the rest of the class. These errors must be unique, in other words they have not been applicable in previous labs. They must be ***new*** sources of error. Be ***specific*** about what might have been done.

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