Student Name: _____
Date: _____

What are the Densities of 4 different liquids?

PROCEDURE for finding the **DENSITY** of a liquid**:**

1. Determine **the mass** of a clean dry, empty, graduated cylinder and **record it on <u>blank line (a)</u>**.
2. Measure out 10 mL of your liquid and **record amount (10 mL) in the *data table***. (Remember, to always measure from the bottom of the meniscus)

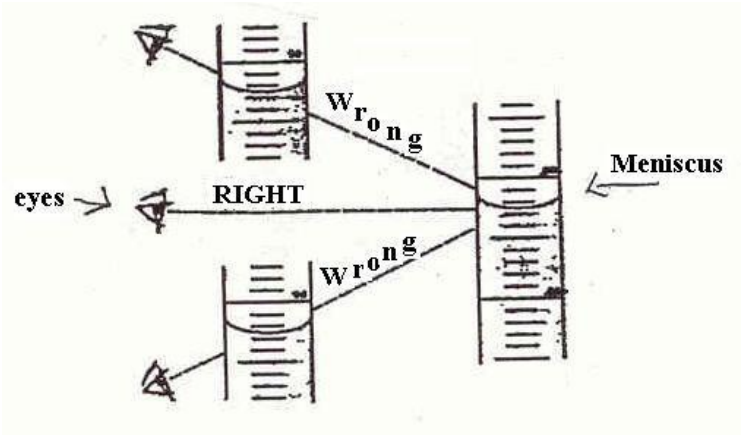


Image obtained from: www.sciencetoolbox.com/.../article_09-28-04.html

3. Determine the **mass of the graduated cylinder and the liquid together** and **record it on the other <u>blank line (b)</u>.**
4. Subtract the mass of the *empty cylinder* from the mass found in step 3. This gives the mass of the liquid alone. **Record this *mass in the data table*.**
5. Calculate the density of the liquid by dividing the mass by the volume. **Record this *density in the data table.***
6. Pour the liquid back into its container for reuse.

1) What is your group's ***first liquid***? _____

How could you describe the liquid? _____

Mass of Empty Graduated Cylinder: (a) _____

Mass of Graduated Cylinder *with 10ml of liquid:* (b) _____

Mass of liquid only	**Volume** = *ml of liquid used*	**Density** = *mass ÷ volume*

2) What is your group's ***second liquid***? _____

How could you describe this liquid? _____

Mass of Empty Graduated Cylinder: (a) _____

Mass of Graduated Cylinder *with 10ml of liquid:* (b) _____

Mass of liquid only	**Volume** = *ml of liquid used*	**Density** = *mass ÷ volume*

3) What is your group's ***third liquid***? _____

How could you describe this liquid? _____

Mass of Empty Graduated Cylinder: (a) _____

Mass of Graduated Cylinder *with 10ml of liquid:* (b) _____

Mass of liquid only	**Volume** = *ml of liquid used*	**Density** = *mass ÷ volume*

4) What is your group's ***fourth liquid***? _____

How could you describe this liquid? _____

Mass of Empty Graduated Cylinder: (a) _____

Mass of Graduated Cylinder *with 10ml of liquid:* (b) _____

Mass of liquid only	**Volume** = *ml of liquid used*	**Density** = *mass ÷ volume*

How do the 4 different liquids separate?

1. Which liquid has the greatest density? _____
2. Where will this liquid be found in the beaker with all four liquids?

   _____

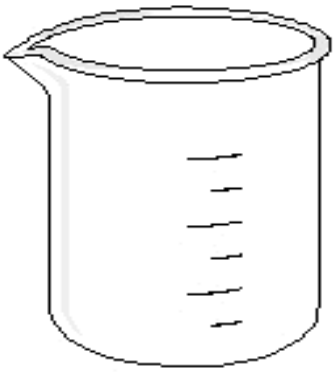
   _____

3. Which liquid had the least density? _____
4. Where will this liquid be found in the beaker with all four liquids?

   _____

   _____

5. Combine the four liquids in a beaker. In the beaker below, please draw and label a picture your liquid layers.



6. Now, *w*rite the ***densities*** *you calculated next to each liquid layer.*

7. Do your observations (qualitative) of where the liquids separated (see your drawing) agree with your numerical values (quantitative) for the densities? Why or why not?