

Chapter "0" Measurement Lab
Density Mystery Challenge!

name _____

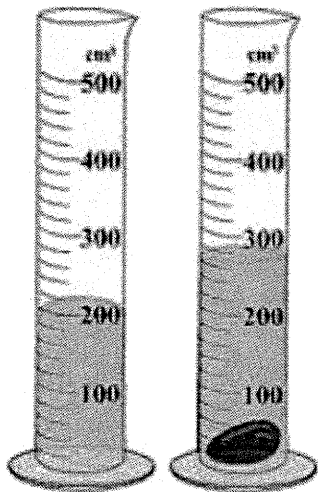
Purpose-the purpose of this lab is to become more familiar with lab equipment, collecting data, graphing data, and interpreting results.

Materials-

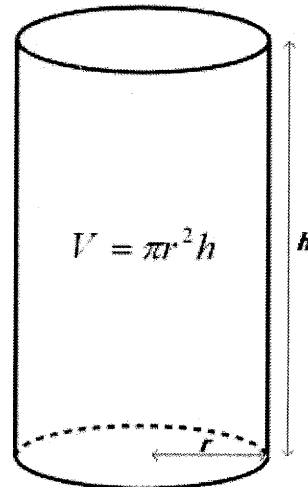
- Set of 15 mystery objects.
- Triple beam/pan balance
- Metric ruler
- Graduated cylinder and water
- Calculator

Procedure-work in your lab groups and observe all safety requirements!

1. Obtain your mystery samples...do 2 or 3 at a time...
2. Use the balance a determine the mass of your mystery samples...record in data table 1
3. Use the metric ruler **or** graduated cylinder/water to determine the volume of your mystery samples...record in table 1.



or;



4. Use your calculator and the density formula to determine the density of your unknown mystery samples...record in table 1.

$$D = \frac{M}{V}$$

Table 1

Unknown Sample	Mass (g)	Volume (ml or cm³)	Density (g/ml or g/cm³)	
A				
B				
C				
D				
E				
F				
G				
H				
I				
J				
K				
L				
M				
N				
O				

Graphing-

- Construct a line graph of your data....use good graphing technique...don't forget about independent/dependent variables, labels, titles, units, etc....
- I'm going to be crazy grading this!!

Analysis and Conclusion

1. What is density?
2. What is volume?
3. Which method did you use to determine volume? Why?
4. What did you notice about the densities of the unknown objects?
5. How many mystery substances (densities) made up the unknown objects?
6. How could you determine density using your graph?
7. Were you surprised by the results of this lab? Explain.