

Name _____

Date _____

Introduction to Physics and Mass/Volume

Pre-Lab:

Physics-

Mass-

Volume-

Volume of a Sphere:

Lab Procedure:

Materials:

Balance
Ruler
Golf ball
Ping pong ball
Beaker
Irregularly-shaped object (pencil, eraser, etc.)

Procedure:

1. Using a ruler, measure the radius of the golf ball in centimeters (cm) and record it on your worksheet.
2. Compute the volume of the golf ball using the formula provided in the pre-lab.
3. Repeat steps 1 and 2 for the ping pong ball.

4. Using the balance, measure the mass of the golf ball in grams (g) and record it on your worksheet. You may have to use something circular to keep the ball from rolling off.
5. Repeat step 4 for the ping pong ball.
6. Fill a beaker with roughly 200 mL of water.
7. Take the golf ball and place it entirely in the water.
8. Now look at the level of the water. It's higher than 200 mL! Record the new value on your worksheet.
9. Subtract 200 mL from the new value to get the volume of the golf ball.
10. Repeat steps 7-9 for an irregularly-shaped object such as an eraser or key.
11. The new water value you record will be the volume of this object!

Observations:

	<u>Golf Ball</u>	<u>Ping Pong Ball</u>
<u>Radius:</u>		
<u>Volume:</u>		
<u>Mass:</u>		

Volume of irregularly-shaped object:

Conclusions

1. What is the difference between mass and volume?
2. What is density?

Bonus

3. Compute the density of the the golf and ping pong balls.

	<i>Golf Ball</i>	<i>Ping Pong Ball</i>
<u>Density:</u>		