Name: _____
Mod: _____
Date: _____

Groundwater Pollution Lab:

Definition: **Density** is a measure of mass per unit of volume, g/cm^3 or g/mL. Density = Mass ÷ Volume

Part 1: Liquid Density

Procedures:

1. Obtain 2 clear Large cups and one clear Small cup.
2. With a marker, label 1 Large cup OIL & the other MOLASSES.
3. Mass an empty Small cup and record the mass.
4. Mass 25 mL of Salad Oil and record.
5. Mass 25 mL of Molasses and record.
6. Using the formula below, calculate the mass of each liquid.

Mass of Cup With Liquid(g) – Mass of Empty Cup(g) = Mass of Liquid(g)

Name of Cup	Volume of Liquid (mL)	Mass of Empty Cup (g)	Mass of Cup with Liquid (g)	Mass of Liquid (g)
	25 mL			
	25 mL			

1. Calculate the Density of each Liquid:

$$\frac{\text{Mass of OIL}}{\text{Volume of OIL}} = \text{_____} = \text{g/mL}$$

$$\frac{\text{Mass of MOLASSES}}{\text{Volume of MOLASSES}} = \text{_____} = \text{g/mL}$$

Part 2: Prediction of Liquid Behavior in Water

The Density of Water is 1.0 g/mL

2. What do you think will happen when you add the OIL to the water?

3. What do you think will happen when you add the MOLASSES to water?

Part 3: Behavior of Liquids in Water

Procedures:

1. Fill the large cups ½ full with water.
2. Carefully pour the OIL small cup into to the OIL large cup.
3. Describe your observations in question 4 below.
4. Carefully pour the MOLASSES small cup into the MOLASSES large cup.
5. Describe your observations in question 5 below.

4. What happened when you added the OIL to water?

5. What happened when you added the MOLASSES to the water?

Summary Questions:

6. How did your predictions compare to your results?

7. Why did the different liquids behave differently in water?

8. Which additive represents a gasoline spill?

9. Which additive represents an industrial solvent spill?

Bonus Question:

Which do think will easier to clean up in Groundwater?