Student Sheet Name_____

Title: Concentration

Introduction: Solutions are all around us. They are widely used by people as foods, drinks, medicines, fuels, and cleaners. They exist in nature in oceans and living things. Life would be very different if solutes didn't dissolve in solvents to form solutions. In this activity you will see how the percent concentration of a solution can be calculated and how a solution can be changed from dilute to concentrated to saturated.

Materials: salt (the solute), water (the solvent), 2 test tubes, graduated cylinder, stopper, balance, glass marker, rubber stoppers

Procedure:
1. Place 5 ml of the solvent in one test tube. Label it A.
2. Place 10 ml of the solvent in the other test tube. Label it B.
3. Add .5 g of solute to each test tube.
4. Stopper the test tube and shake thoroughly.
5. Draw the tubes in the space provided.
6. Repeat step 3,4,5 until a precipitate forms.
7. Calculate the percent concentration for each test tube as you go. Divide the grams solute by the mL solvent. Multiply by 100%.
8. Make a note when a precipitate forms in each tube. What concentration is it?

Data:

tube	0 g	.5 g	1.0 g	1.5 g	2.0 g	2.5 g	3.0 g
Drawing of tube A							
%concentration							
Drawing of tube B							
%concentration							

Analysis:

1. With .5 grams of solute, which tube was more dilute?

2. With .5 grams of solute, which tube was more concentrated?

3. Why did the solution precipitate in A first?

4. What concentration did the solute quit dissolving at?

5. Will this solute always form saturated solutions at this concentration?

Explain:

6. If you had 100ml of water, how much of the solute would dissolve?

7. If you had 5 g of solvent, how much solute could you get to dissolve?

8. If you had a 50 mL of a sports drink with a sugar concentration of 6% and 75 mL of another drink with a concentration of 5% , which drink contains the most total sugar?

Conclusion-write a paragraph summarizing the results of this lab. Use each word at least once: **solution, solute, solvent, concentration, percent concentration, concentrated, saturated, dilute, precipitate and dissolve.**