

## Section 4A and 4B Review

Name \_\_\_\_\_

Part 1: Concepts

1a) What is a solution?

b) What are the 2 parts of every solution? Differentiate between them.

2) In the following examples, determine the solute and the solvent:

Solution	Solute(s)	Solvent
Ocean Water		
Kool-Aid		
Air		

3a) What is a saturated solution?

b) What is a supersaturated solution?

c) What is an unsaturated solution?

4) What would happen if you dropped a crystal of solute into each of the following?

a) A saturated solution:

b) A supersaturated solution:

c) An unsaturated solution:

5) Why are water and oil insoluble?

6) What can be done to cause a solid solute to dissolve more quickly in a solvent?

7) How is gas solubility different from solid solubility?

8) Under what conditions of temperature would the water have

a) the most dissolved gas?

b) the least dissolved gas?

9) Why is water able to dissolve so many ionic compounds?

10) Describe what happens to an ionic compound when it dissolves in water.

11) Give an example of a solution, a colloid and a suspension and what makes them that kind of mixture.

## Part 2: Calculations and Graphs

1) What is the pph of a solution in which 3.5 grams of salt is dissolved in 96.5 g of water?

2) What concentration, in pph, will be a sucrose solution composed of 45.5 grams of sugar in 300. grams of water?

3) A tap water solution has a strong chlorine smell. You test 1000 grams of water and find it contains 0.50 grams of chlorine. What is the ppm of the solution?

4) How many grams of KCl can water dissolve at 60 °C?

5) Is a solution of  $\text{KClO}_3$  saturated if 20 grams are dissolved at 80 °C?

6) What is the percent concentration of a saturated solution of NaCl at 70 °C?

