Name _____ Date _____ Period_____

Unit 9 Water & Solutions Vocabulary C405 Chemistry

Part I Matching: Write the letter of the description that best matches each term.

_____ 1. concentration	a. number of moles of solute dissolved in 1 L of solution
_____ 2. dilute solution	b. solution that contains a high concentration of solute
_____ 3. molarity	c. measure of the amount of solute that is dissolved in a given quantity of solvent
_____ 4. concentrated solution	d. concentration expressed as volume or mass of solute over volume of solution x 100%
_____ 5. percent solution	e. solution that contains a low concentration of solute

Part II Fill in the Blank

The relative amounts of solute and __6__ in a solution can be described qualitatively as __7__or __8__. Quantitative units of concentration include molar concentration, percent by volume, and percent (mass/volume).

Molarity, the most important unit of concentration in chemistry, is expressed as __9__ of solute per liter of __10__.

Solutions of different concentrations can be prepared by __11__a stock solution. In dilution, the moles of __12__ remain the same, while the amount of __13__ changes.

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

13. _____

Part III - Are the following statements always true (AT), sometimes true (ST), or never true (NT)?

_____ 14. The amount of sodium hydroxide in 100 mL of 1.0M NaOH is less than that in 1.0 L of 5M NaOH solution.

_____ 15. One hundred mL of 1.0M sodium hydroxide solution is more concentrated than 1.0 L of 5M sodium hydroxide solution.

_____ 16. One hundred mL of a 32% solution (v/v) of ethyl alcohol in water would contain 68 mL of water.

_____ 17. A dilute solution is a quantitative expression of concentration.

Part IV Questions and Problems

18. What mass of sucrose, $C_{12}H_{22}O_{11}$, is needed to make 400.0 mL of a 0.75M solution?