**Chemistry - Honors**

**Wednesday and Thursday’s Assignment**

**Chapter 12: Solutions**

Read the following sections and define all **bolded** vocabulary terms:

* Section 1: *Types of Mixtures*
* Section 2: *The Solution Process*
* Section 3: *Concentration of Solutions*

Answer the following questions on the respective textbook pages:

* page 406: 1 through 5
* page 416: 1 through 6
* page 424: 1 through 3
* page 426: 1, 2, 4, 5, 8, 9, 10, 11, 12
* page 427: 16, 18, 19, 20, 21, 22, 23, 24, 25, 31, 32, 33

**TURN IN ALL COMPLETED WORK AT THE END OF EACH PERIOD. IT WILL BE GIVEN BACK TO YOU THE NEXT DAY SO THAT YOU MAY CONTINUE WORKING.**

**Friday’s Assignment**

Molarity is the way in which chemists express concentration – that is, it tells them how much solid is dissolved in a particular solution. Molarity is the number of moles of solute (the compound that is dissolved) divided by total liters of solution. Total liters of solution includes the volume taken up by the liquid and the solid that is dissolved.

Review the information about molarity on pages 418 to 421. Use the sample calculations on pages 420 and 421 to guide you through the molarity problems below. Two problems are worked out on the white board for you to reference. Return your textbook to the counter at the end of the period. Return your calculator to the basket before you leave.

**Molarity Problems**

1. Sea water contains roughly 28.0 g of NaCl per 1.00 liter. What is the molarity of sodium chloride in sea water? (Convert grams of NaCl to moles, divide by 1.00 L to get molarity)

2. What is the molarity of 245.0 g of H2SO4 dissolved in 1.00 L of solution?

3. What is the molarity of 5.30 g of Na2CO3 dissolved in 400.0 mL solution?

4. What is the molarity of 5.00 g of NaOH in 750.0 mL of solution?

5. How many moles of Na2CO3 are there in 10.0 L of 2.0 M soluton?

6. How many moles of Na2CO3 are in 10.0 mL of a 2.0 M solution?

7. How many moles of NaCl are contained in 100.0 mL of a 0.20 M solution?

8. What mass (in grams) of NaCl would be contained in problem 7?

9. What mass (in grams) of H2SO4 would be needed to make 750.0 mL of 2.00 M solution?

10. What volume (in mL) of 18.0 M H2SO4 is needed to contain 2.45 g H2SO4?

11. What volume (in mL) of 12.0 M HCl is needed to contain 3.00 moles of HCl?

12. How many grams of Ca(OH)2 are needed to make 100.0 mL of 0.250 M solution?

13. What is the molarity of a solution made by dissolving 20.0 g of H3PO4 in 50.0 mL of solution?

14. What mass (in grams) of KCl is there in 2.50 liters of 0.50 M KCl solution?

15. What is the molarity of a solution containing 12.0 g of NaOH in 250.0 mL of solution?