

Chemistry (Math Notes)

Module #9

I. Key Terms/Concepts

Concentration:

Concentrated:

Diluted:

Strength:

Indicator:

Acid:

Base:

Amphiprotic:

II. Chemical Reactions

1. Formation: _____

2. Decomposition: _____

3. Combustion: (complete) _____

Incomplete _____

4. Acid-Base _____

III. Molarity & Dilution Equation:

Concentration is amount / volume. Examples of concentration units are:

_____, _____, _____

In chemistry we often use _____ to measure concentration.

Molarity (M) is the number of moles / # liters of solution.

Chemists usually keep “stock” solutions, which are then diluted for use.

$$M_1 \times V_1 = M_2 \times V_2$$

M_1 is the molarity of the _____.

V_1 is the volume of the _____.

M_2 is the molarity of the _____ that the chemist wants.

V_2 is the volume of the _____ that the chemist wants.

$$(\text{molarity}) \times (\# \text{ liters}) = \# \text{ moles}$$

Remember, a typical stoichiometry problem is set up by giving the information of one substance, but asks for information of another substance.

In these problems, molarity for one substance is given, but molarity or grams of a second substance must be determined.

IV. Titration

What is a titration?

It is _____. You always begin with a _____
_____.

You take a known amount of acid & add a _____ to it slowly. An _____ will change color, indicating that you have added just enough base to eat up all the acid. This is the

_____, allowing you to determine the _____ of the acid. This technique also works in reverse, adding an acid slowly to a known amount of a base.