**Unit 6 Notes**

(Balancing chemical reactions)

Balancing Chemical Reactions

In a chemical reaction, the number of atoms of each element on the reactant side and the products side must be equal.

 Law of Conservation of Mass

-Matter cannot be created nor destroyed, it can only be rearranged.

Steps for Balancing Chemical Equations

1. Write down all symbols and their oxidation number
* Free elements have a charge of zero

\*Exception: Do not write oxidation numbers for molecular compounds, just look at the prefix to determine the subscript

1. Use subscripts to balance each compound. (criss-cross method)
2. Check for diatomic elements:

H2, N2, O2, F2, Cl2, Br2, I2

1. Use coefficients to balance the left and right side of the chemical equation.
* Use the smallest possible whole number
* The coefficient goes to every element in that compound

Ex: 2NaCl means there are 2 Na and 2 Cl

Example:

chlorine + lithium iodide ----------------> lithium chloride + iodine

Cl2 + 2LiI ------------------> 2LiCl + I2