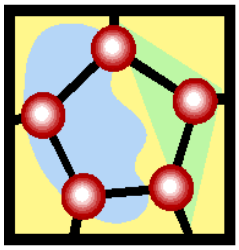

Balancing Chemical Equations Activity
LP _____ **Date** _____

Objectives :

- to read chemical equations
- to identify elements by their chemical symbol
- to count atoms
- to identify the coefficients and subscripts in a chemical equation.
- to label the reactants and products of a chemical equation
- to balance chemical equations

Materials: Set of pre-made index cards

Pre Lab Questions: Answer the following **before** you begin the activity:

$5H_2$

1. What number represents the **Coefficient**? _____
2. What number represents the **Subscript**? _____
3. What element is represented by the letter "**H**"? _____
4. How many "**H**'s" do you have? _____

Procedure :

1. Using your set of index cards, replicate the chemical equation onto your desk.
2. Label the reactant side and the product side.

Record the following results into Table 1:

3. Identify the elements on the reactant side.
4. Count the number of atoms for each element.
5. Identify the elements on the product side.
6. Count the number of atoms on the product side.
7. Are the 2 sides equal? If not, the equation is not balanced.
8. The index cards numbered 2 - 7 are your **coefficients**. They can **ONLY** be placed in front of the elements. You can **not** change the subscripts.
9. Choose an element that is not balanced and begin to balance the equations.
10. Continue until you have worked through all the elements.
11. Once they are balance, count the final number of Reactants and Products.
12. Write the balanced equation.
13. Can your equation be simplified?

Analysis/Results:

1. What does "-->" mean?

   _____
   _____

2. What side of the equation are the **reactants** found? _____ **products**? _____

3. Why must all chemical equations be balanced?

   _____
   _____
   _____

4. Why **can't** the subscripts be changed?

   _____
   _____
   _____
   _____

5. What does it mean to "simplify" the equation?

   _____
   _____
   _____
   _____
   _____

Conclusion: 2-3 sentences on what you learned.

_____
_____
_____
_____
_____
_____