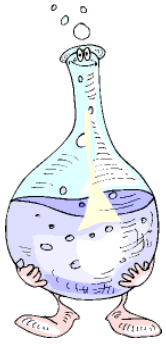
Name: _____ **Date:** _____ **Class Notes**
Chemistry

The Chemical Equation



Chemists describe chemical reactions using the chemical equation based on the empirical evidences recorded in the laboratory. These chemical equations allow chemists to make several predictions about chemical reactions.

chemical equation _____

_____

A chemical equation reveals three things.

1. the starting substances _____
2. the new substances formed _____
3. the relative amounts _____

Writing Chemical Equations

The writing of a chemical equation is fairly simple, but you must be familiar with the periodic table of elements, writing chemical formulas and a few simple symbols.

The Symbols

(g) = _____ → =_____

(l) = _____ Δ =_____

(s) = _____ + =_____

(aq) =_____ ↑ =_____

Steps to writing chemical equations:

1. _____

2. _____

3. _____

4. _____

5. _____

Example Aluminum reacts with phosphoric acid to yield hydrogen gas and aluminum phosphate.

Reactants	**Products**
aluminum = Al	aluminum phosphate = $AlPO_4$
phosphoric acid = H_3PO_4	hydrogen = H_2

$$Al_{(s)} + H_3PO_{4\,(aq)} \longrightarrow AlPO_{4\,(s)} + H_{2\,(g)}$$

Practice

Aluminum and oxygen combine to form aluminum oxide.

Reactants **Products**

Equation:

Dinitrogen pentoxide reacts with water to produce nitric acid.

Reactants **Products**

Equation:

Sodium hydrogen carbonate produces sodium carbonate, water and carbon dioxide.

Reactants **Products**

Equation:

"I hope I shall always possess firmness and virtue enough to maintain what I consider the most enviable of all titles, the character of an honest man."
-- George Washington