

**CHEMISTRY****CHEMICAL EQUATIONS**Chemical Equations

A chemical reaction is the conversion of various *REACTANTS* into new *PRODUCTS*.

There are two ways to communicate these equations:

Word Equations

Skeleton Equations

**CHEMISTRY****CHEMICAL EQUATIONS**The Law of Conservation of Mass

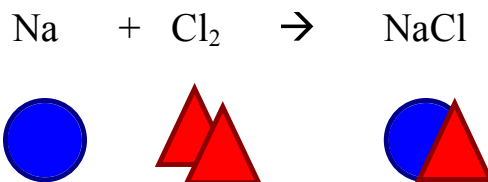
The Law of Conservation of Mass states that matter cannot be created nor destroyed. That is, the mass of the reactants before the reaction will equal the mass of the products after the reaction.

In terms of chemical equations, this law states that the number of atoms present, both before and after the reaction, is to remain constant.

Balancing Equations

To balance a skeleton equation, coefficients are placed in front of compounds to increase the number of atoms. By placing coefficients throughout the equation, a balance of atoms is achieved.

NOTE: It is not permitted to place a coefficient in the middle of a compound or change the subscripts.





CHEMISTRY

CHEMICAL EQUATIONS

[Cheesy Chemistry Movie ... Enjoy](#)



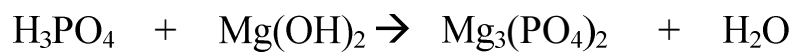
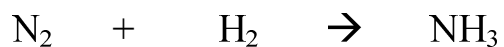
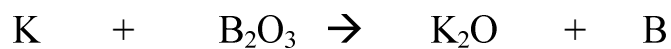


CHEMISTRY

CHEMICAL EQUATIONS

Balancing Equations




"Me so smart, MINOH everything!"

Examples:

**CHEMISTRY****HOMEWORK**

Chemical Reactions

For the following reactions, write:

-  the word equation
-  the skeleton equation
-  the balanced chemical equation

1. Potassium hydroxide and hydrogen are produced when potassium is placed in water.

2. The iron reacts with oxygen to produce rust, which is iron (III) oxide.

3. Zinc reacts with lead(IV) nitrate to produce zinc nitrate and lead.

4. Calcium chloride reacts with silver nitrate to produce a white precipitate, silver chloride, and calcium nitrate remains in solution.

5. Calcium carbonate decomposes into calcium oxide and carbon dioxide.

**CHEMISTRY****HOMEWORK**

6. Magnesium metal will react with hydrogen sulfate to produce magnesium sulfate and hydrogen gas.

7. In the hydrogen bomb, hydrogen gas and oxygen gas react to make water.

8. Carbon monoxide and hydrogen gases are produced when carbon is placed in water.

9. Nitrogen monoxide from automobile exhaust reacts with oxygen to produce nitrogen dioxide, which is a toxic brown gas.

10. Sodium sulfate and a green-brown solid, copper (II) sulfide, are formed when copper (II) sulfate is mixed with sodium sulfide.



CHEMISTRY

HOMEWORK

Balancing Equations

Balance the following chemical equations.

