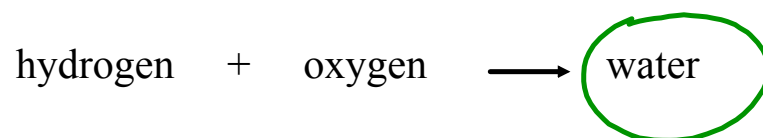# Formation/Synthesis Reactions

General Formula

A + B $\xrightarrow{\text{yields}}$ AB

susbstance   susbstance   compound

Reactants   Product
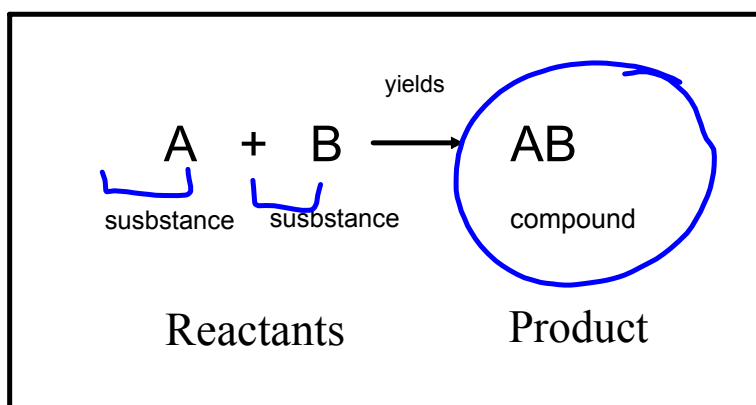
one product.

Example #1

<u>Word Equation</u>:

hydrogen   +   oxygen $\longrightarrow$ water

<u>Chemical Equation:</u>

$$2\,H_2 + \underline{}\,O_2 \rightarrow \underline{2}\,H_2O_1$$

Example #2

Word Equation:

beryllium   +   chlorine   ⟶   beryllium chloride

1 product .

$$Be_1^{2+} Cl_2^{-1}$$

Chemical Equation:

$$\underline{1} Be + \underline{1} Cl_2 \rightarrow \underline{1} Be Cl_2$$
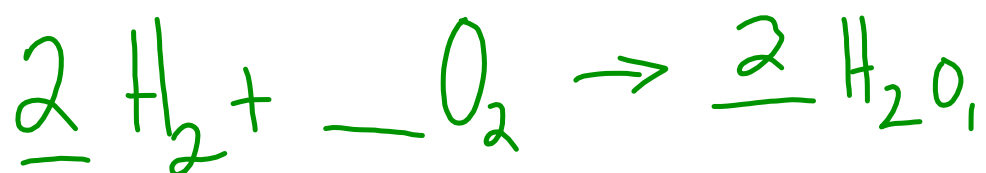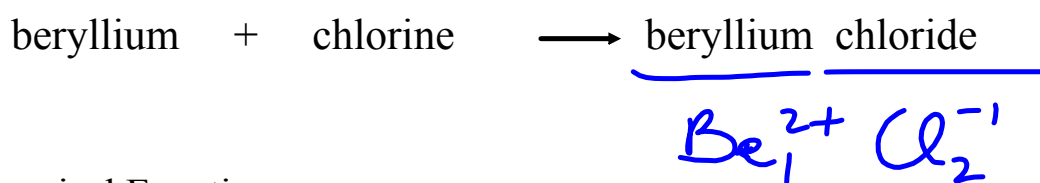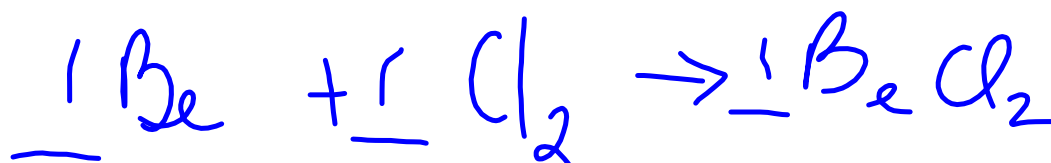
Decomposition Reactions

General Formula

One reactant

$$AB \xrightarrow{\text{yields}} A \quad + \quad B$$

compound   substance   substance

Reactant   Products
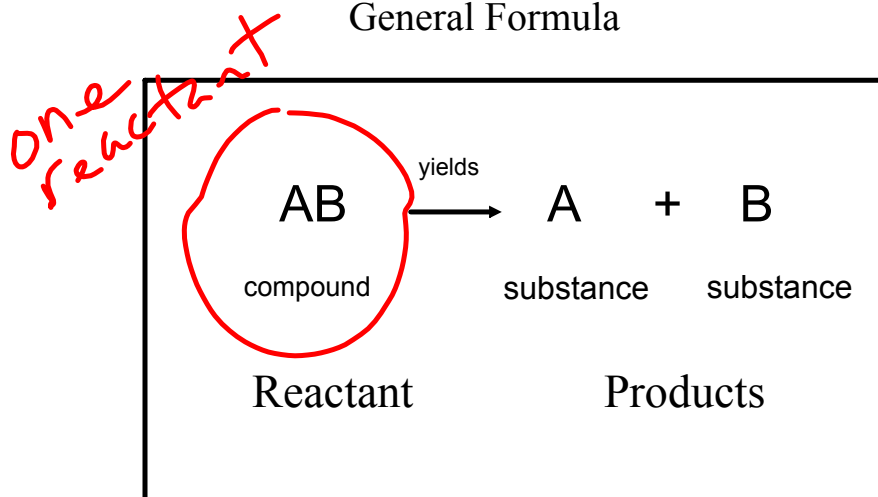
Example #1

<u>Word Equation</u>:

> hydrogen peroxide $\longrightarrow$ water + oxygen

<u>Chemical Equation:</u>

$$2\,H_2O_2 \longrightarrow 2\,H_2O \;\; + \;\; O_2$$

Example #2

Word Equation:

lithium nitride $\longrightarrow$ lithium + nitrogen

Chemical Equation:

$2 Li_3N \longrightarrow 6 Li + N_2$