

Chemical Equations

Writing

Reactants \rightarrow Products

Law of Conservation of Mass (LoCoM)

\rightarrow Matter cannot be created or destroyed, however, it can change form.

Subscripts!

- determined using charges for ionics
- determined using prefixes for covalents

*NEVER automatically bring subscripts over from reactants to products.

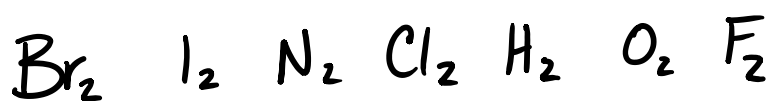
\hookrightarrow must be determined within new compounds

* Diatomic Elements - elements that cannot exist without a buddy.

Bromine (Br) Chlorine (Cl) Fluorine (F)
Iodine (I) Hydrogen (H)
Nitrogen (N) Oxygen (O)

Br | N | Cl | H | O | F

H | O | F | Br | Cl | N | I



Coefficient

- A number that is written in front of a term or compound
- indicates how many of that term or compound are present



6 Nitrogen

12 Oxygen

- Placed in a chemical equation (once subscripts are determined) to satisfy LoCom
 - ↳ makes sure # of each atom is the same on Reactant & Product sides
- Whole Numbers!

BALANCING EQUATIONS

1. Identify reaction type and predict products (if needed)
 - ↳ synthesis, decomposition, single replacement, double replacement, & combustion

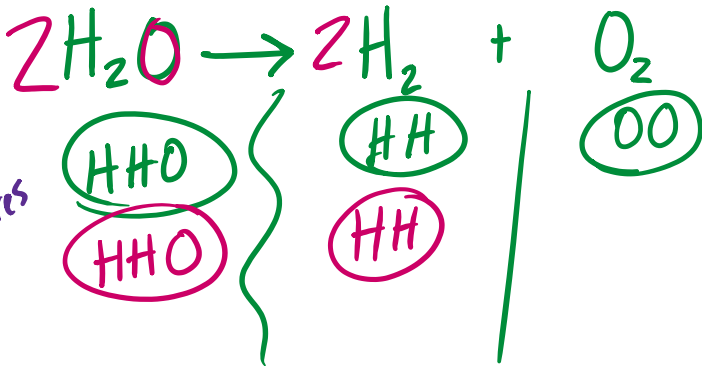
2. Make SURE the charges are balanced (ionic) using subscripts, diatomic molecules are good (Br I N Cl H O F), and check again!

3. Begin placing coefficients to satisfy the law of conservation of Mass (LoM) (Balance side to side)

↳ CANNOT CHANGE SUBSCRIPTS

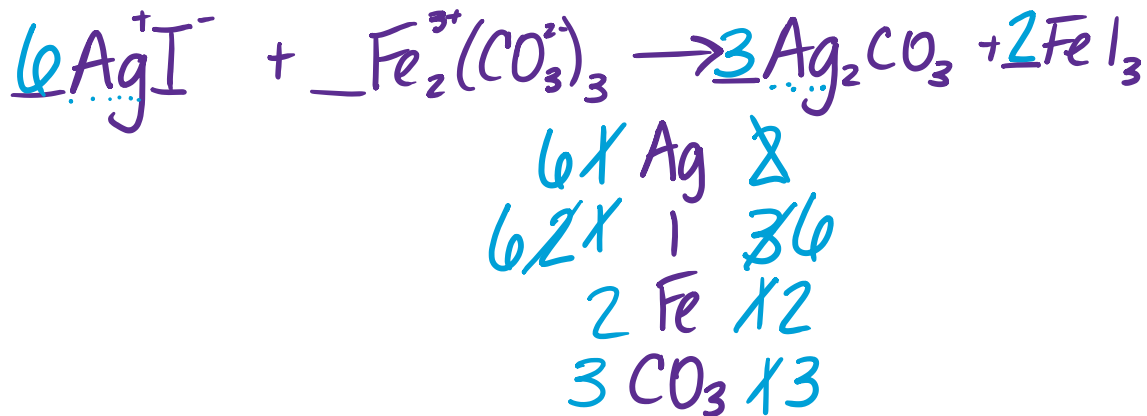
↳ For combustion reactions, leave Oxygen for last

dihydrogen monoxide decomposes

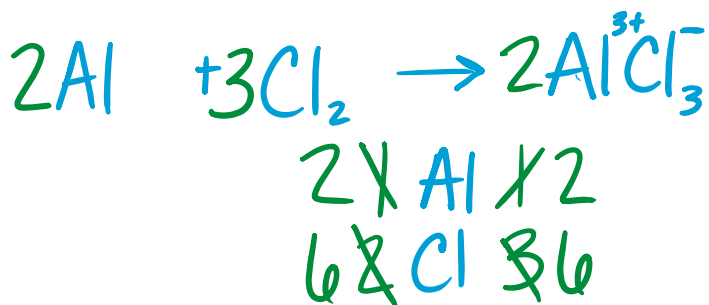


tally

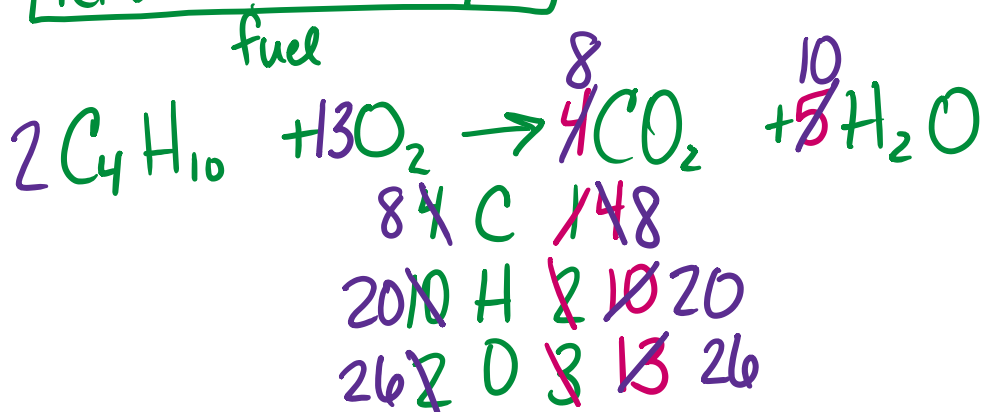
4	H	4	2	O	2
2	H	2	2	O	2



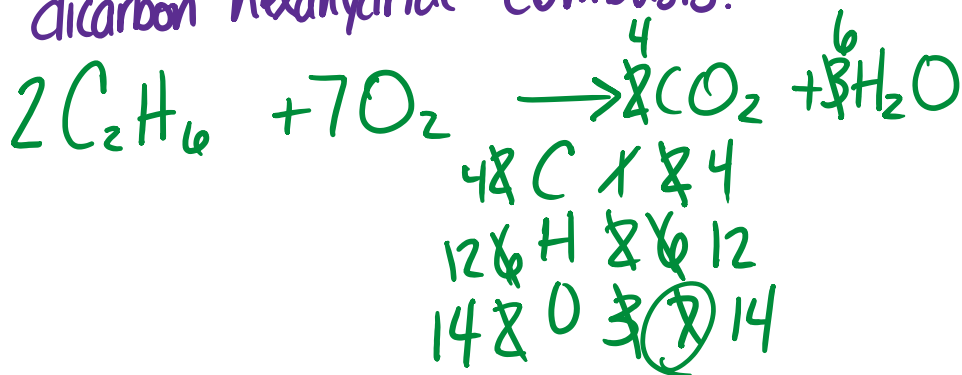
Aluminum and Chlorine gas react



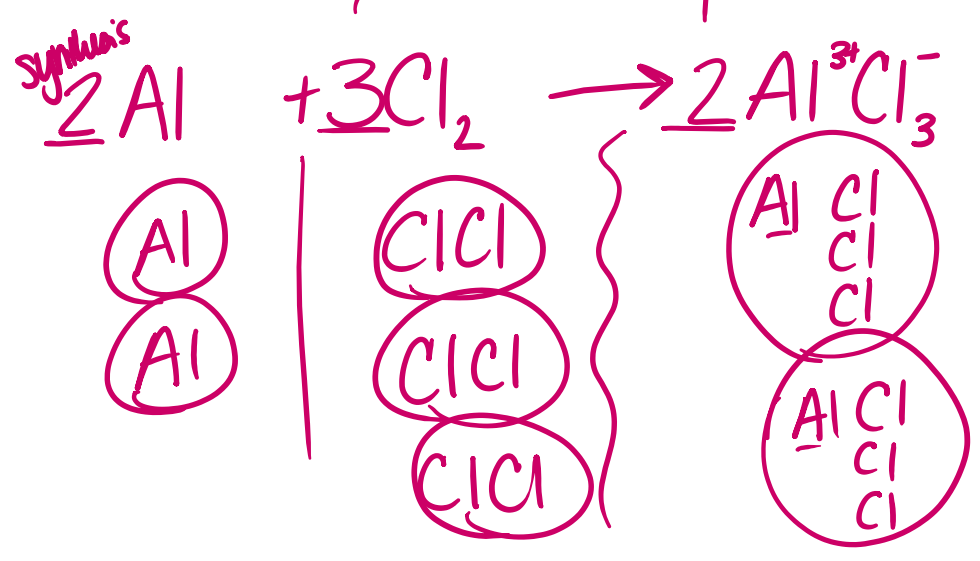
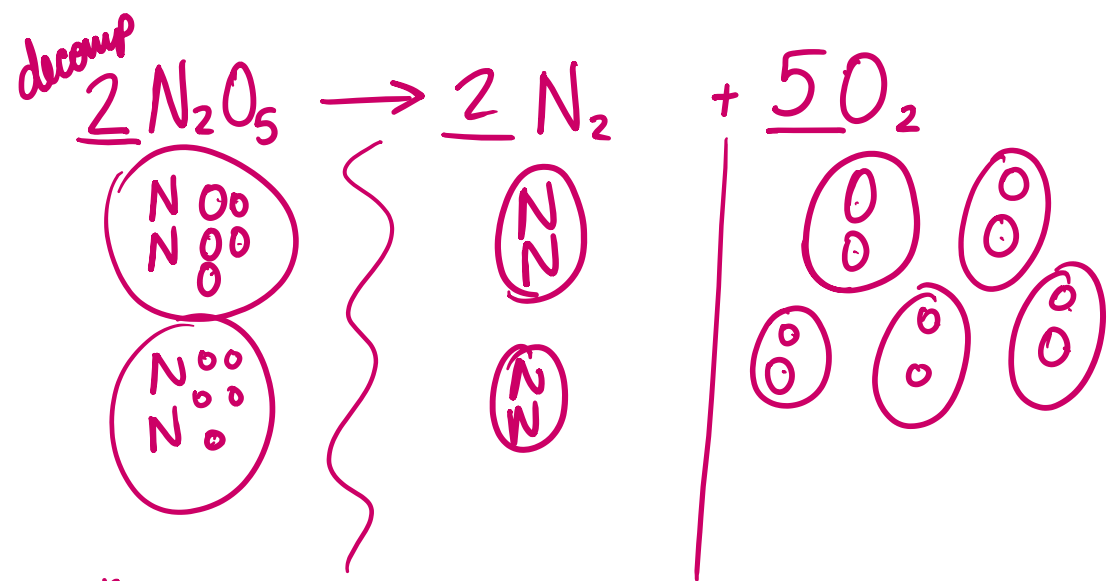
tetracarbon decahydride combusts.



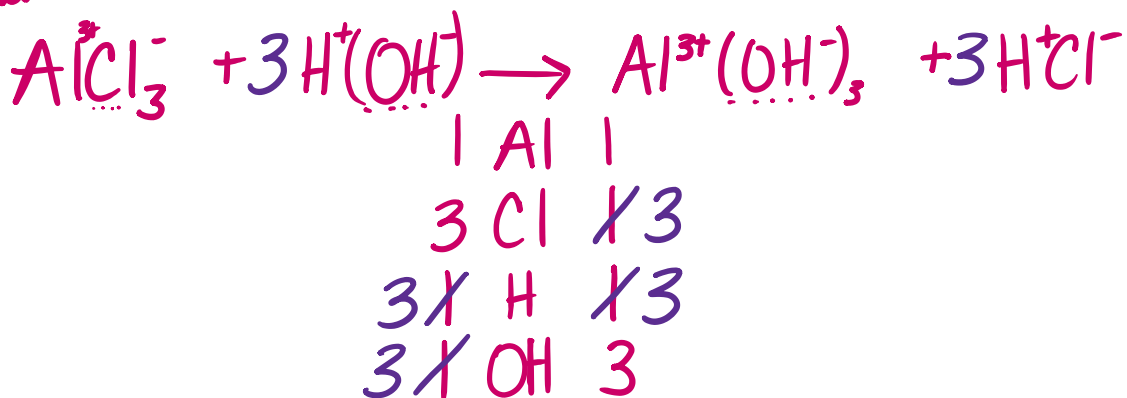
dicarbon hexahydride combusts.



3. Begin placing coefficients to satisfy LoCom
 ↳ DO NOT CHANGE SUBSCRIPTS!

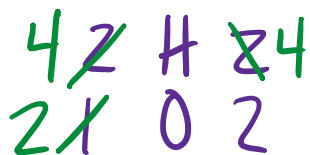
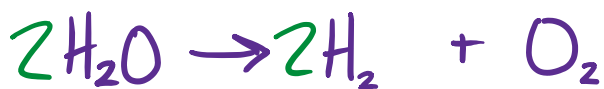


double!



dihydrogen monoxide decomposes into its components.

Br IN C(FOF)



Copper (II) Phosphate reacts ⁽⁺⁾with Sodium sulfate.

