

Chemical Equations & Balancing

In all types of chemical reactions, 3 things always take place:

- 1) Reactants disappear or diminish
- 2) New substances appear (*products*) with different physical and chemical properties
- 3) Energy is emitted (*exothermic*) or absorbed (*endothermic*)

Symbols used in Chemical Equations:

(s) - solid

(l) - liquid

(g) - gas

(aq) – aqueous (*water*) solution

→ - yields

⇌ - equilibrium (*reaction goes both ways*)

Rules for Balancing Equations:

- 1) The same number of atoms must appear on both sides of the reaction
- 2) You can only change the coefficients (**NOT** the subscripts)
- 3) The final number of coefficients must be reduced whole numbers (*i.e. factored*)

Ex.



TIP: When balancing, find the element that occur the fewest number of times on both sides and balance it 1st.