

Chemical Reactions Review Topics

1. Nomenclature
 - ionic
 - covalent
 - polyatomic
 - oxy anions
 - hydrates
 - binary acids
 - oxy acids
 - acid salts
2. Balancing Chemical Equations
3. Writing Chemical Equations from Words (include states, conditions)
4. Reaction Types
 - a. Synthesis
 1. two elements → compound
 2. metal + oxygen → metal oxide
 3. metal oxide(s) + water → base
 4. non-metal + oxygen → non-metal oxide
 5. non-metal oxide + water → acid
 - a. Decomposition
 1. metal carbonates → metal oxide + carbon dioxide
 2. metal hydroxides → metal oxide + water
 3. metal nitrates → metal nitrite + oxygen
 - b. Combustion
 1. $C_xH_y + \text{oxygen} \rightarrow \text{carbon dioxide} + \text{water}$ (complete)
 2. $C_xH_y + \text{oxygen} \rightarrow \text{carbon} + \text{carbon monoxide} + \text{carbon dioxide} + \text{water}$ (incomplete)
 3. $AB + \text{oxygen} \rightarrow \text{common oxides of A and B}$ (see chart in notes)
 - c. Single Displacement
 1. activity series
 2. halogen series
 - d. Double Displacement
 1. precipitation reactions (solubility chart)
 2. reactions that produce a gas (check chart – may have 3 products)
 3. neutralization (acid + base → salt + water)
5. Applications