

## Reaction Completion – Things to Remember

- Five primary reaction types
  - Combustion
  - Synthesis
  - Decomposition
  - Single Displacement
  - Double displacement
- In compound/compound synthesis, the reactants are always oxides
- A nonmetallic oxide reacts with water to make an acid (starts with  $H^{+1}$ )
- A metallic oxide reacts with water to make a base (ends with  $OH^{-1}$ )
- A metallic oxide reacts with a nonmetallic oxide to make a salt
  - The metal in the metallic oxide will be the first ion in the salt (product)
- In decomposition, if the compound is binary (two different elements), the products will each be an element
- In decomposition, if the compound is ternary (three different elements), the products will both be oxides
- In decomposition, chlorates will decompose into a binary salt and oxygen gas
- In ternary compound synthesis and decomposition, the charges of the individual elements never change (also applies to double displacement)