

Predicting Chemical Reactions

Activity Series is an:

o Metals on the list:

o Nonmetals on the list:

Synthesis

- o Consider the _____ to determine name of compound.
- o When a metal reacts with oxygen it produces an oxide.
- o When a metal reacts with sulfur it produces a sulfide.

- o Metals react with _____ to produce a _____.
- o Nonmetals react with _____ to produce _____.

Decomposition

- o Most commonly found as an _____.
- o Oxides of the _____, decompose into their elements when heated.
- o _____ breaks down into a metal oxide and carbon dioxide.
- o _____ decompose into metal oxide and water.
- o After being heated, _____ decompose into metal chloride and oxygen.
- o _____ decompose into metal oxides and water.

Single-Displacement

- o Reaction will take place if _____ of single metal is _____ than that within the compound.
- o Higher active metals react with _____ in liquid state to form hydroxides and _____.
- o _____ require energy input for water to be steam in order to produce a metal oxide and hydrogen gas.
- o Higher active metals react with certain acidic solutions, producing _____.
- o Higher active _____ may displace a lower active halogen.

Double-Displacement

- o Cations of one reactant combine with the anions of another reactant, forms a _____,
- o _____, or _____.
- o Given the _____, write the name of the products by switching the _____

RXN WILL OCCUR:

- o If something is _____ → it will form a _____ during the reaction
- o If a liquid/ gas has formed

- o If something is _____ → it will form an _____ product
 - o (If you finish with 2 soluble (aq) reactants): **NO RXN**

5 things that may seem soluble, if any of these are a product, there will be a rxn

- o Hydrogen Carbonate → breaks into water and Carbon Dioxide

- o Hydrogen Sulfite → breaks into water and Sulfur Dioxide

- o Ammonium Nitrate → breaks into water and Ammonia