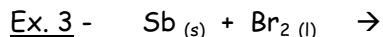
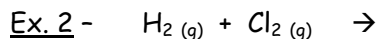
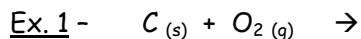


Types of Chemical Reactions

1.) Synthesis - $A + B \rightarrow AB$

*** What to look for \rightarrow starts with 2 elements that combine.



2.) Decomposition - $AB \rightarrow A + B$

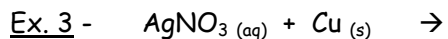
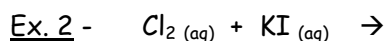
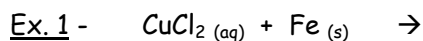
*** What to look for \rightarrow starts with one compound.



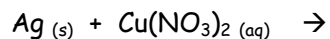
3.) Single Replacement - $A + BX \rightarrow B + AX$ or $Y + BX \rightarrow X + BY$

(metals replace metals and non-metals replace non-metals)

*** What to look for \rightarrow starts with one element and one compound.



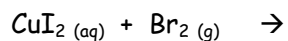
What do you get from this reaction? BE CAREFUL. SOMETHING IS UP!!!!



- You need to use the activity series on your periodic table to see if reactions will happen or not!

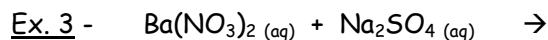
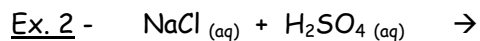
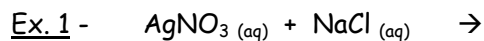
- The element doing the replacing needs to be higher on the activity series than the element it replaces or the reaction will not occur.





4.) Double Replacement - $\text{AX} + \text{BY} \rightarrow \text{AY} + \text{BX}$

*** What to look for \rightarrow starts with two compounds.



- Like a single replacement reaction, how do we know if the reaction will occur? For double replacement reactions to occur a **solid, gas or water MUST be made!!!!**

- How do you know what states to put for each chemical?

- know some gases - H N O F Cl Br I

- know some liquids - H_2O

- use solubility table on back of periodic table.

- find negative ion

- find metal

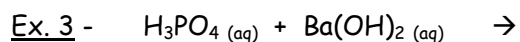
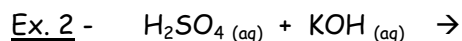
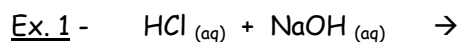
- it is soluble if they meet at an "aq" symbol

- it has a low solubility if they meet at an "s"

Neutralization is a special type of double replacement.

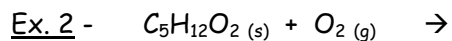
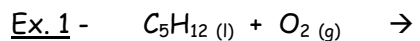
*** What to look for \rightarrow starts with an acid and a base.

*** Acids start with H and bases end with OH***

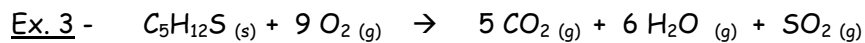


5.) Combustion - is a rapid reaction with oxygen - $C_xH_y + O_2 \rightarrow CO_2 + H_2O$

*** What to look for \rightarrow starts with hydrocarbon and oxygen.



***Note - if the hydrocarbon contains sulphur, SO_2 is also produced.



6.) Miscellaneous - a reaction that doesn't fit any of the above types.

