

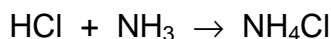
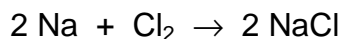
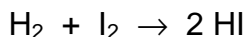
## TYPES OF REACTIONS

Most chemical reactions can be grouped into five categories:

- synthesis
- decomposition
- combustion
- single displacement
- double displacement

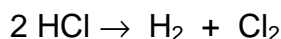
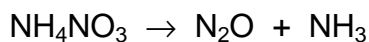
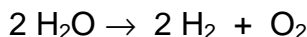
### SYNTHESIS

- ⇒ Involves the combination of smaller atoms and /or molecules into larger molecules
- ⇒ Two or more reactants combine to make one product
- ⇒ The general equation for a synthesis reaction is:  $A + B \rightarrow AB$
- ⇒ Examples:



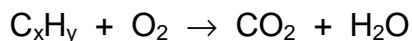
### DECOMPOSITION

- ⇒ Opposite to synthesis
- ⇒ Involves the splitting of a large molecule into elements or smaller molecules
- ⇒ One reactant breaks apart into two or more products
- ⇒ The general equation for a decomposition reaction is:  $AB \rightarrow A + B$
- ⇒ Examples:

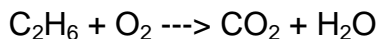
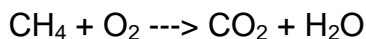


### COMBUSTION

- ⇒ Involves a compound that is made up of carbon and hydrogen – called a hydrocarbon.
- ⇒ The hydrocarbon reacts with oxygen ( $O_2$ )
- ⇒ ALWAYS produces carbon dioxide and water
- ⇒ The general equation for a double displacement reaction is:

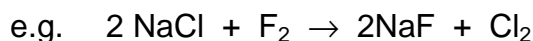
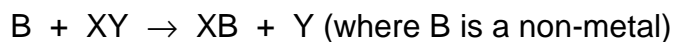
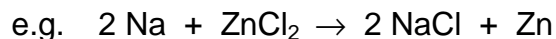
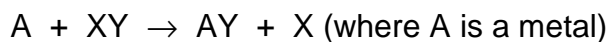


Examples

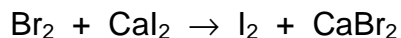
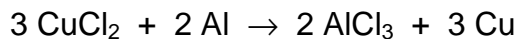


## SINGLE DISPLACEMENT

- ⇒ Involves one element replacing or displacing a second element in a compound
- ⇒ A metal element will only displace a metal in a compound.
- ⇒ A non-metal will only displace a non-metal in a compound.
- ⇒ The general equation for a single displacement reaction is:

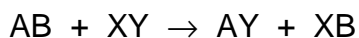


- ⇒ Examples:

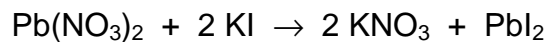
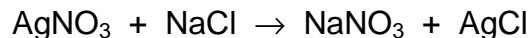
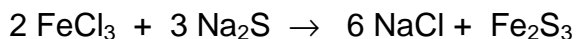


## DOUBLE DISPLACEMENT

- ⇒ Involves both elements in different compounds displacing each other or exchanging places.
- ⇒ The metals switch places and the non-metals switch places
- ⇒ Analogy - two couples dancing and they switch partners
- ⇒ The general equation for a double displacement reaction is:



- ⇒ Examples:



## TYPES OF REACTIONS

Most chemical reactions can be grouped into five categories:

- 
- 
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### SYNTHESIS

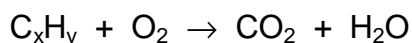
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### COMBUSTION

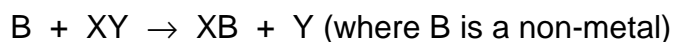
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Examples

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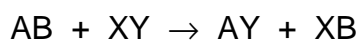
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