

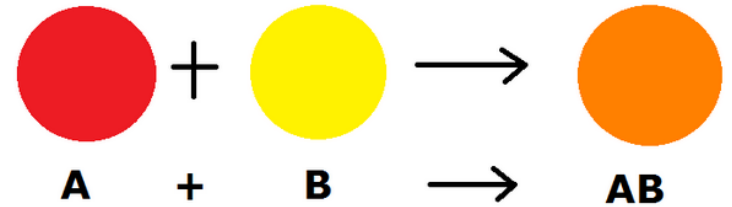
Classifying Reactions

17.3/17C

Types of Reactions

Type	General Equation	Example
Addition	$A + B \rightarrow AB$	$2H_2 + O_2 \rightarrow 2H_2O$
Decomposition	$AB \rightarrow A + B$	$2NaHCO_3 \rightarrow 2CO_2 + H_2O + Na_2O$
Single-displacement	$A + BX \rightarrow AX + B$	$Fe + CuCl_2 \rightarrow FeCl_2 + Cu$
Double-displacement	$AB + CD \rightarrow AD + CB$	$Pb(NO_3)_2 + 2KI \rightarrow PbI_2 + 2KNO_3$
Combustion	Carbon compound + $O_2 \rightarrow$ $CO_2 + H_2O$	$C_6H_{12}O_6 + 6O_2 \rightarrow 6CO_2 + 6H_2O$

Addition Reactions

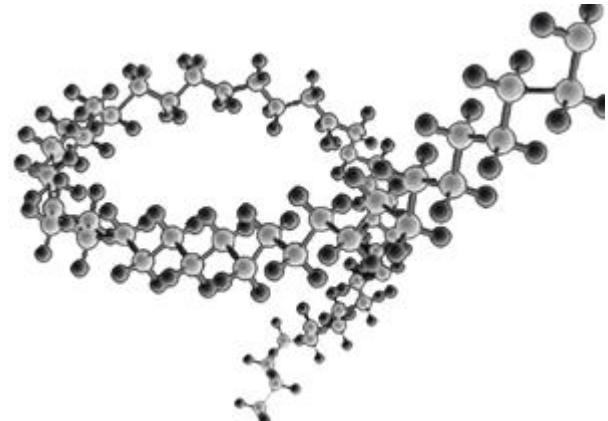
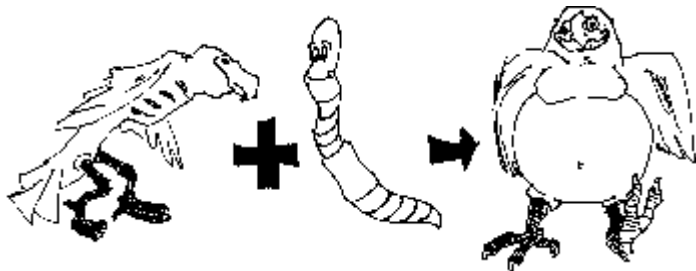


- Addition Reaction: two or more substances combine to form a new compound
- Examples

– Rust formation ($\text{Fe} + \text{O}_2 \rightarrow \text{Fe}_2\text{O}_3$)

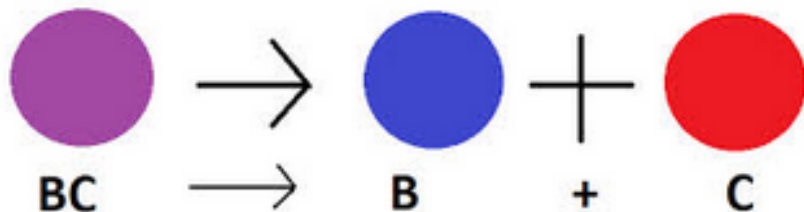


– Polymerization - a type of addition rxn that makes polymers (chains of the same formula)

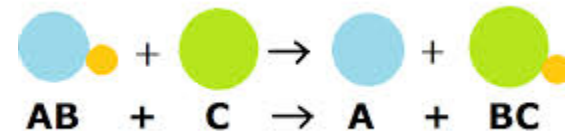


Decomposition Reactions

- Decomposition rxn: a compound is broken down into two or more smaller substance by using energy, heat, or electricity.



Displacement Reactions



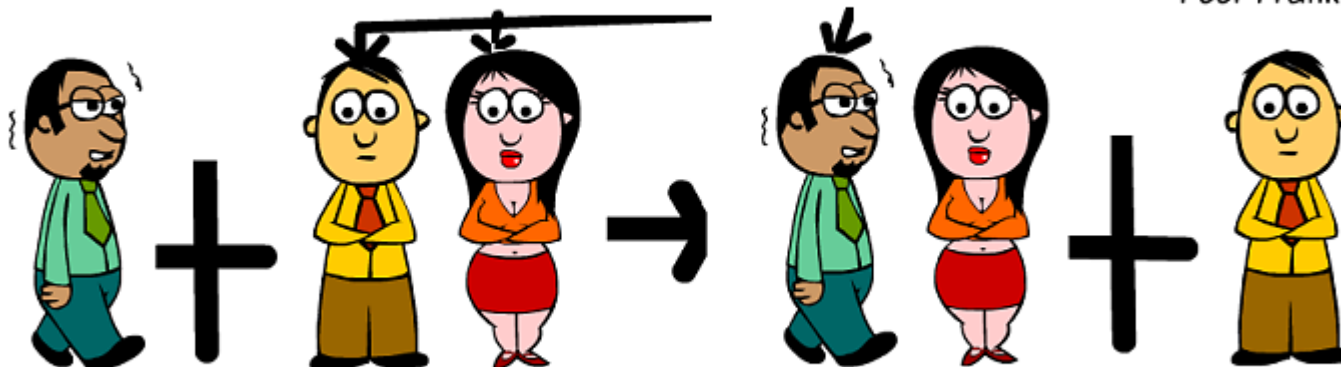
- Single Displacement Rxn: one element replaces a similar element in a compound

SINGLE REPLACMENT - BY APRILPIERSMA

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In a single-replacement reaction this girl leaves her guy for Joe.

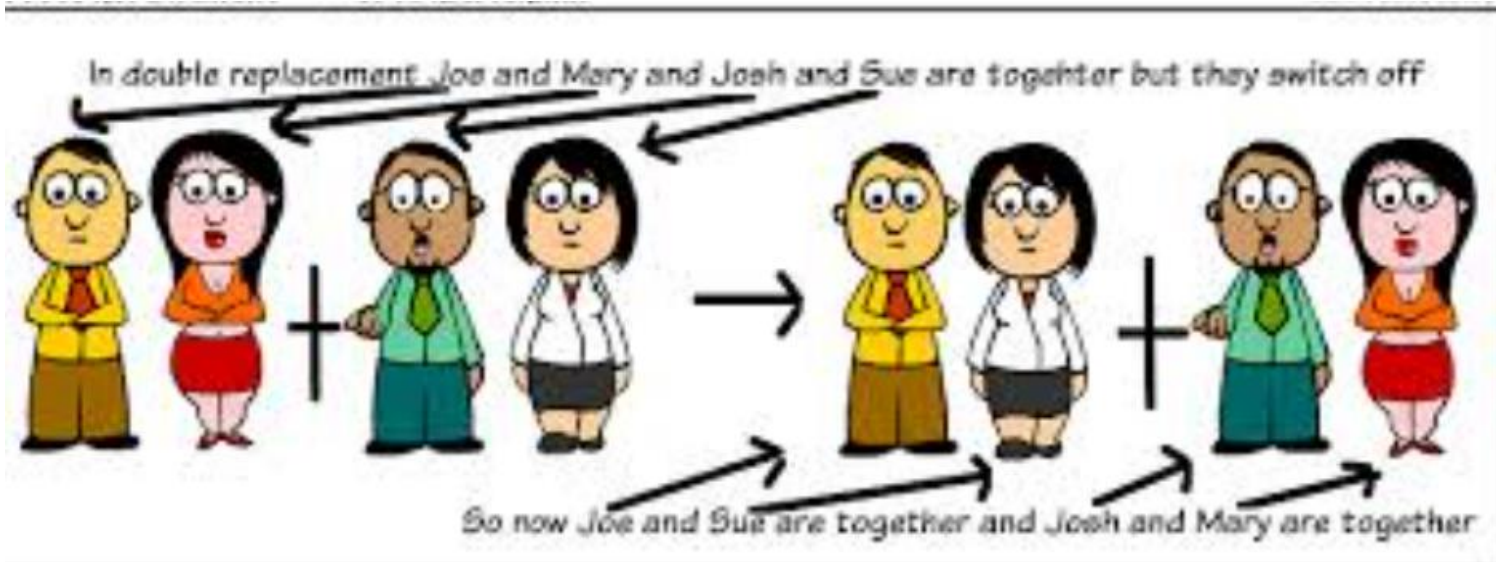
Poor Frank



Now Joe and Mary are together

Displacement Reactions

- Double Displacement: ions from two compounds in solution exchange places to produce new substances



Combustion Reactions

- Combustion Rxn: a large amount of energy being released when a carbon compound combines with oxygen

