

Types of Chemical Reactions

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- **Describe** four types of chemical reactions.
- **Classify** a chemical equation as one of four types of chemical reactions.

I. Synthesis Reactions

A. What Is a Synthesis Reaction? A

synthesis reaction is a reaction in which two or more substances combine to form one new compound. ($A+B\rightarrow AB$)

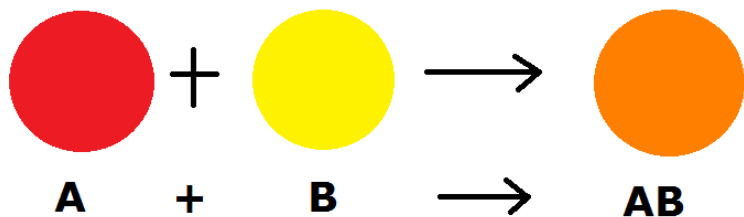
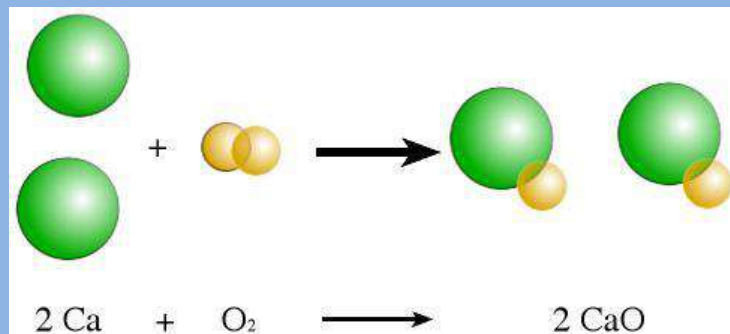
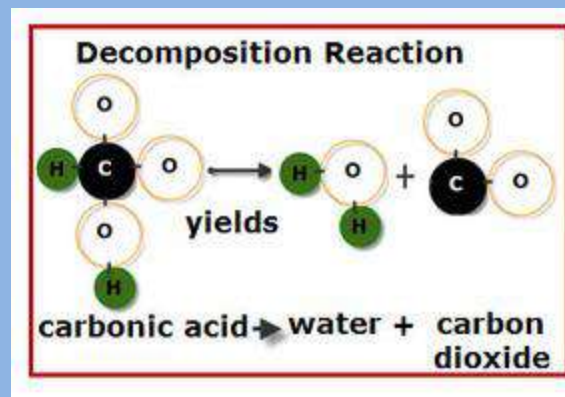
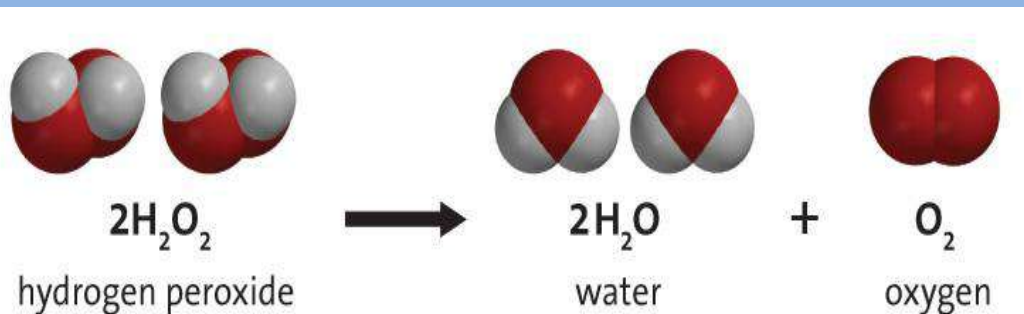
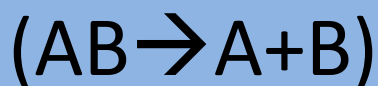


Figure 2.3



II. Decomposition Reactions

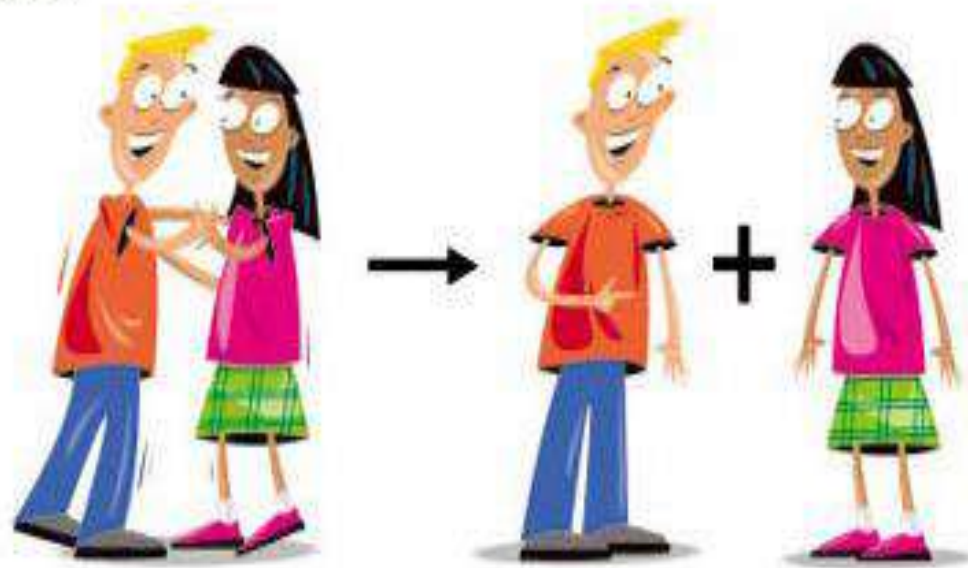
A. What Is a Decomposition Reaction? A decomposition reaction is a reaction in which a single compound breaks down to form two or more simpler substances.



Synthesis

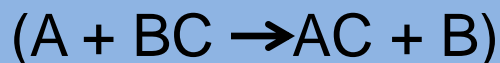


Decomposition

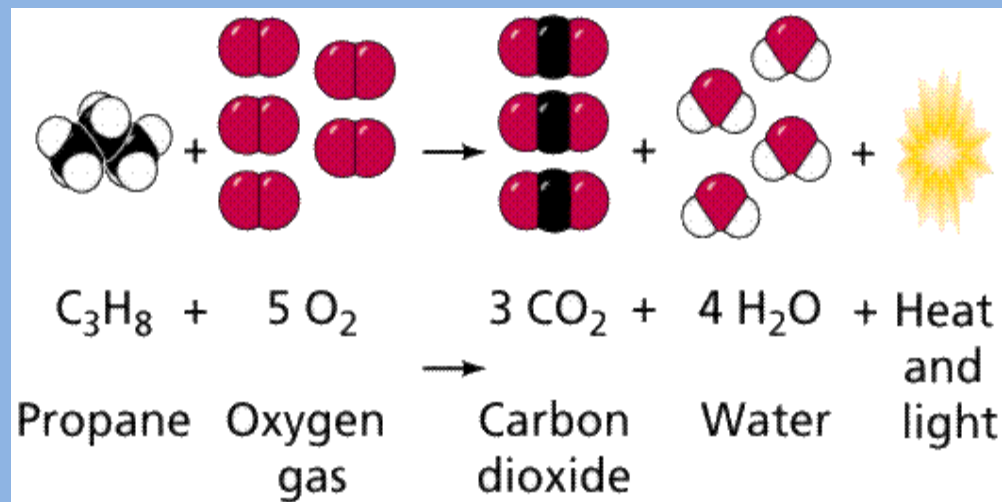
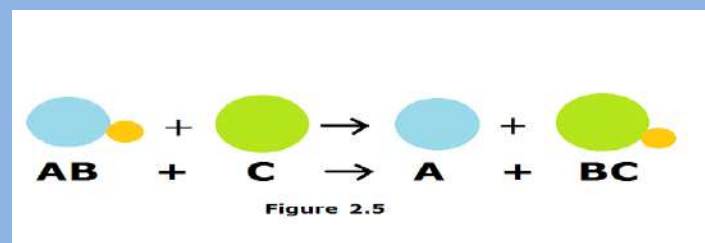
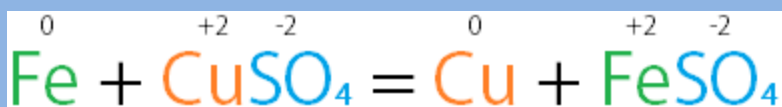
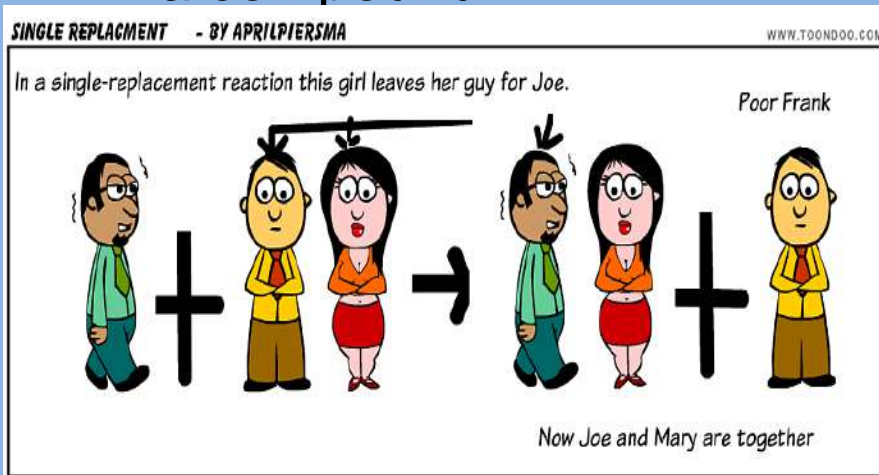


III. Single-Displacement Reactions

A. What Is a Single-Displacement Reaction? Sometimes, an element replaces another element that is a part of a compound. This type of reaction is called a single-displacement reaction.

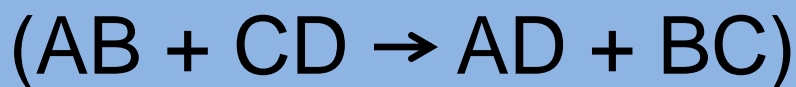


B. Reactivity of Elements In a single-displacement reaction, a more reactive element can displace a less reactive element in a compound.



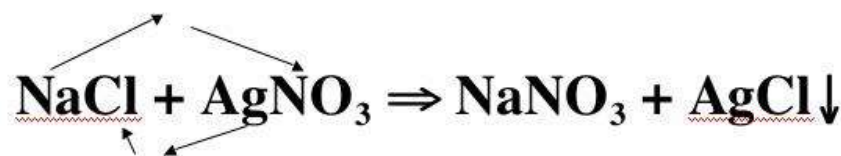
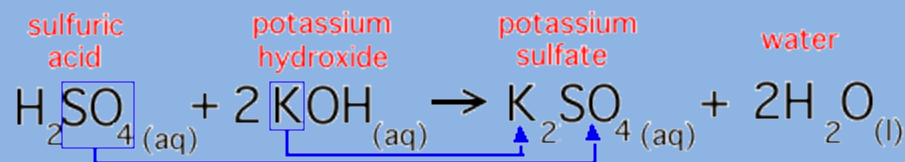
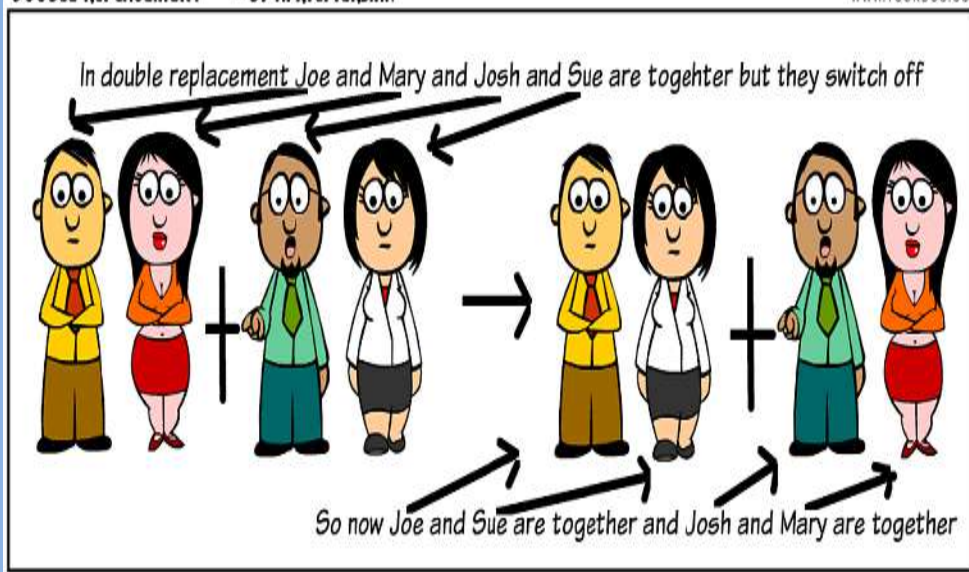
IV. Double-Displacement Reactions

A. What Is a Double-Displacement Reaction? A double-displacement reaction is a reaction in which ions from two compounds exchange places.

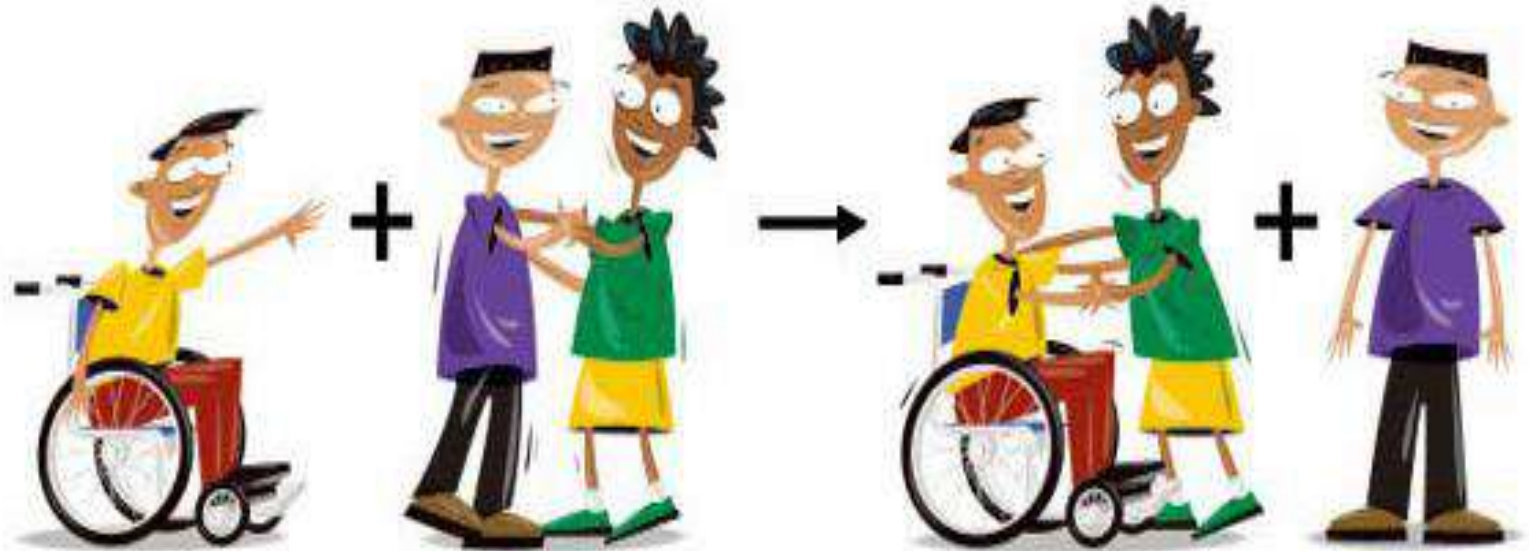


DOUBLE REPLACEMENT - BY APRILPIERSMA

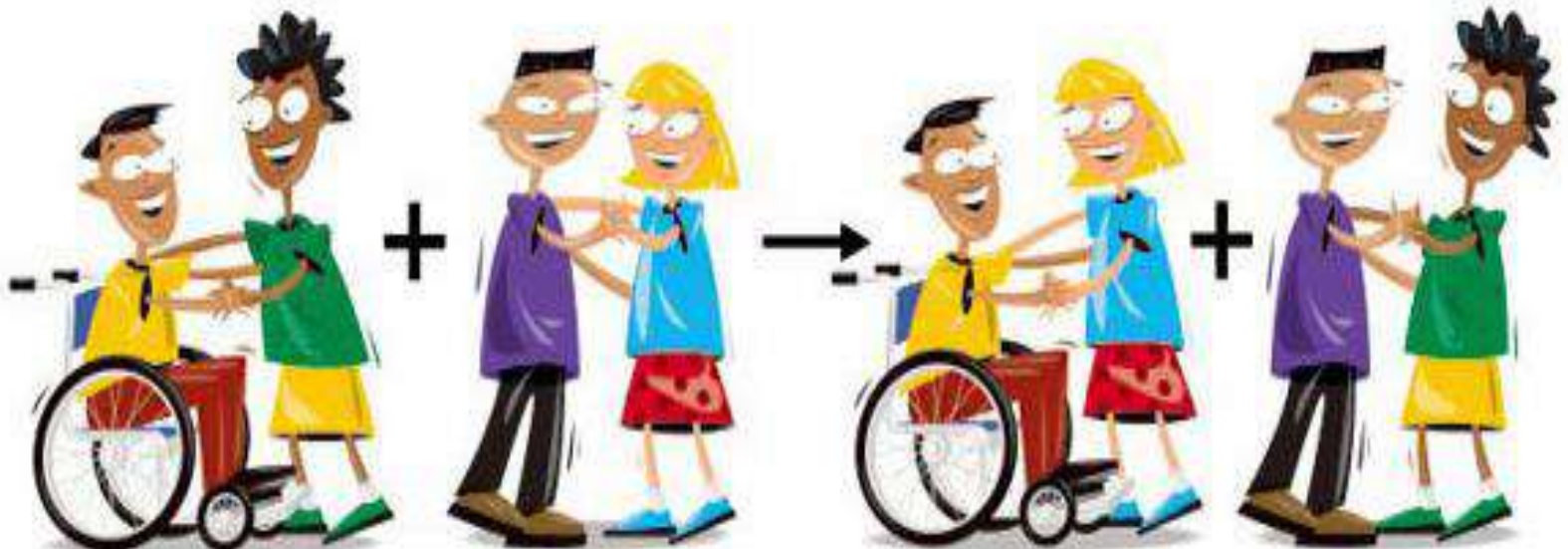
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Single Displacement



Double Displacement



A. (a) Classify each of the following reactions as synthesis, decomposition, single displacement or double displacement reactions.

(b) Balance each equation.

