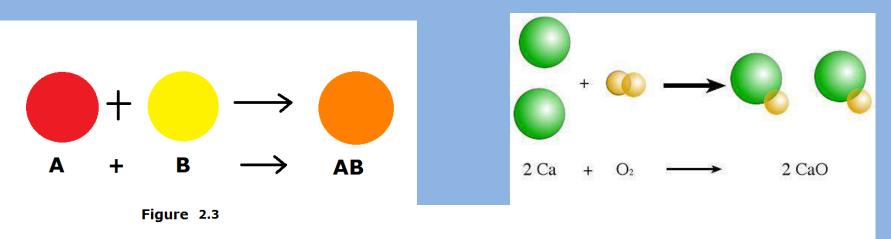
Types of Chemical Reactions

Types of Chemical Reactions

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→AB)



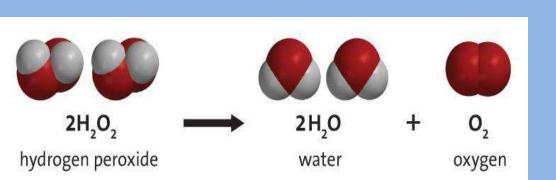


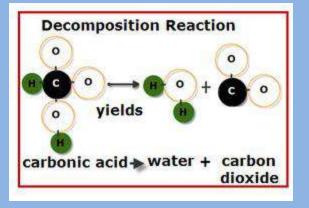
II. Decomposition Reactions

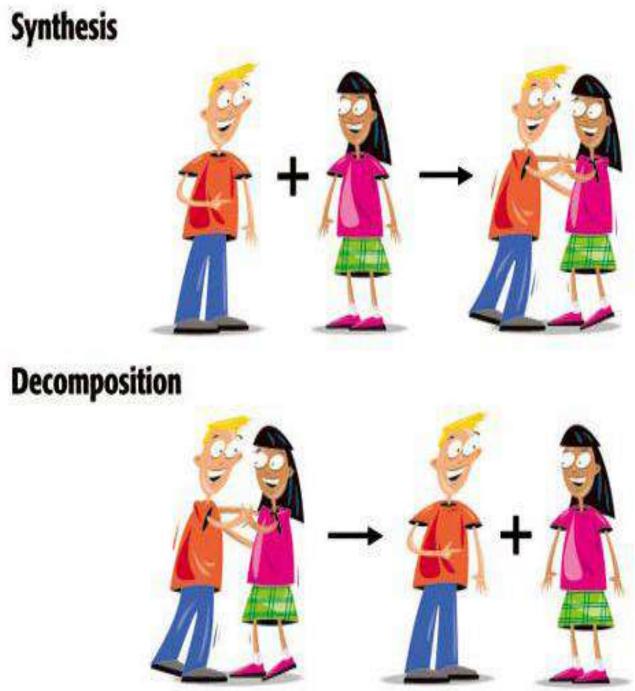
A. What Is a Decomposition Reaction? A decomposition reaction is a reaction in which a single compound breaks down to form two or more simpler substances.

 $(AB \rightarrow A+B)$







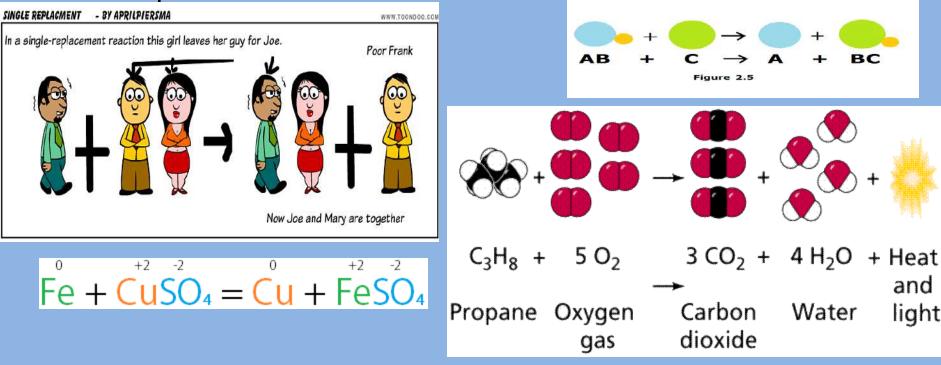


and a strength of the strength of the

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.
- $(A + BC \rightarrow AC + B)$

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. $(AB + CD \rightarrow AD + BC)$

potassium

hydroxide

(ag)

 $NaCl + AgNO_3 \Rightarrow NaNO_3 + AgCl \downarrow$

+2 KOH

(aa)

potassium

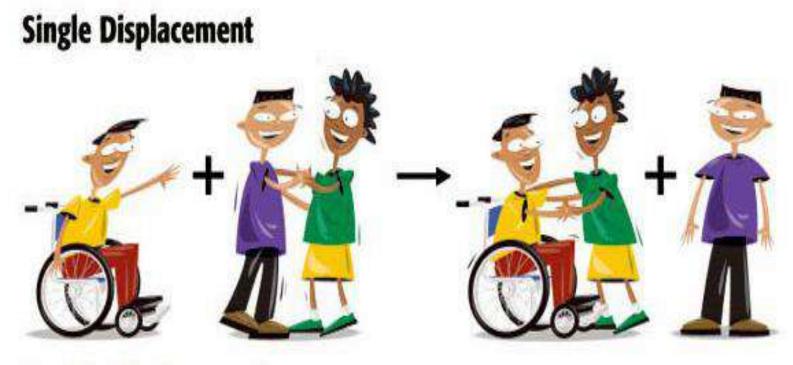
4 (ad)

sulfate

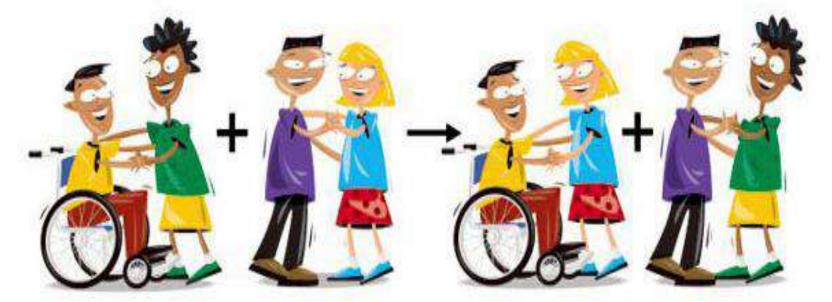
water

2H ()

DOUBLE REPLACEMENT - BY APRILPIERSMA In double replacement Joe and Mary and Josh and Sue are togehter but they switch off



Double Displacement



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

(b) Balance each equation.

| 1. Cu | + | 02 | -> | CuO | | |
|---------------------|---|--------------------------------|---------------|--------------------------------|---|------------------|
| 2. AI | + | Fe ₂ O ₃ | -> | Al ₂ O ₃ | + | Fe |
| 3. Ag | + | S | -> | Ag ₂ S | | |
| 4. H ₂ 0 | + | electricity | \rightarrow | Hz | + | 02 |
| 5. FeS | + | HCI | -> | FeCl ₂ | + | H ₂ S |
| 6. | | NaCl | \rightarrow | Na | + | CI2 |
| 7. NaOH | + | HCI | - | NaCl | + | H ₂ O |
| 8. Zn | + | HCI | \rightarrow | ZnCl ₂ | + | H ₂ |
| | | | | | | |

