Most chemical reactions can be placed into one of five basic types:

**1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Reactions**

* A compound breaks into parts.
* **compound → element + element**
* **compound** **→ compound + compound**
* **compound → compound + element**
*

**2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Reactions**

* Elements or compounds are joined together.
* **element + element → compound**
* **element + compound** **→ compound**
* **compound + compound → compound**
*

**3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Reactions**

* A single element replaces an element in a compound.
* **element + compound → element + compound**
* Use the **Activity Series of Metals** to determine if one metal can replace another in a reaction.

**4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Reactions**

* An element from each of two compounds switch places.
* **compound + compound → compound + compound**

Two types of double displacement reactions:

**A. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Reactions**

* A double displacement reaction in which one of the products is an insoluble solid. An insoluble solid that forms when two aqueous solutions are mixed is called a**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**
* Use **solubility rules** to determine if a product is soluble or insoluble.

**B. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Reactions**

* Special types of double displacement reactions that involve the reaction between an acid and base to form a salt and water.
* **acid + base → salt + water**
* Heat is usually given off in neutralization reactions.
* A suspension of solid magnesium hydroxide in water is widely used as an antacid to neutralize excess stomach acid:

**5. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Reactions**

* A **hydrocarbon** combines with oxygen. A hydrocarbon is a compound that contains carbon and hydrogen and sometimes oxygen. Examples include methane gas (CH4,), sugar (C6H12O6), and alcohols like ethanol (C2H5OH).
* The products of combustion are **always\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**
* **hydrocarbon + oxygen → carbon dioxide + water**
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