What Are the Types of Chemical Reactions?

Worksheet

The five main types are: (1) synthesis (A + B AB), (2) decomposition (AB A + B), (3) combustion (fuel + O products), (4) single displacement (A + BC AC + B), and (5) double displacement (AB + CD AD + CB).

Questions

1. Which type: 2H + O 2HO?

A) Decomposition
B) Synthesis
C) Combustion
D) Displacement

2. Which reaction breaks one compound into two?

A) Synthesis
B) Combustion
C) Decomposition
D) Double displacement

3. C + O CO is what type?

A) Synthesis
B) Combustion
C) Both A and B
D) Displacement

4. Fe + CuSO FeSO + Cu is?

A) Double displacement
B) Synthesis
C) Single displacement
D) Combustion

5. Classify: 2H + O 2HO

6. Classify: 2HO 2HO + O

7. Classify: CH + 2O CO + 2HO

8. Define: What is a synthesis reaction?

9. Define: Decomposition reaction definition?

10. Define: What always reacts in a combustion reaction?

Answer Key

1. B) Synthesis - Two elements combine into one compound - that's synthesis.
2. C) Decomposition - Decomposition always breaks one reactant into multiple products.
3. C) Both A and B - Combustion is burning a fuel in oxygen; this also fits synthesis (elements compound).
4. C) Single displacement - Fe replaces Cu in the compound - single displacement.
5. Two reactants (H and O) combine into one product (HO). This is a synthesis (combination) reaction.
6. One reactant (HO) breaks into two products (HO and O). This is a decomposition reaction.
7. A fuel (CH) reacts with oxygen to produce CO and HO. This is a combustion reaction.
8. Two or more reactants combine to form a single product (A + B AB).
9. One reactant breaks apart into two or more products (AB A + B).
10. A fuel (usually hydrocarbon) and oxygen (O).