

Use with textbook pages 256–267.

Types of chemical reactions

Match each Chemical Equation to a Reaction Type below. Each Reaction Type may be used only once.

Chemical Equation

- _____ $2 \text{KClO}_3 \rightarrow 2 \text{KCl} + 3 \text{O}_2$
- _____ $16 \text{Al} + 3 \text{S}_8 \rightarrow 8 \text{Al}_2\text{S}_3$
- _____ $\text{LiOH} + \text{HNO}_3 \rightarrow \text{H}_2\text{O} + \text{LiNO}_3$
- _____ $2 \text{C}_6\text{H}_{14} + 19 \text{O}_2 \rightarrow 14 \text{H}_2\text{O} + 12 \text{CO}_2$
- _____ $2 \text{AgNO}_3 + \text{Cu} \rightarrow \text{Cu}(\text{NO}_3)_2 + 2 \text{Ag}$
- _____ $\text{Pb}(\text{NO}_3)_2 + \text{K}_2\text{CrO}_4 \rightarrow \text{PbCrO}_4 + 2 \text{KNO}_3$

Reaction Type

- synthesis
- combustion
- neutralization
- decomposition
- single replacement
- double replacement

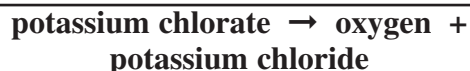
7. What type of chemical reaction involves two smaller molecules reacting to produce one larger molecule?

- synthesis
- combustion
- decomposition
- single replacement

8. Carbon dioxide gas can be broken down into solid carbon and oxygen gas. What type of reaction is this?

- | | |
|---------------|-------------------|
| A. synthesis | C. neutralization |
| B. combustion | D. decomposition |

Use the following word equation to answer question 9.



9. What type of reaction is represented by the word equation?

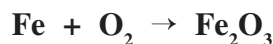
- synthesis
- decomposition
- single replacement
- double replacement

10. Which of the following represents a single replacement reaction?

I.	$\text{Sn} + 2 \text{AgNO}_3 \rightarrow \text{Sn}(\text{NO}_3)_2 + 2 \text{Ag}$
II.	gold(II) cyanide + zinc \rightarrow gold + zinc cyanide
III.	Magnesium iodide reacts with bromine gas to produce magnesium bromide and iodine.

- | | |
|-------------------|--------------------|
| A. I and II only | C. II and III only |
| B. I and III only | D. I, II, and III |

11. Which set of ordered coefficients balances the following equation?



- | | |
|------------|------------|
| A. 2, 1, 1 | C. 4, 2, 3 |
| B. 2, 2, 2 | D. 4, 3, 2 |

12. What coefficient is needed for water in order to balance the following equation?



- | | |
|------|------|
| A. 2 | C. 4 |
| B. 3 | D. 6 |

13. Hydrochloric acid can be used to neutralize barium hydroxide. What is the formula for the salt produced by this neutralization?

- | | |
|------------------------------|--------------------------------|
| A. BaCl_2 | C. $\text{Ba}(\text{ClO}_2)_2$ |
| B. $\text{Ba}(\text{ClO})_2$ | D. $\text{Ba}(\text{ClO}_3)_2$ |

14. Which reactants form the salt MgSO_4 in a neutralization reaction?

- A.** SO_2 and MgO_2
- B.** H_2S and MgOH
- C.** H_2O and $\text{Mg}(\text{OH})_2$
- D.** H_2SO_4 and $\text{Mg}(\text{OH})_2$

15. Given the incomplete equation of a chemical reaction: $\text{C}_9\text{H}_6\text{O}_4 + \text{O}_2 \rightarrow$

Which of the following are the products formed from this reaction?

I.	H_2
II.	H_2O
III.	CO_2

- A.** I and II only
- B.** I and III only
- C.** II and III only
- D.** I, II, and III

16. Given the incomplete equation of a chemical reaction:

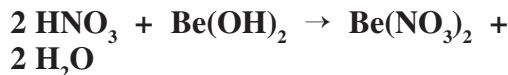
barium chloride + ammonium carbonate \rightarrow

Which of the following are the products formed from this reaction?

I.	H_2O
II.	NH_4Cl
III.	BaCO_3

- A.** I and II only
- B.** I and III only
- C.** II and III only
- D.** I, II, and III

Use the following chemical reaction to answer question 17.



17. Which of the following statements is true?

I.	HNO_3 is an acid.
II.	$\text{Be}(\text{NO}_3)_2$ is a base.
III.	This is a neutralization reaction.
IV.	The products of this reaction are a salt and water.

- A.** I, II, and III only
- B.** I, II, and IV only
- C.** I, III, and IV only
- D.** II, III, and IV only

18. Sodium nitrate is produced as a result of mixing a solution of cadmium(II) nitrate with a solution of sodium sulphide. What is the other compound formed from this reaction?

- A.** CdS
- B.** CdSO_4
- C.** NaS_2
- D.** CdNO_4