



Section 6.1

Types of Chemical Reactions

Study Notes

By the end of section 4.1 you should be able to understand the following:

- Even though there are thousands of combinations, chemical reactions fall into predictable categories.
- There are six main types of chemical reactions: synthesis, decomposition, single replacement, double replacement, neutralization (acid-base) and combustion.
- To determine the type of reaction, examine the reactants.

NOTES

What are the names of the six main types of chemical reactions?

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

What is a synthesis reaction? What is special about the reactant side of a synthesis equation? Give an example of an equation representing a synthesis reaction?

- 1.
- 2.
- 3.

What is a decomposition reaction? What is special about the reactant side of a decomposition equation? Give an example of an equation representing a decomposition reaction?

- 1.
- 2.
- 3.

NOTES

What is a single replacement reaction? What is special about the reactant side of a single replacement equation? Give an example of an equation representing a single replacement reaction?

1.

2.

3.

What is a double replacement reaction? What is special about the reactant side of a double replacement equation? Give an example of an equation representing a double replacement reaction?

1.

2.

3.

What is a neutralization reaction? What is special about the reactant side of a neutralization equation? What other type of reaction could a neutralization reaction be classified as? Give an example of an equation representing a neutralization reaction?

1.

2.

3.

4.

NOTES

What is a combustion reaction? What is special about the reactant side of a combustion equation? What other type of reaction could a combustion reaction be classified as? Give an example of an equation representing a combustion reaction?

- 1.
- 2.
- 3.
- 4.

Fill in the following chart to summarize the six types of chemical reactions.

Reaction Type	Reactants and Products	Note on the Reactants
Synthesis (combination)		
Decomposition		
Single Replacement If A is a metal If D is a non-metal	----- -----	
Double Replacement		
Neutralization (acid-base)		
Combustion		