

Predicting Products of Chemical Reactions

Read from Lesson 2 Classifying Chemical Reactions in the Chemistry Tutorial Section Chapter 8 of The Physics Classroom Part e: [Predicting Products](#)



For the following reactions, first classify the reaction as synthesis, decomposition, combustion, single replacement, or double replacement. Then, predict the product(s) of each reaction. Write the skeleton equation (proper formulae, no coefficients). Then add coefficients to balance the chemical equation. If it is a double replacement reaction, include the net ionic equation. If there is no reaction, state "NR" and don't bother with any of the equations. Use [reactivity series](#) and [solubility tables](#) as needed.

1. A solution of magnesium bromide is combined with chlorine gas.

Type of reaction: _____

Equations:

2. A piece of aluminum is added to a solution of iron (III) oxide.

Type of reaction: _____

Equations:

3. Solutions of silver nitrate and zinc chloride are combined

Type of reaction: _____

Equations:

4. Solid cobalt(II) carbonate is heated.

Type of reaction: _____

Equations:

5. A piece of zinc is added to a solution of hydrochloric acid.

Type of reaction: _____

Equations:

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Name _____

6. Solutions of sulfuric acid and sodium hydroxide are combined.
Type of reaction: _____
Equations:
7. Solid aluminum is burned in an excess of oxygen gas.
Type of reaction: _____
Equations:
8. Solid potassium oxide is heated.
Type of reaction: _____
Equations:
9. Solid calcium oxide is added to water.
Type of reaction: _____
Equations:
10. Butane (C_4H_{10}) is ignited with an excess of oxygen gas.
Type of reaction: _____
Equations:
11. Solutions of hydrobromic acid and nickel(III) hydroxide are combined.
Type of reaction: _____
Equations:

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12. Solid bismuth(III) oxide and carbon dioxide gas are combined.

Type of reaction: _____

Equations:

13. Solid chromium (VI) chlorate is heated.

Type of reaction: _____

Equations:

14. Sulfur dioxide gas is combined with water.

Type of reaction: _____

Equations:

15. Solutions of potassium chlorate and ammonium sulfide are combined.

Type of reaction: _____

Equations: