

Chemical Reactions

_ CHAPTER

Completing Equations

Chemical changes are characterized by the formation of new substances. The products of a correctly balanced chemical equation represent the number and kind of new substances formed. There are four general types of reactions: synthesis, decomposition, single replacement, and double replacement.

Examine each equation listed below and identify which type of reaction is taking place by filling in the blank space to the right of the equation.

Then balance the equation. Remember to use coefficients, not subscripts, to balance the equation.

1. Al +
$$O_2 \rightarrow Al_2O_3$$

2.
$$HgO \rightarrow Hg + O_2$$

3. NaOH +
$$H_2SO_4 \rightarrow Na_2SO_4 + H_2O$$

4. Fe +
$$O_2 \rightarrow Fe_2O_3$$

5.
$$Pb(NO_3)_2 + K_2CrO_4 \rightarrow PbCrO_4 + KNO_3$$

6.
$$H_2 + N_2 \rightarrow NH_3$$

7.
$$C_3H_5(NO_3)_3 \rightarrow CO_2 + N_2 + H_2O + O_2$$

8. Fe +
$$CuCl_2 \rightarrow FeCl_2 + Cu$$

9.
$$KClO_3 \rightarrow KCl + O_2$$

10.
$$Mg + HCl \rightarrow H_2 + MgCl_2$$