

Identifying and Balancing Chemical Equations

Identify each of the equations below as synthesis, decomposition, single replacement, or double replacement.

1. $\text{HgO} \longrightarrow \text{Hg} + \text{O}_2$
2. $\text{NaCl} + \text{AgNO}_3 \longrightarrow \text{NaNO}_3 + \text{AgCl}$
3. $\text{Mg} + \text{HCl} \longrightarrow \text{MgCl}_2 + \text{H}_2$
4. $\text{Zn} + \text{H}_2\text{SO}_4 \longrightarrow \text{ZnSO}_4 + \text{H}_2$
5. $\text{NaOH} + \text{HCl} \longrightarrow \text{NaCl} + \text{H}_2\text{O}$
6. $\text{Al}_2(\text{SO}_4)_3 + \text{Ca}(\text{OH})_2 \longrightarrow \text{Al}(\text{OH})_3 + \text{CaSO}_4$
7. $\text{H}_2 + \text{O}_2 \longrightarrow \text{H}_2\text{O}$
8. $\text{Cl}_2 + \text{NaBr} \longrightarrow \text{NaCl} + \text{Br}_2$
9. $\text{Zn} + \text{CuSO}_4 \longrightarrow \text{ZnSO}_4 + \text{Cu}$
10. $\text{KClO}_3 \longrightarrow \text{KCl} + \text{O}_2$
11. $\text{H}_2\text{O} + \text{Fe} \longrightarrow \text{Fe}_2\text{O}_3 + \text{H}_2$
12. $\text{Ca}(\text{OH})_2 + \text{HNO}_3 \longrightarrow \text{Ca}(\text{NO}_3)_2 + \text{H}_2\text{O}$
13. $\text{Na}_2\text{O} + \text{CO}_2 \longrightarrow \text{Na}_2\text{CO}_3$
14. $\text{H}_2 + \text{N}_2 \longrightarrow \text{NH}_3$

Balance the following chemical equations.

15. $\text{HgO} + \text{Cl}_2 \longrightarrow \text{HgCl} + \text{O}_2$
16. $\text{Na} + \text{Br}_2 \longrightarrow \text{NaBr}$
17. $\text{KClO}_3 \longrightarrow \text{KCl} + \text{O}_2$
18. $\text{Ca(OH)}_2 + \text{HNO}_3 \longrightarrow \text{Ca(NO}_3)_2 + \text{H}_2\text{O}$
19. $\text{Al}_2\text{O}_3 \longrightarrow \text{Al} + \text{O}_2$
20. $\text{CuCl}_2 + \text{H}_2\text{S} \longrightarrow \text{CuS} + \text{HCl}$
21. $\text{Cl}_2 + \text{NaBr} \longrightarrow \text{NaCl} + \text{Br}_2$
22. $\text{NaOH} + \text{HCl} \longrightarrow \text{NaCl} + \text{H}_2\text{O}$
23. $\text{Na}_2\text{O} + \text{CO}_2 \longrightarrow \text{Na}_2\text{CO}_3$
24. $\text{H}_2\text{O} + \text{Fe} \longrightarrow \text{Fe}_2\text{O}_3 + \text{H}_2$