

Identifying and Balancing Reactions

(Honors Chemistry)

<u>Balance the Equation</u>	<u>Name the Reaction</u>
1. $2 \text{H}_2 + 1 \text{O}_2 \rightarrow 2 \text{H}_2\text{O}$	Synthesis/Combustion
2. $1 \text{S}_8 + 12 \text{O}_2 \rightarrow 8 \text{SO}_3$	Synthesis/Combustion
3. $2 \text{HgO} \rightarrow 2 \text{Hg} + 1 \text{O}_2$	Decomposition
4. $1 \text{Zn} + 2 \text{HCl} \rightarrow 1 \text{ZnCl}_2 + 1 \text{H}_2$	Single Replacement
5. $1 \text{BaO} + 1 \text{H}_2\text{O} \rightarrow 1 \text{Ba(OH)}_2$	Synthesis
6. $1 \text{CaCl}_2 + 1 \text{MgBr}_2 \rightarrow 1 \text{MgCl}_2 + 1 \text{CaBr}_2$	Double Replacement
7. $1 \text{Cl}_2 + 2 \text{NaI} \rightarrow 2 \text{NaCl} + 1 \text{I}_2$	Single Replacement
8. $4 \text{Fe} + 3 \text{O}_2 \rightarrow 2 \text{Fe}_2\text{O}_3$	Synthesis/Combustion
9. $2 \text{C}_7\text{H}_6\text{O}_2 + 15 \text{O}_2 \rightarrow 14 \text{CO}_2 + 6 \text{H}_2\text{O}$	Combustion
10. $2 \text{Al(NO}_3)_3 + 3 \text{H}_2\text{SO}_4 \rightarrow 1 \text{Al}_2(\text{SO}_4)_3 + 6 \text{HNO}_3$	Double Replacement
11. $2 \text{Fe} + 6 \text{HCl} \rightarrow 2 \text{FeCl}_3 + 3 \text{H}_2$	Single Replacement
12. $2 \text{K} + 1 \text{Br}_2 \rightarrow 2 \text{KBr}$	Synthesis
13. $2 \text{C}_2\text{H}_2 + 5 \text{O}_2 \rightarrow 4 \text{CO}_2 + 2 \text{H}_2\text{O}$	Combustion
14. $2 \text{H}_2\text{O}_2 \rightarrow 2 \text{H}_2\text{O} + 1 \text{O}_2$	Decomposition
15. $1 \text{C}_7\text{H}_{16} + 11 \text{O}_2 \rightarrow 7 \text{CO}_2 + 8 \text{H}_2\text{O}$	Combustion
16. $1 \text{Pb} + 2 \text{CaSO}_4 \rightarrow 2 \text{Ca} + 1 \text{Pb(SO}_4)_2$	Single Replacement
17. $2 \text{KClO}_3 \rightarrow 2 \text{KCl} + 3 \text{O}_2$	Decomposition
18. $4 \text{KClO}_3 \rightarrow 3 \text{KClO}_4 + 1 \text{KCl}$	Decomposition
19. $1 \text{P}_4\text{O}_{10} + 6 \text{H}_2\text{O} \rightarrow 4 \text{H}_3\text{PO}_4$	Synthesis
20. $4 \text{Sb} + 3 \text{O}_2 \rightarrow 1 \text{Sb}_4\text{O}_6$	Synthesis/Combustion
21. $1 \text{C}_3\text{H}_8 + 5 \text{O}_2 \rightarrow 3 \text{CO}_2 + 4 \text{H}_2\text{O}$	Combustion
22. $3 \text{N}_2 + 4 \text{MgBr}_2 \rightarrow 2 \text{Mg}_2\text{N}_3 + 4 \text{Br}_2$	Single Replacement
23. $1 \text{Sn(CO}_3)_2 + 4 \text{NaClO}_3 \rightarrow 1 \text{Sn(ClO}_3)_4 + 2 \text{Na}_2\text{CO}_3$	Double Replacement
24. $2 \text{Br}_2 + 1 \text{PbO}_2 \rightarrow 1 \text{PbBr}_4 + 1 \text{O}_2$	Single Replacement

25. $3 \text{ Fe} + 4 \text{ H}_2\text{O} \rightarrow 1 \text{ Fe}_3\text{O}_4 + 4 \text{ H}_2$	Single Replacement
26. $1 \text{ N}_2 + 3 \text{ H}_2 \rightarrow 2 \text{ NH}_3$	Synthesis
27. $2 \text{ N}_2 + 1 \text{ O}_2 \rightarrow 2 \text{ N}_2\text{O}$	Synthesis/Combustion
28. $1 \text{ CaSO}_4 + 2 \text{ NaCl} \rightarrow 1 \text{ CaCl}_2 + 1 \text{ Na}_2\text{SO}_4$	Double Replacement
29. $2 \text{ K} + 2 \text{ H}_2\text{O} \rightarrow 2 \text{ KOH} + 1 \text{ H}_2$	Single Replacement
30. $2 \text{ H}_3\text{PO}_4 \rightarrow 1 \text{ H}_4\text{P}_2\text{O}_7 + 1 \text{ H}_2\text{O}$	Decomposition
31. $1 \text{ C}_6\text{H}_{12}\text{O}_6 + 6 \text{ O}_2 \rightarrow 6 \text{ CO}_2 + 6 \text{ H}_2\text{O}$	Combustion
32. $1 \text{ SiC} + 2 \text{ Cl}_2 \rightarrow 1 \text{ SiCl}_4 + 1 \text{ C}$	Single Replacement
33. $2 \text{ NH}_4\text{NO}_3 + 1 \text{ MgS} \rightarrow 1 \text{ Mg(NO}_3)_2 + 1 \text{ (NH}_4)_2\text{S}$	Double Replacement
34. $1 \text{ MgCO}_3 \rightarrow 1 \text{ MgO} + 1 \text{ CO}_2$	Decomposition
35. $2 \text{ Al} + 3 \text{ FeO} \rightarrow 1 \text{ Al}_2\text{O}_3 + 3 \text{ Fe}$	Single Replacement
36. $1 \text{ Cr(NO}_3)_3 + 3 \text{ KI} \rightarrow 1 \text{ CrI}_3 + 3 \text{ KNO}_3$	Double Replacement
37. $1 \text{ P}_4 + 5 \text{ O}_2 \rightarrow 2 \text{ P}_2\text{O}_5$	Synthesis/Combustion
38. $1 \text{ K}_2\text{O} + 1 \text{ H}_2\text{O} \rightarrow 2 \text{ KOH}$	Synthesis
39. $4 \text{ Al} + 3 \text{ O}_2 \rightarrow 2 \text{ Al}_2\text{O}_3$	Synthesis/Combustion
40. $1 \text{ Ca(OH)}_2 + 2 \text{ HCl} \rightarrow 1 \text{ CaCl}_2 + 2 \text{ H}_2\text{O}$	Double Replacement
41. $1 \text{ C} + 1 \text{ H}_2\text{O} \rightarrow 1 \text{ CO} + 1 \text{ H}_2$	Single Replacement
42. $2 \text{ H}_3\text{AsO}_4 \rightarrow 1 \text{ As}_2\text{O}_5 + 3 \text{ H}_2\text{O}$	Decomposition
43. $1 \text{ Li}_2\text{O} + 1 \text{ H}_2\text{O} \rightarrow 2 \text{ LiOH}$	Synthesis
44. $1 \text{ CH}_4 + 2 \text{ O}_2 \rightarrow 1 \text{ CO}_2 + 2 \text{ H}_2\text{O}$	Combustion
45. $2 \text{ Fe(OH)}_3 \rightarrow 1 \text{ Fe}_2\text{O}_3 + 3 \text{ H}_2\text{O}$	Decomposition
46. $1 \text{ N}_2\text{O}_5 + 1 \text{ H}_2\text{O} \rightarrow 2 \text{ HNO}_3$	Synthesis
47. $2 \text{ Al} + 6 \text{ HCl} \rightarrow 2 \text{ AlCl}_3 + 3 \text{ H}_2$	Single Replacement
48. $6 \text{ H}_3\text{BO}_3 \rightarrow 1 \text{ H}_4\text{B}_6\text{O}_{11} + 7 \text{ H}_2\text{O}$	Decomposition
49. $3 \text{ Mg} + 1 \text{ N}_2 \rightarrow 1 \text{ Mg}_3\text{N}_2$	Synthesis/Combustion
50. $2 \text{ Pb(NO}_3)_2 \rightarrow 2 \text{ PbO} + 4 \text{ NO}_2 + 1 \text{ O}_2$	Decomposition