



OBJECTIVE 8:

Identify patterns in synthesis, decomposition, displacement reactions and the reactions of acids

SUCCESS CRITERIA 1:

I can **identify** whether a chemical reaction is a synthesis, decomposition, single displacement or double displacement reaction

Determine the type of chemical reaction occurring and write it in the box provided.

1. $2\text{Mg (s)} + \text{O}_2 \text{ (g)} \rightarrow 2\text{MgO (s)}$
2. $\text{NaCl (aq)} + \text{AgNO}_3 \text{ (aq)} \rightarrow \text{AgCl (s)} + \text{NaNO}_3 \text{ (aq)}$
3. $2\text{H}_2\text{O}_2 \text{ (aq)} \rightarrow 2\text{H}_2\text{O (l)} + \text{O}_2 \text{ (g)}$
4. $\text{Fe (s)} + \text{CuSO}_4 \text{ (aq)} \rightarrow \text{Cu (s)} + \text{FeSO}_4 \text{ (aq)}$
5. $\text{Ca (s)} + \text{Cl}_2 \text{ (g)} \rightarrow \text{CaCl}_2 \text{ (s)}$
6. $2\text{KBr (aq)} + \text{BaI}_2 \text{ (aq)} \rightarrow \text{BaBr}_2 \text{ (aq)} + 2\text{KI (aq)}$
7. $2\text{Al}_2\text{O}_3 \text{ (s)} \rightarrow 4\text{Al (s)} + 3\text{O}_2 \text{ (g)}$
8. $\text{Zn (s)} + 2\text{HCl (aq)} \rightarrow \text{ZnCl}_2 \text{ (aq)} + \text{H}_2 \text{ (g)}$
9. $\text{N}_2 \text{ (g)} + 3\text{H}_2 \text{ (g)} \rightarrow 2\text{NH}_3 \text{ (g)}$
10. $\text{Na}_2\text{CO}_3 \text{ (aq)} + \text{CaCl}_2 \text{ (aq)} \rightarrow \text{CaCO}_3 \text{ (s)} + 2\text{NaCl (aq)}$
11. $\text{H}_2\text{CO}_3 \text{ (aq)} \rightarrow \text{CO}_2 \text{ (g)} + \text{H}_2\text{O (l)}$
12. $\text{Pb(NO}_3)_2 \text{ (aq)} + 2\text{KI (aq)} \rightarrow \text{PbI}_2 \text{ (s)} + 2\text{KNO}_3 \text{ (aq)}$
13. $\text{CuO (s)} + \text{H}_2 \text{ (g)} \rightarrow \text{Cu (s)} + \text{H}_2\text{O (g)}$
14. $2\text{P (s)} + 3\text{Cl}_2 \text{ (g)} \rightarrow 2\text{PCl}_3 \text{ (s)}$
15. $\text{Ba(OH)}_2 \text{ (aq)} + \text{H}_2\text{SO}_4 \text{ (aq)} \rightarrow \text{BaSO}_4 \text{ (s)} + 2\text{H}_2\text{O (l)}$
16. $\text{NH}_4\text{Cl (s)} \rightarrow \text{NH}_3 \text{ (g)} + \text{HCl (g)}$
17. $\text{Fe (s)} + \text{ZnSO}_4 \text{ (aq)} \rightarrow \text{Zn (s)} + \text{FeSO}_4 \text{ (aq)}$
18. $2\text{Na (s)} + \text{Br}_2 \text{ (l)} \rightarrow 2\text{NaBr (s)}$
19. $\text{HCl (aq)} + \text{NaOH (aq)} \rightarrow \text{NaCl (aq)} + \text{H}_2\text{O (l)}$
20. $\text{CaCO}_3 \text{ (s)} \rightarrow \text{CaO (s)} + \text{CO}_2 \text{ (g)}$