

## Exercise 2: Chemical Reactions – Balancing Equations

- $2 \text{Cu} + \text{O}_2 \rightarrow 2 \text{CuO}$
- $2 \text{H}_2\text{O} \rightarrow 2\text{H}_2 + \text{O}_2$
- $2 \text{Fe} + 3\text{H}_2\text{O} \rightarrow \text{Fe}_2\text{O}_3 + 3\text{H}_2$
- $2 \text{AsCl}_3 + 3\text{H}_2\text{S} \rightarrow \text{As}_2\text{S}_3 + 6\text{HCl}$
- $\text{Fe}_2\text{O}_{3(\text{s})} + 3\text{H}_{2(\text{g})} \rightarrow 2\text{Fe}_{(\text{s})} + 3\text{H}_2\text{O}_{(\text{l})}$
- $\text{CaCO}_{3(\text{s})} \rightarrow \text{CaO}_{(\text{s})} + \text{CO}_{2(\text{g})}$
- $8\text{Fe}_{(\text{s})} + \text{S}_{8(\text{s})} \rightarrow 8\text{FeS}_{(\text{s})}$
- $\text{H}_2\text{S}_{(\text{aq})} + 2\text{KOH}_{(\text{aq})} \rightarrow 2\text{H}_2\text{O}_{(\text{l})} + \text{K}_2\text{S}$
- $2\text{NaCl}_{(\text{l})} \rightarrow 2\text{Na}_{(\text{l})} + \text{Cl}_{2(\text{g})}$
- $2\text{Al}_{(\text{s})} + 3\text{H}_2\text{SO}_{4(\text{aq})} \rightarrow \text{Al}_2(\text{SO}_4)_{3(\text{aq})} + 3\text{H}_{2(\text{g})}$
- $3\text{NH}_4\text{OH}_{(\text{aq})} + \text{H}_3\text{PO}_{4(\text{aq})} \rightarrow (\text{NH}_4)_3\text{PO}_{4(\text{aq})} + 3\text{H}_2\text{O}_{(\text{g})}$
- $4\text{Al}_{(\text{s})} + 3\text{O}_{2(\text{g})} \rightarrow 2\text{Al}_2\text{O}_{3(\text{s})}$
- $2\text{SO}_{2(\text{g})} + \text{O}_{2(\text{g})} \rightarrow 2\text{SO}_{3(\text{g})}$
- $\text{S}_{8(\text{s})} + 8\text{O}_{2(\text{g})} \rightarrow 8\text{SO}_{2(\text{g})}$
- $\text{C}_{(\text{s})} + \text{CO}_{2(\text{g})} \rightarrow 2\text{CO}_{(\text{g})}$
- $2\text{KClO}_{3(\text{s})} \rightarrow 3\text{O}_{2(\text{g})} + 2\text{KCl}_{(\text{s})}$
- $\text{MnO}_{2(\text{s})} + 4\text{HCl}_{(\text{aq})} \rightarrow \text{MnCl}_{2(\text{aq})} + \text{Cl}_{2(\text{g})} + 2\text{H}_2\text{O}_{(\text{l})}$
- $\text{Fe}_2\text{O}_{3(\text{s})} + 3\text{CO}_{(\text{g})} \rightarrow 2\text{Fe}_{(\text{s})} + 3\text{CO}_{2(\text{g})}$
- $2\text{F}_{2(\text{g})} + 2\text{H}_2\text{O}_{(\text{l})} \rightarrow 4\text{HF}_{(\text{g})} + \text{O}_{2(\text{g})}$
- $6\text{HCl}_{(\text{aq})} + \text{Fe}_2\text{O}_{3(\text{s})} \rightarrow 2\text{FeCl}_{3(\text{aq})} + 3\text{H}_2\text{O}_{(\text{l})}$