

Balancing Equations

Foundation

1. $\text{S} + \text{O}_2 \rightarrow \text{SO}_3$
2. $\text{N}_2 + \text{O}_2 \rightarrow \text{N}_2\text{O}$
3. $\text{K}_2\text{O} + \text{H}_2\text{O} \rightarrow \text{KOH}$
4. $\text{N}_2\text{O}_3 + \text{H}_2\text{O} \rightarrow \text{HNO}_2$

Intermediate

5. $\text{HNO}_3 + \text{P}_2\text{O}_5 \rightarrow \text{N}_2\text{O}_5 + \text{HPO}_3$
6. $\text{NaHCO}_3 \rightarrow \text{Na}_2\text{CO}_3 + \text{CO}_2 + \text{H}_2\text{O}$
7. $\text{Al}(\text{OH})_3 + \text{NaOH} \rightarrow \text{NaAlO}_2 + \text{H}_2\text{O}$
8. $\text{Ca}(\text{OH})_2 + \text{H}_3\text{PO}_4 \rightarrow \text{CaHPO}_4 + \text{H}_2\text{O}$
9. Write a **balanced** equation for the reaction between magnesium and hydrochloric acid. Magnesium chloride, MgCl_2 and a gas is produced.
10. Aluminium displaces copper from copper (II) oxide (CuO). Pure copper and aluminium oxide (Al_2O_3) is produced. Write a balanced equation for this reaction.

Higher

11. $\text{Pb}(\text{NO}_3)_2 \rightarrow \text{PbO} + \text{NO}_2 + \text{O}_2$
12. $\text{Ca}(\text{OH})_2 + \text{CO}_2 \rightarrow \text{Ca}(\text{HCO}_3)_2$
13. $\text{Ca}_3(\text{PO}_4)_2 + \text{C} \rightarrow \text{Ca}_3\text{P}_2 + \text{CO}$
14. $\text{Si}_2\text{H}_3 + \text{O}_2 \rightarrow \text{SiO}_2 + \text{H}_2\text{O}$
15. Write the **balanced** equation for the combustion of butane.
16. Write a **balanced** equation for the neutralisation of calcium hydroxide, $\text{Ca}(\text{OH})_2$, using nitric acid.