

Activity 3C: Balancing equations

Ans p. 6

1. Balance the following equations:

- a. $\text{H}_2(\text{g}) + \text{O}_2(\text{g}) \rightarrow \text{H}_2\text{O}(\ell)$
- b. $\text{Fe}_2\text{O}_3(\text{s}) + \text{C}(\text{s}) \rightarrow \text{Fe}(\text{s}) + \text{CO}(\text{g})$
- c. $\text{N}_2(\text{g}) + \text{H}_2(\text{g}) \rightarrow \text{NH}_3(\text{g})$
- d. $\text{C}(\text{s}) + \text{O}_2(\text{g}) \rightarrow \text{CO}(\text{g})$
- e. $\text{C}_3\text{H}_8(\text{g}) + \text{O}_2(\text{g}) \rightarrow \text{CO}_2(\text{g}) + \text{H}_2\text{O}(\text{g})$
- f. $\text{PbO}(\text{s}) + \text{C}(\text{s}) \rightarrow \text{Pb}(\text{s}) + \text{CO}_2(\text{g})$

2. Write the following equations as balanced net ionic equations.

- a. $\text{BaCl}_2(\text{aq}) + \text{Na}_2\text{SO}_4(\text{aq}) \rightarrow \text{BaSO}_4(\text{s}) + 2\text{NaCl}(\text{aq})$
- b. $2\text{HNO}_3(\text{aq}) + \text{Ba(OH)}_2(\text{s}) \rightarrow \text{Ba(NO}_3)_2(\text{aq}) + 2\text{H}_2\text{O}(\ell)$

Activity 3C: Balancing equations (page 5)

1. a. $2\text{H}_2(\text{g}) + \text{O}_2(\text{g}) \rightarrow 2\text{H}_2\text{O}(\ell)$
 b. $\text{Fe}_2\text{O}_3(\text{s}) + 3\text{C}(\text{s}) \rightarrow 2\text{Fe}(\text{s}) + 3\text{CO}(\text{g})$
 c. $\text{N}_2(\text{g}) + 3\text{H}_2(\text{g}) \rightarrow 2\text{NH}_3(\text{g})$
 d. $2\text{C}(\text{s}) + \text{O}_2(\text{g}) \rightarrow 2\text{CO}(\text{g})$
 e. $\text{C}_3\text{H}_8(\text{g}) + 5\text{O}_2(\text{g}) \rightarrow 3\text{CO}_2(\text{g}) + 4\text{H}_2\text{O}(\text{g})$
 f. $2\text{PbO}(\text{g}) + \text{C}(\text{s}) \rightarrow 2\text{Pb}(\text{s}) + \text{CO}_2(\text{g})$
2. a. $\text{Ba}^{2+}(\text{aq}) + \text{SO}_4^{2-}(\text{aq}) \rightarrow \text{BaSO}_4(\text{s})$
 b. $2\text{H}^+(\text{g}) + 2\text{OH}^-(\text{aq}) \rightarrow 2\text{H}_2\text{O}(\ell)$
 Or: $\text{H}^+(\text{g}) + \text{OH}^-(\text{aq}) \rightarrow \text{H}_2\text{O}(\ell)$