



# Chemical Changes

## Multiple Choice Questions

### Set 3

Tick **one** box.

1. What is the general equation for the reaction between an acid and a metal?
  - A. acid + metal  $\rightarrow$  salt + hydrogen
  - B. acid + metal  $\rightarrow$  salt + water
  - C. acid + metal  $\rightarrow$  salt + water + carbon dioxide
  - D. acid + metal  $\rightarrow$  salt
  
2. Which of the following is related to the reactivity of a metal?
  - A. the tendency of the metal to form negative ions
  - B. the tendency of the metal to form positive ions
  - C. the tendency of the metal to neutralise an acid
  - D. the tendency of the metal to neutralise an alkali
  
3. Iron can be extracted from iron oxide using carbon.  
Which substance is reduced and which substance is oxidised?
  - A. carbon is oxidised and iron is reduced
  - B. iron is oxidised and carbon is reduced
  - C. iron and carbon are both oxidised
  - D. iron and carbon are both reduced
  
4. What type of salt is produced when a metal reacts with sulfuric acid?
  - A. chloride
  - B. nitrate
  - C. sulfate
  - D. sulfide
  
5. Which process is used to produce a dry sample of a soluble salt from a solution of the salt?
  - A. crystallisation
  - B. distillation
  - C. electrolysis
  - D. filtration

6. What colour is produced when universal indicator is added to a strong alkali?

- A. green
- B. purple
- C. red
- D. yellow

7. Which of the following equations represents a neutralisation reaction?

- A.  $\text{H}^+ + \text{Cl}^- \rightarrow \text{HCl}$
- B.  $\text{H}^+ + \text{OH}^- \rightarrow \text{H}_2\text{O}$
- C.  $\text{H}^+ + \text{SO}_4^{2-} \rightarrow \text{H}_2\text{SO}_4$
- D.  $\text{H}^+ + \text{NO}_3^- \rightarrow \text{HNO}_3$

8. Why can aluminium not be extracted from its compounds by reduction with carbon?

- A. aluminium is insoluble in water
- B. aluminium is less reactive than carbon
- C. aluminium is more reactive than carbon
- D. aluminium is very expensive

9. What happens to positive ions during electrolysis?

- A. they move randomly in all directions
- B. they move towards the anode
- C. they move towards the cathode
- D. they stay in the middle of the two electrodes

10. What is produced at the anode in the electrolysis of an aqueous solution that does not contain halide ions?

- A. carbon dioxide
- B. hydrogen
- C. nitrogen
- D. oxygen