

# Test yourself

## Chapter 10

These questions are about the Period 3 elements and their compounds:

- sodium (Na)
- magnesium (Mg)
- aluminium (Al)
- silicon (Si)
- phosphorus (P)
- sulfur (S)
- chlorine (Cl)
- argon (Ar)

- 1 What is the trend in atomic radii across Period 3?
- A** The atomic radii decrease across the period
  - B** The atomic radii increase across the period
  - C** The atomic radii decrease across the period to Group 4 then start increasing
  - D** The atomic radii increase across the period to Group 4 then start decreasing

- 2** What is the trend in ionic radii across Period 3?
- A** The ionic radii decrease across the period to Group 4 then start increasing
  - B** The ionic radii increase across the period to Group 4 then start decreasing
  - C** The ionic radii decrease across the period to Group 4 then increase sharply before decreasing again
  - D** The ionic radii increase across the period to Group 4 then decrease sharply before increasing again
- 3** Which element in Period 3 has the highest melting point?
- A** Sodium
  - B** Aluminium
  - C** Silicon
  - D** Phosphorus
- 4** Which element in Period 3 is the best electrical conductor?
- A** Sodium
  - B** Magnesium
  - C** Aluminium
  - D** Silicon
- 5** How many elements in Period 3 have a giant molecular structure?
- A** 1
  - B** 3
  - C** 4
  - D** 5

- 6 What is the formula of the oxide of silicon?
- A SiO
  - B SiO<sub>2</sub>
  - C Si<sub>2</sub>O
  - D Si<sub>2</sub>O<sub>3</sub>
- 7 Which element in Period 3 has the highest 1st ionisation energy?
- A Sodium
  - B Silicon
  - C Sulfur
  - D Argon
- 8 Which oxide of a Period 3 element is amphoteric?
- A Magnesium oxide
  - B Aluminium oxide
  - C Phosphorus(V) oxide
  - D Sulfur(VI) oxide
- 9 How many of the oxides of Period 3 elements will conduct electricity when molten?
- A 1
  - B 3
  - C 5
  - D 7

**10** Which gas is given off when phosphorus(V) chloride reacts with water?

- A** Chlorine
- B** Hydrogen
- C** Oxygen
- D** Hydrogen chloride