



Bonding, Structure and Properties of Matter

Multiple Choice Questions

Set 1

You may use the periodic table to answer these questions.

Tick **one** box.

1. What type of bond is formed when a metal reacts with a non-metal?
 - A. covalent bond ☐
 - B. hydrogen bond ☐
 - C. ionic bond ☐
 - D. metallic bond ☐

2. What name is given to the change of state in which a substance changes from a gas to a liquid?
 - A. melting ☐
 - B. freezing ☐
 - C. evaporation ☐
 - D. condensation ☐

3. What is the chemical symbol for a sodium ion?
 - A. Na^{2-} ☐
 - B. Na^- ☐
 - C. Na^+ ☐
 - D. Na^{2+} ☐

4. Which of the following compounds contains covalent bonds?
 - A. magnesium oxide (MgO) ☐
 - B. ammonia (NH_3) ☐
 - C. potassium bromide (KBr) ☐
 - D. calcium chloride (CaCl_2) ☐

5. What name is given to a mixture of metals?
 - A. alloy ☐
 - B. allotrope ☐
 - C. isotope ☐
 - D. polymer ☐



6. Which of the following is **not** a property of ionic compounds?

- A. high melting point
- B. low boiling point
- C. conduct electricity when melted
- D. have regular structures

☐
☐
☐
☐

7. Which type of substance has weak intermolecular forces?

- A. giant ionic lattice
- B. metal
- C. polymer
- D. small molecule

☐
☐
☐
☐

8. Which of the following substances has a giant covalent structure?

- A. water
- B. diamond
- C. sodium chloride
- D. chlorine

☐
☐
☐
☐

9. What type of bonding occurs between the atoms in graphite?

- A. covalent bonding
- B. hydrogen bonding
- C. ionic bonding
- D. metallic bonding

☐
☐
☐
☐

10. A cube has a side length of 0.5cm. What is the surface area of the cube?

- A. 0.125cm^2
- B. 0.5cm^2
- C. 1.5cm^2
- D. 3cm^2

☐
☐
☐
☐