



Bonding, Structure and Properties of Matter

Multiple Choice Questions

Set 2

You may use the periodic table to answer these questions.

Tick **one** box.

1. Which statement about covalent bonds is **not** correct?

- A. they occur between metal atoms only
- B. pairs of electrons are shared between atoms
- C. they can be represented by dot and cross diagrams
- D. they are found in small molecules

2. In which state of matter are the particles arranged close together in fixed positions?

- A. gas
- B. liquid
- C. solid
- D. solution

3. Which of the following compounds contains ionic bonds?

- A. water
- B. sodium chloride
- C. ammonia
- D. carbon dioxide

4. Which of the following has the highest melting point?

- A. water
- B. carbon dioxide
- C. diamond
- D. methane

5. Which of the following structures conducts electricity when solid?

- A. small molecules
- B. polymers
- C. metals
- D. giant ionic lattices



6. Why do ionic compounds have high melting points?
- A. elements are added that distort the layers in the structure
 - B. large amounts of energy are needed to overcome the electrostatic forces of attraction
 - C. they have weak intermolecular forces
 - D. there are many delocalised electrons between the atoms
7. Which of the following is **not** a small molecule?
- A. graphite
 - B. methane
 - C. oxygen
 - D. water
8. What type of structure is silicon dioxide?
- A. giant covalent structure
 - B. giant ionic lattice
 - C. polymer
 - D. small molecule
9. Which of the following is **not** an allotrope of carbon?
- A. Buckminsterfullerene
 - B. diamond
 - C. graphene
 - D. nylon
10. A cube has a side length of 0.2cm. What is the volume of the cube?
- A. 0.008cm^3
 - B. 0.04cm^3
 - C. 0.24cm^3
 - D. 0.6cm^3