



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

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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 ☐