



Bonding, Structure and Properties of Matter

Multiple Choice Questions

Set 4

You may use the periodic table to answer these questions.

Tick **one** box.

1. What type of bonding involves delocalised electrons?
 - A. covalent bonding ☐
 - B. hydrogen bonding ☐
 - C. ionic bonding ☐
 - D. metallic bonding ☐

2. Which symbol is used in a chemical equation to represent a substance dissolved in water?
 - A. (aq) ☐
 - B. (d) ☐
 - C. (l) ☐
 - D. (w) ☐

3. What happens to the electrons in ionic bonding?
 - A. electrons are transferred from one atom to another ☐
 - B. pairs of electrons are shared between atoms ☐
 - C. electrons are delocalised and move throughout the structure ☐
 - D. electrons are released into the surroundings ☐

4. Which of the following pairs of elements can form a covalent bond?
 - A. sodium and oxygen ☐
 - B. magnesium and oxygen ☐
 - C. hydrogen and chlorine ☐
 - D. magnesium and chlorine ☐

5. Which of the following is **not** a property of a typical metal.
 - A. they are brittle ☐
 - B. they conduct electricity ☐
 - C. they can be bent and shaped ☐
 - D. they have high melting points ☐



6. Complete the sentence: Ionic compounds can conduct electricity when...

A. solid

☐

B. dissolved in water

☐

C. heated to 100°C

☐

D. broken into smaller pieces

☐

7. Which of the following is a property of small molecules?

A. they are hard

☐

B. they can conduct electricity

☐

C. they have a low boiling point

☐

D. they are solid at room temperature

☐

8. What does the letter n represent in the formula for a polymer?

A. the number of carbon atoms

☐

B. the number of covalent bonds

☐

C. the number of repeating units

☐

D. the number of intermolecular forces

☐

9. How many covalent bonds does each carbon atom form in diamond?

A. 1

☐

B. 2

☐

C. 3

☐

D. 4

☐

10. Which statement about carbon nanotubes is **not** correct?

A. they have a high tensile strength

☐

B. they have low length to diameter ratios

☐

C. they have a cylindrical shape

☐

D. they can be used in electronics

☐