

## C2 Bonding Quiz

1. Describe how potassium atoms are formed from potassium ions
2. Why are alloys harder than pure metals?
3. Why is methane a gas at room temperature?
4. Name the type of bond present in methane.
5. What is a covalent bond?
6. What is an ionic bond?
7. What is a metallic bond?
8. What are nanoparticles?
9. Describe in terms of electrons what happens when Magnesium reacts with iodine.
10. Explain why a high temperature is needed to melt ionic substances.
11. Explain why metals have high melting points
12. Explain why carbon nanotubes and graphite can conduct electricity

13. Why does sodium chloride solution conduct electricity?
14. Explain why metals are good conductors of electricity and why this conductivity increases from Na to Al
15. Explain why NaCl melts when heated and why molten NaCl conducts electricity
16. Why is the melting point of diamond higher than that of NaCl?
17. Why is the melting point of NaCl high whereas paraffin wax melts easily?
18. The formula of ammonia is  $\text{NH}_3$ . What does this tell you about ammonia?
19. How can the shape of a metal be changed without the metal breaking?
20. What property of diamond makes it suitable for use on the cutting drill bit?
21. Draw a dot and cross diagram for MgO and  $\text{NH}_3$ .
22. Why does graphite rub off a pencil onto paper?
23. Explain why a thermosoftening polymer is not suitable for packaging hot food.
24. Explain why some polymers are thermosetting

25. Poly(ethene) can be made with different properties. The properties depend on the conditions used when poly(ethene) is made. Suggest **two** conditions which could be changed when poly(ethene) is made.
26. Describe, as fully as you can, the structure and bonding in diamond and explain why it does not conduct electricity.
27. Explain why silicon dioxide is a suitable material for lining furnaces.