

# GCSE Chemistry Learning Checklist

## Unit 2b: Bonding

How Bonding and Structure Are Related to the Properties of Substances

I can...		After Lesson	After Revision
1	..name the three states of matter.		
2	..name the changes of state that take place at the melting point of a substance.		
3	..name the changes of state that take place at the boiling point of a substance.		
4	..represent the three states of matter using a simple particle model.		
5	..can explain melting, boiling, freezing and condensing using particle theory		
6	..describe how the amount of energy needed to change the state of a substance relates to the strength of the forces between the particles of the substance.		
7	(HT only)..describe the limitations of the particle model being used to represent the three states of matter.		
8	..predict the states of substances at different temperatures given appropriate data.		
9	..explain the different temperatures at which changes of state occur in terms of energy transfers and types of bonding.		
10	..recognise that atoms themselves do not have the bulk properties of materials.		
11	(HT only)..explain the limitations of the particle theory in relation to changes of state.		
12	..recall the state symbols used in chemical equations to represent the three states of matter and aqueous solutions		
13	.. include appropriate state symbols when writing chemical equations.		
14	..describe the structure of ionic compounds.		

15	..explain why ionic compounds have high melting points and high boiling points.		
16	..explain why ionic compounds conduct electricity when melted or dissolved in water.		
17	..describe the general properties of small molecules		
18	..explain what happens when a substance consisting of small molecules melts or boils.		
19	..explain why larger molecules have higher melting and boiling points.		
20	..explain why small molecules do not conduct electricity.		
21	..describe how the atoms in a polymer are linked to other atoms.		
22	..explain why polymers are solids at room temperature.		
23	..recognise polymers from diagrams showing their bonding and structure.		
24	.. give some examples of giant covalent structures.		
25	..describe the general properties of giant covalent structures		
26	..describe how the atoms in a giant covalent structure are linked to other atoms.		
27	..explain what must happen to the bonds in order to melt or boil a giant covalent structure.		
28	..recognise giant covalent structures from diagrams showing their bonding and structure.		
29	..describe the structure of metals.		
30	..explain why most metals have high melting and boiling points.		
31	..explain why metals can be bent and shaped.		
32	..explain why pure metals are mixed with other elements to make alloys.		
33	..explain why alloys are harder than pure metals.		
34	..explain why metals are good conductors of electricity.		
35	..explain why metals are good conductors of thermal energy.		

