Bonding, Structure and the Properties of Matter

Specification statement These are the bits the exam board wants you to know, make sure you can do all of these…	**Self-assessment**		
	First review 4-7 months before exam	**Second review** 1-2 months before exam	**Final review** Week before exam
I can represent a solid, a liquid and a gas by drawing the arrangement of atoms	☺ 😐 ☹	☺ 😐 ☹	☺ 😐 ☹
I can recall that energy is needed to change state	☺ 😐 ☹	☺ 😐 ☹	☺ 😐 ☹
I can predict the state of a substance at a given temperature	☺ 😐 ☹	☺ 😐 ☹	☺ 😐 ☹
I can use appropriate state symbol in an equation	☺ 😐 ☹	☺ 😐 ☹	☺ 😐 ☹
I can recall that ionic bonding occurs between a metal and a non-metal	☺ 😐 ☹	☺ 😐 ☹	☺ 😐 ☹
I can describe the formation of ions	☺ 😐 ☹	☺ 😐 ☹	☺ 😐 ☹
I can recall that metals will go on to form positive ions	☺ 😐 ☹	☺ 😐 ☹	☺ 😐 ☹
I can recall the non-metals will go on to form negative ions	☺ 😐 ☹	☺ 😐 ☹	☺ 😐 ☹
I can describe the location of metals and non-metals on the periodic table	☺ 😐 ☹	☺ 😐 ☹	☺ 😐 ☹
I can describe ionic bonding as the strong electrostatic attraction between oppositely charged ions	☺ 😐 ☹	☺ 😐 ☹	☺ 😐 ☹
I can draw dot and cross diagrams to show ionic bonding between group 1 and group 2 metals and group 6 and group 7 non-metals.	☺ 😐 ☹	☺ 😐 ☹	☺ 😐 ☹
I can recall that covalent bonding occurs between 2 non-metals	☺ 😐 ☹	☺ 😐 ☹	☺ 😐 ☹
I can represent the bonding in covalent compounds as a dot and cross diagram (hydrogen, chlorine, oxygen, nitrogen, hydrogen chloride, ammonia and methane)	☺ 😐 ☹	☺ 😐 ☹	☺ 😐 ☹
I can draw covalent compounds using lines to represent electron pairs	☺ 😐 ☹	☺ 😐 ☹	☺ 😐 ☹
I can recall the names and formula of common covalent compounds	☺ 😐 ☹	☺ 😐 ☹	☺ 😐 ☹
I can recall that covalent compounds can be small and simple or giant.	☺ 😐 ☹	☺ 😐 ☹	☺ 😐 ☹
I can work out the formula of a compound from a picture	☺ 😐 ☹	☺ 😐 ☹	☺ 😐 ☹
I can explain how strong metallic bonds arise	☺ 😐 ☹	☺ 😐 ☹	☺ 😐 ☹
I can explain why most metal have high melting and boiling points	☺ 😐 ☹	☺ 😐 ☹	☺ 😐 ☹
I can describe the pattern of atoms in a pure metal	☺ 😐 ☹	☺ 😐 ☹	☺ 😐 ☹
I can explain why pure metals are not used often	☺ 😐 ☹	☺ 😐 ☹	☺ 😐 ☹

I can describe and explain the arrangement of atoms in an alloy	☺ 😐 ☹	☺ 😐 ☹	☺ 😐 ☹
I can describe the advantages of an alloy over pure metals	☺ 😐 ☹	☺ 😐 ☹	☺ 😐 ☹
I can explain how metals conduct electricity	☺ 😐 ☹	☺ 😐 ☹	☺ 😐 ☹
I can describe the structure of an ionic compounds	☺ 😐 ☹	☺ 😐 ☹	☺ 😐 ☹
I can describe the properties of an ionic compounds	☺ 😐 ☹	☺ 😐 ☹	☺ 😐 ☹
I can describe the structure of a simple covalent compounds	☺ 😐 ☹	☺ 😐 ☹	☺ 😐 ☹
I can describe the properties of a simple covalent compounds	☺ 😐 ☹	☺ 😐 ☹	☺ 😐 ☹
I can describe the structure of a giant covalent compounds	☺ 😐 ☹	☺ 😐 ☹	☺ 😐 ☹
I can describe the properties of a giant covalent compounds	☺ 😐 ☹	☺ 😐 ☹	☺ 😐 ☹
I can use experimental data to determine if a compound is ionic, simple covalent or giant covalent.	☺ 😐 ☹	☺ 😐 ☹	☺ 😐 ☹
I can describe the structure of a polymer	☺ 😐 ☹	☺ 😐 ☹	☺ 😐 ☹
I can describe the properties of a polymer	☺ 😐 ☹	☺ 😐 ☹	☺ 😐 ☹
I can describe how the bonding in diamond affects the properties	☺ 😐 ☹	☺ 😐 ☹	☺ 😐 ☹
I can explain the difference in bonding between diamond and graphite	☺ 😐 ☹	☺ 😐 ☹	☺ 😐 ☹
I can describe how the bonding in graphite affects the properties	☺ 😐 ☹	☺ 😐 ☹	☺ 😐 ☹
I can describe how the structure of graphene give it properties that can be useful in the modern world	☺ 😐 ☹	☺ 😐 ☹	☺ 😐 ☹
I can describe how the structure of fullerenes give them properties that can be useful in the modern world	☺ 😐 ☹	☺ 😐 ☹	☺ 😐 ☹
I can describe how the structure of carbon nanotubes give them properties that can be useful in the modern world	☺ 😐 ☹	☺ 😐 ☹	☺ 😐 ☹
I can recall the size of nanoparticles **Chemistry only**	☺ 😐 ☹	☺ 😐 ☹	☺ 😐 ☹
I can recall why nanoparticle have different properties **Chemistry only**	☺ 😐 ☹	☺ 😐 ☹	☺ 😐 ☹
I can describe the uses of nanoparticles **Chemistry only**	☺ 😐 ☹	☺ 😐 ☹	☺ 😐 ☹
I can discuss the advantages and disadvantage of using nanoparticles **Chemistry only**	☺ 😐 ☹	☺ 😐 ☹	☺ 😐 ☹