Attainment Band :	**C2 Structure, bonding and the properties of matter (AQA)**
	Knowledge and Understanding
Yellow Plus/ Yellow	Explain how bonding and properties are linked. Work out the charge on the ions of metal and non-metals from the group number of the element. Work out the empirical formula of an ionic compound. Deduce molecular formula from models and diagrams. Explain how metallic bonding is enabled by the delocalisation of electrons. Use state symbols in chemical equations. Explain when ionic compounds can conduct electricity. Relate the intermolecular forces to the bulk properties of a substance. Explain the strength of covalent bonds. Explain why alloys have different properties to elements. Explain the similarity of graphite to metals.
Blue	Explain how electrons are used in the three types of bonding. Draw a dot and cross diagram for ionic compounds. Explain the limitations of diagrams and models. Draw dot and cross diagrams for small molecules. Explain how metal ions are held together. Explain the changes of state. Relate their melting points to forces between ions. Identify polymers from their unit formula. Explain the properties of giant covalent structures. Describe the purpose of a lead–tin alloy. Explain why diamond differs from graphite. Explain the structure and uses of fullerenes.
Green	Describe three main types of bonding. Represent an ionic bond with a diagram. Identify ionic compounds from structures. Identify single bonds in molecules and structure. Describe that metals form giant structures. Use data to predict the states of substances. Describe the properties of ionic compounds. Identify small molecules from formulae. Recognise giant covalent structures from diagrams. Identify metal elements and metal alloys. Explain how the properties relate to the bonding in diamond. Describe the structure of graphene.
White	Some elements of the above have been achieved