**Topic C5**

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| **A\*** | * Calculate the mass of metal that can be extracted from a mineral. * Work out the percentage composition of a molecule such as a sugar. * Write an equation showing oxide ions losing electrons to the positive electrode to become neutral atoms which then combine to form oxygen molecules. |
| **A** | * Describe what a covalent bond is. * Explain the properties of giant covalent substances. * Explain why metals are formed at the cathode and non-metals formed at the anode. * Write equations showing positively charged metal ions gaining the appropriate number of electrons from the negative electrode to become neutral atoms. |
| **B** | * Identify oxidation and reduction processes when metals are extracted with carbon. * Balance symbol equations. * Explain why molecular substances have low melting points. * Explain why metals conduct electricity, and why ionic salts only conduct electricity when they are molten or dissolved. * Work out the formula of an ionic compound given the charges of the ions. |
| **C** | * Explain what a molecule is. * Write reactions showing extraction of metals by heating the metal oxide with carbon. * Draw a labelled diagram showing metallic bonding. |
| **D** | * Explain why some metals are extracted by heating with carbon, and others by electrolysis. * Recall the properties of metals related to their uses (limited to strength, malleability, melting point and electrical conductivity). |