**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.
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| **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.
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| **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.
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| **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.
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| **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).
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