









Curriculum Overview for Chemistry Year 10 Term 2

<p>Half Term 3: Acids and alkalis Substantive Knowledge: Link oxidation and reduction to chemical reactions. Describe displacement reactions. Link reactions to put metals in order of reactivity. Explain oxidation, reduction and displacement are used to extract metals. HIGHER – oxidation and reduction in terms of electrons. Describe chemical reactions of metals with acids. Identify bases. Describe neutralisation reactions. Name salts. Identify the ions in acids and alkalis. Describe the pH scale. Identify the reaction which causes water to be made in a neutralisation reaction. TRIPLE – Describe how to carry out titrations. Predict the products of molten binary ionic substances. Explain why a mixture is used as an electrolyte. Explain why the positive electrode must be replaced. Explain how ions become atoms at electrodes. Disciplinary Knowledge: REQUIRED PRAC - Describe the practical of soluble salts TRIPLE – Calculate chemical quantities in titrations. Predict the products of aqueous solutions containing ionic compounds. REQUIRED PRAC – Describe the practical of aqueous ionic solutions. HIGHER - Describe reactions using half equations</p>		<p>Skim and Scan of source information Decoding terms Etymology of key terms</p>
		<p>Acid, Alkali, Crystallisation, Displacement, Electrolysis, electrolyte, Extraction, Filtration, Negative electrode (cathode), Neutralisation, Oxidation, pH scale, Positive electrode (anode), Redox reaction, Reduction, Reduction with carbon, Strong acid, Reactivity series Titration (Triple), Universal indicator, Weak acid.</p>
		<p>Baseline Recall questions to start every lesson End of unit assessment</p>
		<p>Revision Card preparation for every lesson Repetition of use of revision cards for end of unit assessment Exam questions - application</p>
<p>Half Term 4: Quantitative chemistry Substantive Knowledge: Describe the law of conservation of mass. Explain change in mass of a reactions. Explain any observed changes in mass in non-enclosed systems given the balanced symbol equation. Describe how chemical amounts are measured in moles, Describe the number of atoms, molecules or ions in a mole of a given substance is the Avogadro constant. Use balanced symbol equations to calculate mass of reactants and products. Balance an equation given the masses of reactants and products. Describe with examples what is meant by a limiting reactant. Explain the effects of a limiting quantity of reactants on the amount of product. Describe how concentration of solutions can be measured. Explain how the mass of a solute and the volume of a solution is related to the concentration of the solution. HT - Describe why it is not always possible to obtain the calculated amount of product. Describe atom economy. Describe how equal amounts in moles of gases occupy the same volume under the same conditions of temperature and pressure. Disciplinary Knowledge: write and balance symbol equations.,calculate relative formula mass. calculate percentage by mass using relative formula masses, how to calculate the mass of one mole of substance, how to calculate the number of moles in a given mass given the relative formula mass of a substance, Change the subject of a mathematical equation, calculate the mass of solute in a given volume of solution of known concentration, calculate percentage yield, calculate percentage atom economy, calculate the volume of gas at room temp and pressure from its mass and relative formula mass, calculate volumes of gaseous reactants and products from a balanced equation and a given volume of a gaseous reactant and product</p>		<p>Skim and Scan of source information Decoding terms Etymology of key terms</p>
		<p>Actual yield, Atom economy, Avogadro constant, Avogadro's law Concentration, Conservation of mass, Limiting reactant, Mole, Percentage by mass, Percentage yield, Relative formula mass, Theoretical yield, Thermal decomposition, uncertainty</p>
		<p>Baseline Recall questions to start every lesson End of unit assessment</p>
		<p>Revision Card preparation for every lesson Repetition of use of revision cards for end of unit assessment Exam questions - application</p>