



<p>This half term: Skills, Knowledge and Understanding to be developed:</p> <ul style="list-style-type: none"> • Skills (students <u>WILL BE ABLE</u> to by the end of the Learning Programme): develop their ability to use ratios by writing chemical formulae and constructing balanced chemical equations. develop their practical skills by preparing a standard solution and carrying out a titration.. • Knowledge (students <u>WILL KNOW</u> by the end of the Learning Programme): the rules of how to assign oxidation states to elements in compounds and ions; the formulas used to calculate moles from mass and concentration; the methods used to calculate masses of reacting solids and concentration of solutions. • Understanding (students <u>WILL DEMONSTRATE THEIR UNDERSTANDING</u> by the end of the Learning Programme): explain if a reaction is a redox reaction, applying their knowledge of moles to answer examination questions. 		<p>Key Terms / Words: formulae, ionic equations, oxidation number, reduction, oxidation, standard solution, titration, moles, concentration, titre.</p>	
<p>LP 1 – Weeks 1 & 2 Learning Outcomes:</p> <ul style="list-style-type: none"> ○ Students will be able to write word equations from a description of a reaction. ○ Students will be able to use formulae of common ions and learn how to write formulae for ionic compounds. ○ Students will be able to write and balance symbol equations and know the different state symbols used. ○ Students will understand the difference between an ionic equation and a balanced symbol equation. ○ Students will be able to use state symbols on ionic equations involving precipitation reactions. 		<p>Success criteria:</p> <ol style="list-style-type: none"> 1. Students will be able to write and balance ionic and full symbol equations. 	<p>Homework LP 1</p> <p>Complete examination questions in booklet.</p>
<p>LP 1 – Weeks 3 & 4 Learning Outcomes:</p> <ul style="list-style-type: none"> ○ Students will know the rules to be able to assign oxidation numbers for elements in different species. ○ Students will understand what is meant by oxidation and reduction in terms of change in oxidation states. <p>Students will apply and demonstrate new knowledge and skills in APP1 assessment</p> <ul style="list-style-type: none"> ○ Students will be able to write numbers in standard form and round off answers to an appropriate number of significant figures. ○ Students will know the relative mass terms (atomic, isotopic, formula, molecular). ○ Students will be able to use A_r values to calculate M_r including substances containing water of crystallisation. ○ Students will be able to calculate % by mass. ○ Students will understand the concept of the mole and begin to calculate the amount of substance given it's mass. ○ Students will further develop their understanding of the mole and rearrange the equation to calculate the mass of substance. ○ Students will understand the relationship between the Avogadro constant and the mole, and use this to calculate the number of particles (atoms, molecules or ions) in a certain mass of a named substance. 	<p style="text-align: center;"> <div style="border: 1px solid blue; padding: 2px; display: inline-block; margin: 5px;">APP1</div> <div style="border: 1px solid red; padding: 2px; display: inline-block; margin: 5px;">Mark</div> </p>	<p>Success criteria:</p> <ol style="list-style-type: none"> 1. Students will be able to use the rules of assigning oxidation states to determine which species has been oxidised and which has been reduced in a reaction. 2. Students will be able to calculate moles, M_r and % by mass. masses of product given the mass of reactants. 	<p>Homework LP 1</p> <p>Complete examination questions in booklet.</p> <p style="text-align: center;">Revise for APP1</p>
<p>LP 1 – Weeks 5 & 6 Learning Outcomes:</p> <ul style="list-style-type: none"> ○ Students will understand the concept of molar ratios in equations. ○ Students will further develop their understanding of molar ratios and calculate reacting masses. ○ Students will be able to calculate the percentage yield of reactions. ○ Students will be able to calculate the actual yield from percentage yield. ○ Students will understand what is meant by the term limiting reagents and identify which reagent is in excess. ○ Students will understand the concept of concentration and use this to calculate the amount of substance in a certain volume. 		<p>Success criteria:</p> <ol style="list-style-type: none"> 1. Students will be able to calculate masses of product given the mass of reactants. 2. Students will be able to calculate the % yield, actual yield, concentration of reactants and products. 	<p>Homework LP 1</p> <p>Complete examination questions in booklet.</p> <p style="text-align: center;">Revise for SA</p>



<p>LP 1 – Weeks 7 & 8 Learning Outcomes:</p> <ul style="list-style-type: none">○ Students will be able to prepare a standard solution of potassiumhydrogenphthalate.○ Students will be able to calculate the concentration of ions in solution.○ Students will be able to convert between molar concentration and mass concentration values.○ Students will be able to carry out a titration to determine the actual concentration of a solution of sodium hydroxide using their prepared standard solution.○ Students will be able to calculate the percentage error involved when weighing and titrating. <p>Students will apply and demonstrate new knowledge and skills in SA assessment.</p>	<p>Assessment →</p> <p>SA</p> <p>Mark</p> <p>Grade</p>	<p>Success criteria:</p> <ol style="list-style-type: none">1. Students will be able to prepare a standard solution.2. Students will be able to carry out a titration and calculate the % error for one titre.3. Students will be able to apply and demonstrate new knowledge and skills through answering past paper questions. <p>SA</p>	
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