

Term	Week	Focus	Summary	Learning Outcomes	Learning skills
Term 1.1	1	Topic 1a States of Matter	To explore the different states of matter and their particle arrangements while investigating how state changes matter and the processes involved	Use your knowledge to name the three states of matter Construct diagrams to describe the particle arrangement in the three states of matter Compare the movement and energy of the particles in the three states of matter Use your knowledge to name the processes that convert states of matter Conclude the relationship between temperature, energy and the conversion of matter	Learners will have the opportunity to develop the ability to use connections from past experiences to seek possible generalisations (ACP Linking) when discussing the states of matter and the changes of states. Learners develop the ability to break down a research task and decide on a suitable approach (ACP Analysing) when researching diffusion. Learners develop the ability to be flexible and open-minded when exploring new content in relation to a previous topic (VAA Agile).
	2	Topic 1a States of Matter	To explore the concept of diffusion for liquids and gases and its relation to the theory of concentration	Use your knowledge to state the definition of diffusion Summarise the process of diffusion in liquids and gases Conclude the relationship between diffusion and concentration Analyse results that justify the theory of diffusion Use your knowledge to define solvent, solute, solution and saturated solution <i>Construct diagrams that demonstrate what is meant by concentration</i> <i>Calculate the concentration of a solution in grams per 100g of solvent</i>	Learners will have the opportunity to develop the ability to use connections from past experiences to seek possible generalisations (ACP Linking) when discussing the states of matter and the changes of states. Learners develop the ability to be flexible and open-minded when exploring new content in relation to a previous topic (VAA Agile).

	3	Topic 1a States of Matter	<p>To carry out an investigation that determines the effect of temperature on solubility (Required Practical 1).</p> <p>Data analysis will be carried out to construct solubility curves, identify trends and write suitable conclusions based on the interpretation of data.</p>	<p>Determine the independent, dependent and constant variables</p> <p>Construct a valid method including safety</p> <p>Collect results in a suitable format</p> <p>Construct a graph of the results (solubility curve)</p> <p><i>Interpret the results of solubility curves</i></p> <p>Write a conclusion based on the evidence of the results</p>	
	4	<p>Topic 1a States of Matter</p> <p>Topic 1b Elements, mixtures and compounds</p>	<p>States of Matter Retrieval Practice and Feedback</p> <p>To compare and contrast elements, mixtures and compounds including their composition and properties</p>	<p>Evaluate knowledge from the states of matter topic and identify areas of strength and development</p> <p>Use your knowledge to state the definition of an element, mixture and compound</p> <p>Analyse diagrams and descriptions to determine if a substance is an element, mixture or compound</p> <p>Compare the melting and boiling points of pure substances with mixtures</p>	Learners will develop their ability to train and prepare by working on past exam questions in order to become more proficient (VAA Hardworking).
	5	Topic 1b Elements, mixtures and compounds	To investigate the effectiveness of different separations and use chemistry knowledge to explain how they work	<p>Use your knowledge to name five different separation techniques</p> <p>Summarise the process of distillation and explain how it separates mixtures</p> <p>Summarise the process of filtration and explain how it separates mixtures</p> <p>Summarise the process of crystallisation and explain how it separates mixtures</p>	Learners will need to think critically to compare the use of different separation techniques for different types of mixtures (ACP Metathinking).

	6	<p>Topic 1b Elements, mixtures and compounds</p>	<p>To conduct an experiment that demonstrated the use of chromatography to separate inks and dyes and process the results to compare (Required Practical 2)</p>	<p>Use your knowledge to discuss the importance of the solvent Use your knowledge to state the definition of the mobile and stationary phase Discuss the importance of using a pencil when preparing to carry out chromatography Construct a method to carry out paper chromatography with a labelled diagram Interpret a chromatograph by identifying compounds present in a mixture and measuring the distance travelled by the spots and solvent front Calculate R_f values to provide evidence to support your observations</p>	<p>Learners develop the ability to break down a task and decide on a suitable approach (ACP Analysing) for separation.</p> <p>Learners will follow a step-by-step procedure to carry out paper chromatography and analyse their results (ACP Analysing) while using their knowledge to explain their observations (ACP Linking).</p> <p>Learners will be developing key practical skills in describing a method, identifying variables, discussing the use of different equipment and reaching valid conclusions.</p>
	7	<p>Topic 1b Elements, mixtures and compounds</p> <p>Topic 1c Atomic Structure</p>	<p>Elements, mixtures and compounds exam practice questions</p> <p>To build upon prior learning regarding the structure of the atom and using this knowledge to discuss what is meant by an isotope</p>	<p>Apply your knowledge of elements, mixtures and compounds to a mini-plenary for the topic consisting of exam-style questions</p> <p>Use your knowledge to state the definition of an atom and a molecule Use your knowledge to name the subatomic particles in an atom and state their charge Construct a diagram to show and label the locations of the different subatomic particles in an atom Calculate the number of the subatomic particles in an atom from the atomic number and mass number</p>	<p>Learners will be able to create and label models which demonstrate how an atom looks (ACP Creating) and use this to explore the particles in an atom.</p>

Term 1.2	1	Topic 1c Atomic Structure Topic 1b and 1c	To build upon prior learning regarding the structure of the atom and using this knowledge to discuss what is meant by an isotope Elements, mixtures and compounds and Atomic Structure Retrieval Practice and Feedback	Use your knowledge to state the definition of an isotope Compare the subatomic particles in different isotopes Calculate the relative atomic mass of an element (A_r) from isotopic abundances Evaluate knowledge from the elements, mixtures and compounds and Atomic structure topics and identify areas of strength and development	Learners will develop their ability to train and prepare by working on past exam questions in order to become more proficient (VAA Hardworking).
	2	Topic 1d The Periodic Table	To explore the structure of the periodic table and determine the relationship between group number and the atom including the chemical properties (reactivity and conductivity)	Use your knowledge to describe the features used to organise the elements in the Periodic Table Construct the electron configuration of the first 20 elements Summarise the key properties of a metal including conductivity and acid-base character Summarise the key properties of a non-metal including conductivity and acid-base character Analyse the Periodic Table to determine if an element is a metal or a non-metal	Learners practise the ability to train and prepare through repetition of the location of different elements on the Periodic Table (VAA Hardworking). Learners will have the opportunity to develop the ability to think fluently while generating ideas and applying them to a similar concept (ACP Creating) when drawing electronic configurations of the first 20 elements.
	3	Topic 1d The Periodic Table Topic 2a Group 1 Alkali Metals	To explore the structure of the periodic table and determine the relationship between group number and the atom including the chemical properties (reactivity and conductivity) To investigate the features and properties of Alkali Metals and describe the	Determine the relationship between group number and the electron arrangement Determine the relationship between the electron arrangement and reactivity Justify why the noble gases are unreactive Apply your knowledge to name the Group 1 elements and write their symbols Use your knowledge to list the common properties of Group 1 metals Write word equations to represent the reaction of Group 1 metals with oxygen	Learners develop the ability to be flexible and open-minded when exploring trends in the Periodic Table using their knowledge of the atomic structure to explain observations (VAA Agile).

			reactions with water and oxygen	Write word equations to represent the reaction of Group 1 metals with water Summarise the observations that would be made when Group 1 metals react with water <i>Use evidence to explain the trend in reactivity as you go down Group 1</i>	
	4	Topic 2b Group 7 Halogens	To use prior learning to discuss the trends in the halogens	Apply your knowledge to name the Group 7 elements and write their symbols Use your knowledge to describe the colours of the Group 7 elements up to Iodine Compare the melting points and boiling points of the Group 7 elements to determine their state at room temperature Use your knowledge to list the common properties of Group 7 elements	Learners develop the ability to be flexible and open-minded when exploring trends in the Periodic Table using their knowledge of the atomic structure to explain observations (VAA Agile).
	5	Topic 2b Group 7 Halogens	To explore displacement reactions involving halogens and be able to explain these types of reactions	Use your knowledge to describe what happens during a displacement reaction Analyse reactants to determine the products of a displacement reaction involving Group 7 elements Justify the trend in reactivity for Group 7 using evidence from displacement reactions <i>Use evidence to explain the trend in reactivity as you go down Group 7</i>	Learners will develop their ACP Analysing when reviewing different chemical equations to explain the process of displacement reactions. Learners will use the ACP Realising when being able to write word equations for displacement reactions with speed and accuracy
	6	Topics 1d Periodic Table, 2a Alkali Metals and 2b Halogens	Periodic Table Retrieval Practice including Topics 1d, 2a and 2b Revision and exam practice of all topics for End of Term synoptic	Evaluate knowledge from the Periodic Table, Alkali Metals and Halogens topics and identify areas of strength and development	Learners will develop their ability to train and prepare by working on past exam questions in order to become more proficient (VAA Hardworking).
	7	All topics	End of Term Synoptic	Evaluate all knowledge and skills from Term 1	