











Key Stage 3 Curriculum Map 2021-22



Term 3



Year Group: 7		Subject: Chemistry		
Focus/Topic	Objectives	Key Skills/ UAE Links	HPL LINKS	Home Learning/ Recommended Reading
Topic 1: The Periodic Table <ul style="list-style-type: none"> Periodic Table Atomic Structure Arranging Electrons 	<ul style="list-style-type: none"> Use your knowledge to identify elements from the periodic table Summarise the development of Mendeleev's periodic table Predict if an element is a metal or non-metal based on its position in the periodic table Use your knowledge to define the terms atomic and mass number Analyse a diagram of an atom to identify the sub-atomic particles Calculate the number of protons, electrons and neutrons in an atom Apply your knowledge to name the part of 	<ul style="list-style-type: none"> Recall, how science works, application of knowledge and Maths 	VAA: Empathetic  <p>The ability to seek out opportunities to receive responses to your work; present your own views and ideas clearly and concisely; listen to the views of others; be willing and able to work in teams; take a variety of roles and be able to evaluate your own ideas and contributions.</p>	<ul style="list-style-type: none"> Guided Reading, quizzes on BBC bitesize



	<p>the atom in which electrons are found</p> <ul style="list-style-type: none"> Determine the relationship between the number of outer electrons and group number Construct electron arrangement diagrams for atoms containing up to 20 electrons 		<p>ACP:</p>  <p>Analysing The ability to deduct, hypothesise, reason, seek supporting evidence</p>	
<ul style="list-style-type: none"> Alkali Metals Non Metals (Halogens) Radioactive elements Periodic table TEST & FEEDACK 	<ul style="list-style-type: none"> write Apply your knowledge to name and the symbols for the Group 1 elements Summarise the properties of the alkali metals Interpret observations from a demonstration to create a reactivity series of the alkali metals Apply your knowledge to describe the properties of halogens Summarise why the noble gases are unreactive Conduct an experiment to investigate the testing of non-metal gases on the Periodic Table Apply your knowledge to identify radioactive elements on the Periodic Table 	<ul style="list-style-type: none"> Recall, how science works, application of knowledge and Maths UAE Link: Gold Souq UAE Link: Use of different elements in UAE Revise ad reflect 	 <p>The ability to approach new learning experiences by actively attempting to connect it to existing knowledge or concepts and hence determine an appropriate way to think about the work.</p>  <p>Work diligently and work systematically. -Not be satisfied until high quality, appropriate precision and the</p>	<ul style="list-style-type: none"> Guided Reading




	<ul style="list-style-type: none"> Summarise the uses of radioactive elements Debate the use of radioactive elements for Nuclear Energy Evaluate your knowledge. Recognise areas of improvement and what went well. Reflect on your knowledge. 		desired outcome are achieved.	
<p>Topic 2: Metals</p> <ul style="list-style-type: none"> Transition Metals Reactivity in oxygen Reactivity Series 	<ul style="list-style-type: none"> Use your knowledge to identify the symbols of common transition metals Summarise common properties of all metals Compare and contrast the transition metals and alkali metals Use your knowledge to name the products formed with metals react with oxygen Demonstrate the reaction of magnesium with oxygen Evaluate the different methods that protect iron from reacting with oxygen Apply your knowledge to describe what can 	<ul style="list-style-type: none"> Recall, how science works, application of knowledge and Maths UAE Link: Burj Khalifa, what materials to use in the UAE 	 <p>The ability to monitor, evaluate and self-correct.</p>  <p>The ability to be: curious, be willing to work alone, be proactive, keen to learn, show enterprise think independently</p>	<ul style="list-style-type: none"> Guided Reading


	<ul style="list-style-type: none"> be determined by the reactivity series Conduct an experiment to determine which metals are more reactive in water and acid. Interpret observations to predict the reactivity series 		 <p>-The ability to see how what is happening in this instance could be extrapolated to other similar situations.</p>	
<ul style="list-style-type: none"> Investigation – Reactivity Sourcing Metals Using Metals <p>Metals TEST & FEEDACK</p>	<ul style="list-style-type: none"> Apply your knowledge to determine the variables for an investigation Construct a table and/or graph to present your result. Evaluate your results to write a valid conclusion supported by evidence. Use your knowledge to describe what is meant by a metal ore Construct a summary detailing different extraction techniques and the metals they can extract. Justify the importance of recycling metals and explore the abundance of different metals Use your knowledge to list everyday uses of different metals on the Periodic Table 	<ul style="list-style-type: none"> Recall, how science works, application of knowledge and Maths Revise and reflect 	 <p>The ability to generate ideas</p>   <p>The ability to deduct, hypothesise, reason, seek supporting evidence</p>	<ul style="list-style-type: none"> Guided Reading

	<ul style="list-style-type: none"> Analyse the properties of different metals to determine an appropriate use Evaluate the use of metals in different scenarios and determine if other materials may be more suitable Evaluate your knowledge. Recognise areas of improvement and what went well. Reflect on your knowledge. 		The ability to train and prepare through repetition of the same processes in order to become more proficient.	
<p>Topic 3: Chemical Reactions</p> <ul style="list-style-type: none"> Chemical reaction or physical change Sign of chemical reaction 	<ul style="list-style-type: none"> Use your knowledge to name the processes involved with changes the physical state of a substance <ul style="list-style-type: none"> Compare and contrast the features of a physical change and chemical reaction Evaluate the outcome of an everyday process to determine if it is a physical reaction or chemical change 	<ul style="list-style-type: none"> Recall, how science works, application of knowledge and Maths UAE Link: What will happen if you leave the food in sun for few days? 	 <p>The ability to monitor, evaluate and self-correct.</p>  <p>The ability to overcome setbacks. -Remain confident, focused, flexible and optimistic.</p>	<ul style="list-style-type: none"> Guided Reading

<ul style="list-style-type: none"> Naming Compounds 	<ul style="list-style-type: none"> Use your knowledge to list signs of a chemical reaction Analyse everyday reactions to determine the signs of a chemical reaction observed Conduct different experiments to demonstrate different signs of a chemical reaction Apply your knowledge to determine the number of elements present from the name ending Construct the name of a compound from the elements present Predict the elements present from the name of the compound 			
<ul style="list-style-type: none"> Writing Word Equations Chemical Reaction TEST & FEEDBACK 	<ul style="list-style-type: none"> Use your knowledge to name the product of a chemical reaction Analyse a chemical reaction to identify and name the reactants and products Construct word equations for a range of chemical reactions Evaluate your knowledge. 	<ul style="list-style-type: none"> Recall, how science works, application of knowledge and Maths Revise and reflect 	 <p>The ability to use connections from past experiences to seek possible generalisations</p>  <p>The ability to work with big ideas and holistic concepts</p>	<ul style="list-style-type: none"> Guided Reading

	<ul style="list-style-type: none"> Recognise areas of improvement and what went well. Reflect on your knowledge. 		 <p>The ability to seek out opportunities to receive responses to your work.</p> <ul style="list-style-type: none"> -Present your own views and ideas clearly and concisely. -Listen to the views of others -Be willing and able to work in teams -Take a variety of roles and be able to evaluate your own ideas and contributions 	
<p>Topic 4: Chemical Analysis</p> <ul style="list-style-type: none"> Elements, Mixture, Compounds Solubility of substances Separating substances 	<ul style="list-style-type: none"> Use your knowledge to define an element, mixture and compound Analyse everyday examples to determine if they are an element, mixture or compound Create diagrams to model an element, mixture and compound Apply your knowledge to define key terms including soluble, insoluble, solvent and solution Determine the relationship between 	<ul style="list-style-type: none"> Recall, how science works, application of knowledge and Maths UAE Link: how karak tea is filtered? 	 <p>The ability to be open-minded and flexible in your thought processes.</p> <ul style="list-style-type: none"> -Demonstrate a willingness to innovate and invent new and multiple solutions to a problem or situation. 	<ul style="list-style-type: none"> Guided Reading

	<p>solubility and temperature</p> <ul style="list-style-type: none"> Plan an investigation to demonstrate the relationship between solubility and temperature Apply your knowledge to name the apparatus required for a filtration and an evaporation Conduct a filtration and evaporation Evaluate the use of filtration and evaporation to separate different substances 		 <p>HARD WORKING Perseverance</p> <p>Persist in effort. -Work diligently and work systematically. -Not be satisfied until high quality, appropriate precision and the desired outcome are achieved.</p>  <p>CREATING Flexible thinking</p> <p>The ability to abandon one idea for a superior one or generate multiple solutions.</p>	
<ul style="list-style-type: none"> Paper Chromatography Diluting Solutions Water Purification 	<ul style="list-style-type: none"> Use your knowledge to explain how paper chromatography works Evaluate the use paper chromatography to separate coloured substances Interpret results to perform Rf calculations Apply your knowledge to define concentration Calculate the concentration of given solutions using $n = c \times v$ Plan an experiment to dilute a solution to different concentrations 	<ul style="list-style-type: none"> Recall, how science works, application of knowledge and Maths UAE Link: How do ice creams have different color? 	 <p>AGILE Open-minded</p> <p>Become more receptive to other ideas and beliefs based on the arguments of others.</p>	<ul style="list-style-type: none"> Guided Reading

<ul style="list-style-type: none"> Chemical Analysis TEST & FEEDBACK 	<ul style="list-style-type: none"> Use your knowledge to discuss the importance of water purification. Plan a process to purify a sample of sea water to use for drinking water. Evaluate the use of chlorination and fluorination in the water purification process Evaluate your knowledge. Recognise areas of improvement and what went well. Reflect on your knowledge. 		 <p>Be aware of your own and others' cultural heritage and sensitive to the ethical; and moral issues raised by their studies</p>	
End of term 3				