

Key Stage 3 Curriculum Map 2020-21

Term 3

Year Group: 7	Subject: Chemistry		
Focus/Topic	Objectives	Key Skills/ UAE Links	Home Learning/ Recommended Reading
<p>Topic 1: The Periodic Table</p> <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 the atom in which electrons are found • Determine the relationship between the number of outer electrons and group number • Construct electron arrangement diagrams for atoms containing up to 20 electrons 	<ul style="list-style-type: none"> • Recall, how science works, application of knowledge and Maths 	<ul style="list-style-type: none"> • Guided Reading, quizzes on BBC bitesize
<ul style="list-style-type: none"> • Alkali Metals 	<ul style="list-style-type: none"> • Apply your knowledge to name and write the symbols for the Group 1 elements 	<ul style="list-style-type: none"> • Recall, how science works, application of knowledge and Maths • UAE Link: Gold Souq 	<ul style="list-style-type: none"> • Guided Reading

<ul style="list-style-type: none"> • Non Metals (Halogens) • Radioactive elements • Periodic table TEST & FEEDACK 	<ul style="list-style-type: none"> • 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 • 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. 	<ul style="list-style-type: none"> • UAE Link: Use of different elements in UAE • Revise ad reflect 	
<p><u>Topic 2: Metals</u></p> <ul style="list-style-type: none"> • Transition Metals • Reactivity in oxygen 	<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 	<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 	<ul style="list-style-type: none"> • Guided Reading

<ul style="list-style-type: none"> • Reactivity Series 	<ul style="list-style-type: none"> • 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 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 		
<ul style="list-style-type: none"> • Investigation – Reactivity • Sourcing Metals • Using Metals 	<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 • 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 	<ul style="list-style-type: none"> • Recall, how science works, application of knowledge and Maths • Revise and reflect 	<ul style="list-style-type: none"> • Guided Reading

Metals TEST & FEEDACK	<ul style="list-style-type: none"> Evaluate your knowledge. Recognise areas of improvement and what went well. Reflect on your knowledge. 		
<p>Topic 3: Chemical Reactions</p> <ul style="list-style-type: none"> Chemical reaction or physical change Sign of chemical reaction Naming Compounds 	<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 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"> Recall, how science works, application of knowledge and Maths UAE Link: What will happen if you leave the food in sun for few days? 	<ul style="list-style-type: none"> Guided Reading
<ul style="list-style-type: none"> Writing Word Equations 	<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 	<ul style="list-style-type: none"> Recall, how science works, application of knowledge and Maths Revise and reflect 	<ul style="list-style-type: none"> Guided Reading

<ul style="list-style-type: none"> Chemical Reaction TEST & FEEDBACK 	<ul style="list-style-type: none"> Evaluate your knowledge. Recognise areas of improvement and what went well. Reflect on your knowledge. 		
<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 solubility and temperature 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 	<ul style="list-style-type: none"> Recall, how science works, application of knowledge and Maths UAE Link: how karak tea is filtered? 	<ul style="list-style-type: none"> Guided Reading
<ul style="list-style-type: none"> Paper Chromatography Diluting Solutions 	<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? 	<ul style="list-style-type: none"> Guided Reading

<ul style="list-style-type: none"> • Water Purification • 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. 		
Revision			
End of term 3 assessment			
End of term 3			