Long Term Plan: Chemistry Year 7

ARCHBISHOP SENTAMU ACADEMY
CHURCH OF ENGLAND

Half term	Unit title	Key knowledge/ Content to learn and retain	Essential skills to acquire (subject & generic)	Link to subject ethos and driver (rename)	Anticipated misconceptions	Links to previous KS	Links to future KS	Opportunity for stretch for high prior attainers	SMSC & British Values	Cultural Capital	Career Link
One	Atoms, Elements and Compounds	Elements, Mixtures and Compounds The periodic table Use of simple laboratory glassware Separating mixtures Chemical and physical changes Introduction to chemical reactions as re-arrangement of atoms	Safe use of simple laboratory glassware Recording accurate data Presenting data in tabular and graphical form (HT Only - Balancing Chemical Equations)		Knowledge of subatomic particles is not required but staff should be careful not to imply atoms are indivisible Students may believe that there are atoms of everything, rather than just the 118 known elements	Students will have studied the concept of solubility and separation of mixtures in Year 5	This unit lays the foundation for all chemistry that will be studied at Archbishop Sentamu Academy; as the concept of atoms, how they bond, and the way they rearrange during a chemical reaction is fundamental to chemistry	Separation of complex mixtures that contain three or more components Using a line of best fit to estimate values Balancing equations		General knowledge of the periodic table as a fundamental concept of how the world works Understanding of the scientific method	As the central science, chemistry opens doors to a wide range of STEM field careers

Two	Atoms, Elements and Compounds	Elements, Mixtures and Compounds The periodic table Use of simple laboratory glassware Separating mixtures Chemical and physical changes Introduction to chemical reactions as re-arrangement of atoms	Safe use of simple laboratory glassware Recording accurate data Presenting data in tabular and graphical form (HT Only - Balancing Chemical Equations)		Knowledge of subatomic particles is not required but staff should be careful not to imply atoms are indivisible Students may believe that there are atoms of everything, rather than just the 118 known elements	Students will have studied the concept of solubility and separation of mixtures in Year 5	This unit lays the foundation for all chemistry that will be studied at Archbishop Sentamu Academy; as the concept of atoms, how they bond, and the way they rearrange during a chemical reaction is fundamental to chemistry	Separation of complex mixtures that contain three or more components Using a line of best fit to estimate values Balancing equations		General knowledge of the periodic table as a fundamental concept of how the world works Understanding of the scientific method	As the central science, chemistry opens doors to a wide range of STEM field careers
Three	Atoms and Reactions	Different types of chemical reactions including: combustion, oxidation, displacement and thermal decomposition Introduction to the concept of	Writing word and symbol equations (HT Only) Balancing chemical equations Recording accurate data Presenting and interpreting data in tabular		Students often confuse oxidation, burning and thermal decomposition; so care must be taken to differentiate these. Some students may believe that	This unit builds directly on from the previous unit of study; exploring chemical reactions in more depth.	Continuing the theme from the last unit, the concepts mastered here are fundamental to chemistry and will be re-visited and built upon in all future units	Using a line of best fit to estimate values Balancing equations Considering the crossover between oxidation and combustion		Understanding of the scientific method The uses of many different chemical reactions in everyday life	As the central science, chemistry opens doors to a wide range of STEM field careers

		reactivity Chemical reactions as the rearrangement of atoms	and graphical form.		chemical reactions create new atoms - they don't, but rather rearrange atoms						
Four	Atoms and Reactions	Different types of chemical reactions including: combustion, oxidation, displacement and thermal decomposition Introduction to the concept of reactivity Chemical reactions as the rearrangement of atoms	Writing word and symbol equations (HT Only) Balancing chemical equations Recording accurate data Presenting and interpreting data in tabular and graphical form.		Students often confuse oxidation, burning and thermal decomposition; so care must be taken to differentiate these. Some students may believe that chemical reactions create new atoms - they don't, but rather rearrange atoms	This unit builds directly on from the previous unit of study; exploring chemical reactions in more depth.	Continuing the theme from the last unit, the concepts mastered here are fundamental to chemistry and will be re-visited and built upon in all future units	Using a line of best fit to estimate values Balancing equations Considering the crossover between oxidation and combustion		Understanding of the scientific method The uses of many different chemical reactions in everyday life	As the central science, chemistry opens doors to a wide range of STEM field careers
Five	The Earth and Atmosphere	The structure of the Earth. Different types of rock, including their	Drawing and labeling scientific diagrams Interpreting		Some students may label the mantle as liquid, but this is inaccurate.	This will be the first time that students have studied the Earth and Resources.	In key stage four, as part of the GCSE chemistry and GCSE trilogy science	Higher priority trainers can be challenged to identify possible	The importance of recycling. The use of renewable	How global warming and climate change affects the world at large,	Conservationist Climate scientist

		composition and formation The composition of the atmosphere, including human impact on the atmosphere The Carbon Cycle Renewable and nonrenewable resources, including study of recycling	data presented in tabular and graphical form Using data to compare and evaluate Extended Writing Reading and following flowchart diagrams		Many students define renewable and nonrenewable as "Can be used again" and "Can't be used again". However, this is not correct. Rather, they need to be defined in terms of being finite and infinite.	At key stage two, students have studied the Earth as a planet and its position in the solar system; and they have also studied materials and simple material properties	courses, students will study units on the Earth and how the atmosphere has changed over time; including the human impact on the atmosphere. Students will also study renewable and nonrenewable resources and extend this knowledge to include life-cycle assessments, and at triple deeper study of ceramics, polymers, and composite.	solutions to climate change and global warming taking into account both human impact on the environment and economic and social consequences of interventions.	resources. Human impact on the environment, including global warming and climate change and the consequences thereof.	including disadvantaged communities worldwide. How different communities and organisations across Britain and the world are tackling climate change.	Environmental activist Geography Geologist Meteorologist This unit would also need the foundations we could develop into A career working for agencies such as the environment agency
Six	The Earth and Atmosphere	The structure of the Earth. Different types of rock, including their composition and formation The	Drawing and labeling scientific diagrams Interpreting data presented in tabular and graphical form		Some students may label the mantle as liquid, but this is inaccurate. Many students define renewable and nonrenewable	This will be the first time that students have studied the Earth and Resources. At key stage two, students have studied	In key stage four, as part of the GCSE chemistry and GCSE trilogy science courses, students will study units on the Earth and	Higher priority trainers can be challenged to identify possible solutions to climate change and global	The importance of recycling. The use of renewable resources. Human impact on the	How global warming and climate change affects the world at large, including disadvantaged communities worldwide.	Conservationist Climate scientist Environmental activist Geography

		composition of the atmosphere, including human impact on the atmosphere The Carbon Cycle Renewable and nonrenewable resources, including study of recycling	Using data to compare and evaluate Extended Writing Reading and following flowchart diagrams		as "Can be used again" and "Can't be used again". However, this is not correct. Rather, they need to be defined in terms of being finite and infinite.	the Earth as a planet and its position in the solar system; and they have also studied materials and simple material properties	how the atmosphere has changed over time; including the human impact on the atmosphere. Students will also study renewable and nonrenewable resources and extend this knowledge to include life-cycle assessments, and at triple deeper study of ceramics, polymers, and composite.	warming taking into account both human impact on the environment and economic and social consequences of interventions.	environment, including global warming and climate change and the consequences thereof.	How different communities and organisations across Britain and the world are tackling climate change.	Geologist Meteorologist This unit would also need the foundations we could develop into A career working for agencies such as the environment agency