

10

Unit	Summary	Skills	Assessment	British Values and SMSC	Career links	Cross-curricular links
C1 – Atomic Structure Taught Term 3 Year 9	Introduction to atomic structure and reminder of separation techniques using properties. Development of Atomic theory	Analysing evidence Balancing equations Writing Methods Interpreting data	End of Topic Assessment HW – Seneca HW – Exam Booklets	Fascination with understanding the world. Recognise role of British scientists in understanding the atom Scientific community	Food testing Forensics	Links to Yr 10 Physics – Radioactivity topic (P7) Maths: ratio
C2 – Periodic Table Taught Term 3 Year 9	Development of the Periodic table Patterns and trends within the periodic table <i>Transition metals (Triple)</i>	Analysing evidence	End of Topic Assessment HW – Seneca HW – Exam Booklets	Fascination with understanding the world. Scientific community. Understanding the viewpoints of others	Materials Data analyst (identifying patterns) Codebreaking	Maths – handling data Patterns & trends
C3 – Structure & Bonding	How atoms form compounds & the properties of those bonds. <i>Nanoparticles (Triple)</i>	Linking observations to theory & uses Future materials	End of Topic Assessment HW – Seneca HW – Exam Booklets	Fascination with understanding the world around them. Scientific community	Future materials Nanotech Chemical engineer Metallurgy (inc. Designer metals & alloys)	DT – melting points, alloys
C4 – Chemical Calculations	Conservation of mass and the mole concept. Concentration Yield, titrations & gas calculations	Substitution into an equation Rearranging equations Multi-step calculations. Predicting yield Writing Methods	End of Topic Assessment HW – Seneca HW – Exam Booklets	Fascination with understanding the world around them. Scientific community	Industrial chemical engineer, Material handling, Chemical laboratory technician	Maths – ratio Calculating theoretical yield
C5 – Chemical Changes	Explaining reactivity, displacement and acid/base reactions.	Predicting reactions Practical skills – Making salts Writing Methods	End of Topic Assessment HW – Seneca HW – Exam Booklets	Environmental impacts of extracting (& using) materials. Understanding consequences and how actions impact on others.	Metallurgy Chemical engineer Environmental cleanup	Links to Yr 11 extracting metals (bioleaching & phytomining)



C6 - Electrolysis	Principles and uses of electrolysis. Extraction of aluminium.	Explaining process Keywords Predicting products sequencing	End of Topic Assessment HW – Seneca HW – Exam Booklets	Energy use Scientific community Understanding consequences and how actions impact on others.	Electroplating Cleaning Extraction/purification of reactive metals	DT - plating
C7 – Energy Changes	Exothermic and endothermic reactions; examples and uses Bond energy calcs (HT) Fuel Cells (Triple)	Maths: Calculating bond energies; negative numbers Practical skills – measuring temperature change. Method writing	End of Topic Assessment HW – Seneca HW – Exam Booklets	Scientific community Understanding consequences and how actions impact on others. Understanding the viewpoints of others	Chemical engineer, Materials handling Health & safety Science technician	Maths: Calculating bond energies; negative numbers