



Year 12: Our curriculum intent is:

The Chemistry department aims to promote scientific literacy to foster student's natural curiosity of the world around them and their place within it. This will support and enable them to make informed choices and develop key employability skills as they prepare to take their place in society. We aim to improve scientific skills such as following written instructions during practical work, calculating energetics and preparing Aspirin from Willow bark and carry out test tube tests to identify functional groups which will generate curiosity in science and the world around our students and allow students to be able to make Informed choices.

Term	Autumn Term 1	Autumn Term 2	Spring Term 1	Spring Term 2	Summer 1	Summer 2
Topic	Atomic structure Amount of substances Energetics Bonding	Amount of substances Bonding Kinetics Redox Introduction to organic chemistry	Equilibrium Group 2 Alkenes Alkanes Halogenoalkanes	Halogens Organic analysis Alcohols	Periodicity Thermodynamic Aldehydes and ketones Alcohols Optical isomerism	Acids and bases Aromatic chemistry Carboxylic acids and derivatives
Subject Specific Skills	Calculating moles, gas volumes, concentration Using Hess's cycle to work out unknown	Making up a standard solution Identifying factors affecting yield	Test tube tests for identifying cations and anions	Test tube tests for organic substances	Comparing reflux to distillation Born-Haber cycles	Organic preparation of Aspirin from Willow bark
Links	https://www.gov.uk/government/publications/national-curriculum-in-england-science-programmes-of-study Working scientific skills are foundations throughout each term as they explore fundamental themes such as vocabulary, nomenclature and experimental skills and strategies as well as analysis and evaluation					
Transferable Skills	National Curriculum KS4	Atomic structure and the Periodic Table Structure, bonding and properties of matter	Energy changed in chemistry Rate and extent of chemical changes	Chemical changes	Atomic structure and the Periodic Table Earth and atmospheric science	Chemical and allied industries Chemical analysis
	Unit conversion Structure to property	Calculations Problem solving	Equations Problem solving	Application of structures	Measurement with instrumentation basic computer programming	Diagnosis testing Teamwork Resilience

Post 16 and beyond:

Students will develop a critical approach to scientific evidence and methods, acquire and apply skills, knowledge and understanding of working scientifically and its essential role in society and acquire scientific skills, knowledge and understanding necessary for progression to further scientific studying Chemistry or a related science at university or following an apprenticeship or working within the chemical industry. Some of our Chemistry students at Derby Moor have applied and had internship with the Nuffield placements over the summer or university summer schools which has helped them clinch first choice university places and applications to apprenticeships in Year 13.

Year 13: Our curriculum intent is:

The Chemistry department aims to promote scientific literacy to foster student's natural curiosity of the world around them and their place within it. This will support and enable them to make informed choices and develop key employability skills as they prepare to take their place in society. We aim to improve scientific skills such as analysis nuclear magnetic resonance (NMR) spectroscopy, calculating electrochemical cells, and carrying out Thin Layer Chromatography (TLC) for drug analysis which will generate curiosity in science and the world around our students and allow students to be able to make Informed choices.

Term	Autumn Term 1	Autumn Term 2	Spring Term 1	Spring Term 2	Summer 1	Summer 2
Topic	Acids and bases Rate equations Thermodynamics	Amines Amino acids, proteins and DNA Electrochemical cells Transitional metals	Transitional metals Kp & equilibrium constant	Reactions of aqueous ions Properties of period 3 & their oxides NMR Organic synthesis	Revision and consolidation of the two years of A-Level	
Subject Specific Skills	Born-Haber cycles Electrophilic substitution mechanisms	Measuring EMF Chromatography of amino acids Thin layer chromatography	Identifying transition ions in test tube tests	Analysis Mechanisms	Analysis and evaluations	
Links	https://www.gov.uk/government/publications/national-curriculum-in-england-science-programmes-of-study Working scientific skills are foundations throughout each term as they explore fundamental themes such as vocabulary, nomenclature and experimental skills and strategies as well as analysis and evaluation					
	National Curriculum KS4	Atomic structure and the Periodic Table Structure, bonding and properties of matter	Energy changed in chemistry Chemical and allied industries	Chemical and allied industries Chemical analysis	Atomic structure and the Periodic Table, Structure, bonding and properties of matter, Chemical changes, Energy changes in chemistry, Rate and extent of chemical change, Chemical analysis, Chemical and allied industries and Earth and atmospheric science	
Transferable Skills	Calculations of unknowns Pattern finding	Calculations	Analytical interpretation	Problem solving Resilience		

Post 16 and beyond:

Students will develop a critical approach to scientific evidence and methods, acquire and apply skills, knowledge and understanding of working scientifically and its essential role in society and acquire scientific skills, knowledge and understanding necessary for progression to further scientific studying Chemistry or another related science at university or following an apprenticeship or working within the chemical industry. As a chemist they can study in the future pharmacy, pharmacology and drug design, chemical engineering, medicinal and environmental chemistry. In fact, studying Chemistry at A-Level has led to one former Derby Moor student studying Cancer at Nottingham University, becoming a doctor in Newcastle as well as working in a Shoosmiths in the finance department as it is highly regarded subject at A-Level