



Subject: Chemistry

Lead Teacher: R Wright

Year: 9

Curriculum organisation

Students are taught in mixed groups of 30 for **two** hours per week. They are not grouped by ability.

Overview of Topics & Key Information					How will your child be learning?
Term	Unit(s) of Work	Key Enquiry Questions	Key Content/ Terminology	Skills developed	
Autumn Term	<ul style="list-style-type: none"> Atomic structure and the periodic table 	<ul style="list-style-type: none"> How are particles arranged in an atom? How was the modern periodic table developed? 	<ul style="list-style-type: none"> A simple model of the atom The periodic table Transition metals and Groups 1, 7 and 0 	<ul style="list-style-type: none"> Use appropriate scientific vocabulary and theory correctly 	<ul style="list-style-type: none"> Whole class discussion Pair work Practical activities Problem-solving tasks Watching short video clips Research tasks
	<ul style="list-style-type: none"> Bonding, structure and the properties of matter 	<ul style="list-style-type: none"> What are the different types of chemical bond? What properties do different types of structure exhibit? What are nanoparticles 	<ul style="list-style-type: none"> Ionic, covalent and metallic bonding States of matter Properties of ionic compounds, small molecules, giant covalent compounds and metallic compounds Nanoparticles 	<ul style="list-style-type: none"> Describe patterns in data Make prediction using scientific knowledge and understanding 	
Spring Term	<ul style="list-style-type: none"> Chemical analysis 	<ul style="list-style-type: none"> How do you test for common gases? How do you carry out tests for common ions? 	<ul style="list-style-type: none"> Purity, formulations and chromatography Identification of common gases Identification of ions by chemical and spectroscopic means 	<ul style="list-style-type: none"> Use appropriate techniques, apparatus and materials during practical work Make and record observations and measurements Present observations and data appropriately Interpret observations and data to reach conclusions 	
	<ul style="list-style-type: none"> Organic chemistry 	<ul style="list-style-type: none"> What is organic chemistry? How is crude oil separated into fractions? What are alkanes and alkenes? 	<ul style="list-style-type: none"> Crude oil, hydrocarbons and alkanes Fractional distillation and petrochemicals Properties of hydrocarbons Cracking and alkenes Reactions of alkenes 	<ul style="list-style-type: none"> Make predictions using scientific knowledge and understanding Describe patterns in data 	
Summer Term	<ul style="list-style-type: none"> Quantitative chemistry 	<ul style="list-style-type: none"> What are the mass changes which occur when a reactant or product is a gas? How do you calculate Mr 	<ul style="list-style-type: none"> Conservation of mass and balanced symbol equations Relative formula mass (Mr) Mass changes when a reactant or a product is a gas 	<ul style="list-style-type: none"> Ask questions to develop an investigation Evaluate reliability of methods and suggest possible improvements Evaluate data to identify sources of error 	

Equipment needed for lessons	How will learning and progress be assessed?
<ul style="list-style-type: none"> • Standard school stationery • Exercise book • Calculator 	<ul style="list-style-type: none"> • End of unit tests (subject knowledge focus) • Formal assessment week (May) • Peer and self-assessment • Homework tasks (often research or project based) • Retrieval practice activities
Extension & Enrichment opportunities	What can you do to support your child?
<ul style="list-style-type: none"> • STEM Clubs • Websites which can be used to extend knowledge and reading • https://www.bbc.co.uk/bitesize/examspecs/z8xtmnb • http://www.gcse-science.com/gcse-chemistry-revision.htm • https://www.chemguide.co.uk/ • https://www.creative-chemistry.org.uk/gcse 	<ul style="list-style-type: none"> • Take an active interest in their learning
Inclusion within Chemistry	
In lessons	Subject specific
<ul style="list-style-type: none"> • Teachers follow student passports to ensure that the needs of all students with SEND are met. • Work is enlarged to the necessary size for visually impaired students. • Teachers will ensure that classrooms are quiet learning environments where possible and will dim lights to support students with sensory needs. • Students have the use of laptop if they have a SEND need whereby use of a laptop supports them. • Hearing impaired students are supported through use a radio aid and teachers ensure that students can lip read at all times during lessons. • Dyslexic students are encouraged to use coloured overlays when they are required to read long passages. • Use of dyslexic friendly fonts and coloured backgrounds used in PowerPoints/resources. • Students with ADHD are given movement breaks, fidget toys and lessons are 'chunked' to aid concentration. • Students are seated according to their needs, students work with the SENDCo to decide upon this. 	<ul style="list-style-type: none"> • For pupils with visual impairment, enlarged graph paper for plotting graphs during experiments • Physical impairment – where possible we amend practical equipment or provide a magnifying glass to view instruments • Hearing impaired – show videos with subtitles • Some laboratories have height-adjustable benches for wheelchair access • Cater for latex allergies by providing disposable gloves • Colour blindness

If you have any questions about this Learning Overview, please contact the named Teacher above.