



Subject: Chemistry

Lead Teacher: R Wright

Year: 8

## Curriculum organisation

Students are taught in mixed groups of 30 for one hour 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"> <li>Atoms, molecules, elements, mixtures and compounds</li> </ul>	<ul style="list-style-type: none"> <li>How are compounds named using their chemical formulae?</li> <li>How are these terms represented using particle diagrams?</li> <li>How do the properties of elements and compounds differ?</li> </ul>	<ul style="list-style-type: none"> <li>Definitions</li> <li>Naming compounds using their chemical formula</li> <li>Name the elements present in compounds</li> <li>Represent each of the terms using particle diagrams</li> <li>Compare and contrast the properties of elements and compounds eg Fe, S and FeS</li> <li>Hoffman voltameter</li> </ul>	<ul style="list-style-type: none"> <li>Use appropriate techniques, apparatus and materials during practical work</li> <li>Interpret observations and data to reach conclusions</li> <li>Make and record observations and measurements</li> </ul>	<ul style="list-style-type: none"> <li>Whole class discussion</li> <li>Pair work</li> <li>Practical activities</li> <li>Problem-solving tasks</li> <li>Watching short video clips</li> <li>Research tasks</li> </ul>
	<ul style="list-style-type: none"> <li>Types of reaction</li> </ul>	<ul style="list-style-type: none"> <li>What is the law of conservation of mass?</li> <li>How does the mass change when a reactant or product is a gas?</li> <li>What is a reversible reaction?</li> </ul>	<ul style="list-style-type: none"> <li>Combustion</li> <li>Thermal decomposition</li> <li>Reactions and mass changes</li> <li>Conservation of mass</li> <li>Reversible reactions</li> </ul>	<ul style="list-style-type: none"> <li>Use appropriate techniques, apparatus and materials during practical work</li> <li>Select, plan and carry out investigations to test predictions</li> <li>Present observations and data appropriately</li> </ul>	
Spring Term	<ul style="list-style-type: none"> <li>Air and the atmosphere</li> </ul>	<ul style="list-style-type: none"> <li>What are the gases in air?</li> <li>How has the atmosphere of the earth evolved?</li> <li>What are the causes of air pollution?</li> <li>Why do things rust and how can it be prevented?</li> </ul>	<ul style="list-style-type: none"> <li>Proportion of gases in the atmosphere</li> <li>The earth's early atmosphere</li> <li>How oxygen increased</li> <li>How carbon dioxide decreased</li> <li>Greenhouse gases</li> <li>Global climate change</li> <li>Common atmospheric pollutants</li> <li>Corrosion and prevention</li> </ul>	<ul style="list-style-type: none"> <li>Evaluate reliability of methods and suggest possible improvements</li> <li>Make and record observations and measurements</li> <li>Interpret observations and data to reach conclusions</li> </ul>	

Summer Term	<ul style="list-style-type: none"> <li>• Formulae and equations</li> </ul>	<ul style="list-style-type: none"> <li>• How are formulae and equation written?</li> </ul>	<ul style="list-style-type: none"> <li>• Writing formulae</li> <li>• Writing balanced symbol</li> </ul>	<ul style="list-style-type: none"> <li>• Using IUPAC nomenclature</li> </ul>		
	<ul style="list-style-type: none"> <li>• The reactivity series</li> </ul>	<ul style="list-style-type: none"> <li>• How can metals be placed in order of reactivity?</li> <li>• Is there a relationship between the position of a metal in the reactivity series and its method of extraction?</li> </ul>	<ul style="list-style-type: none"> <li>• Reaction of metals with oxygen</li> <li>• Reaction of metals with water</li> <li>• Reaction of metals with acids</li> <li>• Displacement reactions</li> <li>• Extraction of metals</li> </ul>	<ul style="list-style-type: none"> <li>• Use appropriate techniques, apparatus and materials during practical work</li> <li>• Make predictions using scientific knowledge and understanding</li> <li>• Select, plan and carry out investigations to test predictions</li> </ul>		
	<ul style="list-style-type: none"> <li>• Energy changes</li> </ul>	<ul style="list-style-type: none"> <li>• How are energy changes in chemical reactions measured?</li> </ul>	<ul style="list-style-type: none"> <li>• Endothermic reactions</li> <li>• Exothermic reactions</li> <li>• Reaction profiles</li> </ul>	<ul style="list-style-type: none"> <li>• Make and record observations and measurements</li> <li>• Use appropriate scientific vocabulary correctly</li> </ul>		

Equipment needed for lessons	How will learning and progress be assessed?
<ul style="list-style-type: none"> <li>• Standard school stationery</li> <li>• Exercise book / Writing paper?</li> <li>• Calculator?</li> </ul>	<ul style="list-style-type: none"> <li>• End of unit tests (subject knowledge focus)</li> <li>• Formal assessment week (May)</li> <li>• Peer and self-assessment</li> <li>• Homework tasks (often research or project based)</li> <li>• Retrieval practice activities</li> </ul>

Extension & Enrichment opportunities	What can you do to support your child?
<ul style="list-style-type: none"> <li>• STEM Club</li> <li>• Websites which can be used to extend knowledge and reading</li> <li>• <a href="https://chemstuff.co.uk/academic-work/year-7/">https://chemstuff.co.uk/academic-work/year-7/</a></li> <li>• <a href="https://www.bbc.co.uk/bitesize/subjects/znxytyrd">https://www.bbc.co.uk/bitesize/subjects/znxytyrd</a></li> <li>• <a href="https://www.footprints-science.co.uk/index.php?type=Periodic_table">https://www.footprints-science.co.uk/index.php?type=Periodic_table</a></li> <li>• <a href="https://edu.rsc.org/resources">https://edu.rsc.org/resources</a></li> </ul>	<ul style="list-style-type: none"> <li>• Take an active interest in their learning</li> </ul>

Inclusion	
In lessons	Subject specific
<ul style="list-style-type: none"> <li>• Teachers follow student passports to ensure that the needs of all students with SEND are met.</li> <li>• Work is enlarged to the necessary size for visually impaired students.</li> <li>• Teachers will ensure that classrooms are quiet learning environments where possible and will dim lights to support students with sensory needs.</li> <li>• Students have the use of laptop if they have a SEND need whereby use of a laptop supports them.</li> <li>• Hearing impaired students are supported through use a radio aid and teachers ensure that students can lip read at all times during lessons.</li> <li>• Dyslexic students are encouraged to use coloured overlays when they are required to read long passages.</li> <li>• Use of dyslexic friendly fonts and coloured backgrounds used in PowerPoints/resources.</li> <li>• Students with ADHD are given movement breaks, fidget toys and lessons are ‘chunked’ to aid concentration.</li> <li>• Students are seated according to their needs, students work with the SENDCo to decide upon this.</li> </ul>	<ul style="list-style-type: none"> <li>• For pupils with visual impairment, enlarged graph paper for plotting graphs during experiments</li> <li>• Physical impairment – where possible we amend practical equipment or provide a magnifying glass to view instruments</li> <li>• Hearing impaired – show videos with subtitles</li> <li>• Some laboratories have height-adjustable benches for wheelchair access</li> <li>• Cater for latex allergies by providing disposable gloves</li> <li>• Colour blindness</li> </ul>

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