


Quality of Education: Curriculum is planned and sequenced so that new **knowledge** and **skills** build on what has been taught before and towards its clearly defined end points.

| SUBJECT: Chemistry | | CURRICULUM PROGRESSION PATHWAYS | | CL: Mr J. Kendrick-Eriksen and Mr B. Gott | |
|---|--|--|--|--|--|
| KS3 (Level 1) Chemistry | KS4 (Level 2) Chemistry | KS5 (Level 3) Chemistry | Further Education and training | Careers | |
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| <p>Organic Chemistry Knowledge: Chemical reactions and how they can be identified. Skills: Learning how to profile a reaction in terms of format and order</p> <p>Bonding Knowledge: Atomic bonding, metallic bonding, compounds and mixtures Skills: how to draw bonding and basic properties of a compound</p> <p>Periodic Table Knowledge: Basic layout, metals and non-metals Skills: How to order scientific findings using a key principle</p> | <p>Organic Chemistry Knowledge: Exothermic and endothermic, Catalysts, Hydrocarbons Skills: Energy profile diagrams and identifying reactions based on their processes</p> <p>Bonding Knowledge: Ionic and Covalent Bonding Skills: Define a compound based on its properties to determine bonding type</p> <p>Periodic Table Knowledge: Periods and groups, reactivity of elements, electronic structure Skills: Identifying trends in groups and periods, electronic configuration in terms of reactivity</p> | <p>Organic Chemistry Knowledge: Nomenclature, alkanes, alkenes, alcohols, Haloalkanes, Skills: Spectroscopy, NMR, Formation of nitriles</p> <p>Bonding Knowledge: Hydrogen bonding, Intermolecular forces, Electronegativity and Polarity Skills: Bond enthalpy calculations, Feasibility calculations,</p> <p>Periodic Table Knowledge: Enthalpy, Hess' law, Halogens, Ionisation energy Skills: Qualitative analysis of Ions, Precipitate tests, Halide tests</p> | <p>Apprenticeships:</p> <ul style="list-style-type: none"> Pharmacy Apprentice Dispensary Assistant Chemical Engineer Lab Technician <p>Degree Level:</p> <ul style="list-style-type: none"> Organic Analytical Physical Inorganic Biochemistry Nuclear Polymer, Biophysical Bioinorganic Environmental <p>Levels:</p> <p>Intermediate Advanced Higher Degree Masters P.H.D</p> | <ul style="list-style-type: none"> Analytical Chemist Chemical engineer Forensic Scientist Geochemist Hazardous Waste Chemist Materials Scientist Pharmacologist Toxicologist Water chemist Nanotechnologist Research Scientist Clinical scientist | |