

<p>Curriculum Aims</p> <ul style="list-style-type: none"> Develop interest in and enthusiasm for the subject, including developing an interest in further study and careers associated with the subject. Develop competence and confidence in a variety of practical, mathematical and problem-solving skills. Understand how society makes decisions about scientific issues and how the sciences contribute to the success of the economy and society. Use theories, models and ideas to develop scientific explanations. Carry out experimental and investigative activities, including appropriate risk management, in a range of contexts. Consider applications and implications of science and evaluate their associated benefits and risks. 	<p>What will you see in Chemistry lessons?</p> <ul style="list-style-type: none"> Students will build on skills that they have learnt at Key Stage 4. Students will be encouraged to be inspired, motivated and challenged by the key ideas in Chemistry such synthesis of compounds with various functional groups through ideas of reactivity of reactants, reagents needed to aid reactions and mechanisms of the pathway required to perform reactions. Students and teachers will use models to develop understanding of the key ideas. Students will perform regular practical activities to develop their experimental skills to include forming hypotheses, planning, manipulating apparatus, taking accurate observations, presenting data appropriately and evaluating methods to suggest possible improvements. Students will develop their problem-solving skills by manipulating mathematical equations. 	<p>What will you see in students' Chemistry lab books?</p> <ul style="list-style-type: none"> A copy of the Periodic Table Data sheets Experiment write ups to include some of the following, hypothesis, methods and diagrams, risk assessments, observations, results tables, presentation of data, conclusions and evaluations. Chemical calculations and evidence of use of formulae.
<p>Curriculum Content and sequencing</p> <p>Year 12 Topic 1: Atomic Structure, calculations involving masses, bonding and periodicity, mass spectroscopy, group 2 properties and reactivity Topic 2: Enthalpy changes of formation and combustion, kinetics, nomenclature and reactivity of alkanes, alkenes and haloalkanes Topic 3: Equilibria, redox reactions, group 7 properties and reactivity, alcohols, E/Z isomerism, IR spectroscopy Topic 4: Rates and orders of reactions, kinetics, properties and reactivity of period 3</p> <p>Year 13 Topic 5: Reactions of amines, esters, carboxylic acids and acyl chlorides, NMR and proton spectroscopy, formation of peptides and DNA Topic 6: Enthalpy changes of solutions and hydration, pH changes of strong and weak acid reactivity, buffer solutions Topic 7: Electrochemistry, transition metal chemistry, properties and reactions of arenes</p>	<p>What formative assessment will you see in chemistry?</p> <ul style="list-style-type: none"> At the end of each unit the students will sit an end of unit test worth 50 marks which contains exam questions which are marked by the teacher. Feedback is then given in the subsequent lesson to address areas of strength and weakness and gives opportunity for students to enhance their understanding. In the middle of every topic, students are given exam questions worth 30 marks to practice content covered and are marked by the teachers. For each of the required practicals that will appear in their A Levels, questions are given regarding different aspects of the practicals, ranging from interpreting data, observations and mathematical calculations e.g. percentage yield or atom economy. Skills are assessed during practicals and recorded as part of their practical endorsement. Students have a mock exam at the end of Y12 and in January of Y13. 	<p>What is the faculty currently reading and discussing and why?</p> <p>We are currently reading:</p> <ul style="list-style-type: none"> RSC Education in Chemistry which provides new ideas of overcoming student misconceptions, different models for teaching difficult concepts and also a source of online resources to support our students.