



Key Stage 4 Framework for Learning Year 11 2018-2019: I am Creative, Successful, Happy



Curriculum Area: Science

Year 11	Autumn 1:	Autumn 2	Spring 1	Spring 2	Summer 1
Syllabus	<p>(chemistry)</p> <p>pH scale</p> <p>strong and weak acids</p> <p>neutralisation</p> <p>neutralisation prac</p> <p>acids and metals</p> <p>soluble salts</p> <p>insoluble salts</p> <p>development of periodictable</p> <p>periodic table</p> <p>exo and endothermic reactions</p> <p>reaction profiles</p> <p>energy change of reactions</p> <p>reversible reactions</p> <p>energy changes and reversible reactions</p> <p>equilibrium</p> <p>EOT</p> <p>process of electrolysis</p> <p>using electrolysis to extract metals</p> <p>evaluating electrolysis</p> <p>electrolysis of aqueous solutions</p> <p>representation of reactions at electrode</p> <p>EO Course EXAMS</p> <p>MCT / EOT</p>	<p style="text-align: center;">(physics)</p> <p>Magnetism</p> <p>Making an electromagnet</p> <p>electromagnetism</p> <p>Fleming's LH rule</p> <p>motors</p> <p>EOT</p> <div style="border: 1px solid black; padding: 10px; text-align: center; margin: 20px 0;"> <p>College entry exams</p> </div> <p>Energy stores</p> <p>Specific heat capacity</p> <p>SHC prac</p> <p>Latent heat</p> <p>Latent heat prac</p> <p>Speed</p> <p>Using momentum</p> <p>conservation of momentum</p> <p>Newton's law</p>	<p><u>Exam focused Revision</u></p> <p>Students will have opportunity to revisit the more challenging topics from the combined science course. To compliment this students will have specific subject content revision lessons, exam technique, exam practice and walking talking mocks. Students will have access to revision quizzes on doddle.</p>	<p><u>Exam focused Revision</u></p> <p>Students will have opportunity to revisit the more challenging topics from the combined science course. To compliment this students will have specific subject content revision lessons, exam technique, exam practice and walking talking mocks. Students will have access to revision quizzes on doddle.</p>	<p><u>Exam focused Revision</u></p> <p>Students will have opportunity to revisit the more challenging topics from the combined science course. To compliment this students will have specific subject content revision lessons, exam technique, exam practice and walking talking mocks. Students will have access to revision quizzes on doddle.</p>



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Syllabus combined	<p>All pupils studying science at KS4 will use the AQA combined science programme of study. This can be found using the specification link below:</p> <p>http://www.aqa.org.uk/subjects/science/gcse/combined-science-trilogy-8464</p>				
Syllabus-Chemistry	<p>All pupils studying Chemistry at KS4 will use the AQA Chemistry of study. This can be found using the specification link below:</p> <p>http://www.aqa.org.uk/subjects/science/gcse/chemistry-8462</p>	<p>The same as combined Science above Triple Science Students will start the final Chemistry at the end of November</p>	<p><u>Chemistry Only Unit</u></p> <ul style="list-style-type: none"> -Transition elements -Nanoparticles -Yield and atom economy -Concentration calculations -Amounts of substance -Titrations -Chemical and fuel cells 	<p><u>Chemistry Only Unit</u></p> <ul style="list-style-type: none"> -Haber process -Alkenes and alcohols -Addition polymerization -Synthetic polymers -Ion tests -Material science 	
Syllabus- Biology	<p>All pupils studying Biology at KS4 will use the AQA Biology of study. This can be found using the specification link below:</p> <p>http://www.aqa.org.uk/subjects/science/gcse/biology-8461</p>	<p>The same as combined Science above Triple Science Students will start the final Biology at the end of November</p>	<p><u>Biology Only Unit</u></p> <ul style="list-style-type: none"> -Culturing microorganisms -Monoclonal antibodies -Plant disease -The brain -The eye -Control of body temperature -Maintaining water and nitrogen balance in the body -Plant hormones 	<p><u>Biology Only Unit</u></p> <ul style="list-style-type: none"> -Theory of evolution -Speciation -Understanding genetics -Decomposition -Environmental change -Trophic levels in an ecosystem -Food production 	




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			-Evaluating Asexual and sexual reproduction -DNA Structure		
Syllabus-Physics	All pupils studying Physics at KS4 will use the AQA Physics of study. This can be found using the specification link below: http://www.aqa.org.uk/subjects/science/gcse/physics-8463	The same as combined Science above Triple Science Students will start the final Physics at the end of November	Physics Only Unit -Static charge and electric fields -Induction -Generators -Loudspeakers and microphones -Transformers -Gas pressure/particle motion Pressure in fluids -Nuclear radiation	Physics Only Unit -Nuclear fission/fusion -solar system and stars -red shift - reflection of waves -concave/convex lenses -colour/light -radiation -sound waves -waves	
Knowledge	Students will develop their knowledge, understanding and skillset in the above syllabus topics. This will be complimented with required practical experiments, Scientific skills and exam technique.	Students will develop their knowledge, understanding and skillset in the above syllabus topics. This will be complimented with required practical experiments, Scientific skills and exam technique.	Students will develop their knowledge, understanding and skillset in the above syllabus topics. This will be complimented with required practical experiments, Scientific skills and exam technique.	Students will develop their knowledge, understanding and skillset in the above syllabus topics. This will be complimented with required practical experiments, Scientific skills and exam technique.	
Skills	Practical skills, evaluating methods, Analysing data, calculations, rearranging formulae, memorizing formulae, making predictions, applying knowledge to new scenarios, describing and explaining data from graphs, using scales and suggesting hypothesis and explanations to new ideas. These skills are embedded in all lessons and students will have multiple opportunities to apply these skills across all topics.	Practical skills, evaluating methods, Analysing data, calculations, rearranging formulae, memorizing formulae, making predictions, applying knowledge to new scenarios, describing and explaining data from graphs, using scales and suggesting hypothesis and explanations to new ideas. These skills are embedded in all lessons and students will have multiple opportunities to apply these skills across all topics.	Practical skills, evaluating methods, Analysing data, calculations, rearranging formulae, memorizing formulae, making predictions, applying knowledge to new scenarios, describing and explaining data from graphs, using scales and suggesting hypothesis and explanations to new ideas. These skills are embedded in all lessons and students will have multiple opportunities to apply these skills across all topics.	Practical skills, evaluating methods, Analysing data, calculations, rearranging formulae, memorizing formulae, making predictions, applying knowledge to new scenarios, describing and explaining data from graphs, using scales and suggesting hypothesis and explanations to new ideas. These skills are embedded in all lessons and students will have multiple opportunities to apply these skills across all topics.	



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Assessment	<p>Marking Point 1</p> <p>Neutralisation write up</p> <p>Marking Point 2</p> <p>EOT chemistry</p> <p>Marking Point 3</p> <p>Reaction profiles</p>	<p>Marking Point 1</p> <p>MOJA island – alternative energy</p> <p>Marking Point 2</p> <p>College entry exams</p> <p>Marking Point 3</p> <p>Latent heat write up</p>	<p>Marking Point 1</p> <p>Practice examinations / revision tests</p> <p>Marking Point 2</p> <p>Practice examinations / revision tests</p> <p>Marking Point 3</p> <p>Practice examinations / revision tests</p>	<p>Marking Point 1</p> <p>Practice examinations / revision tests</p> <p>Marking Point 2</p> <p>Practice examinations / revision tests</p> <p>Marking Point 3</p> <p>Practice examinations / revision tests</p>	<p>Marking Point 1</p> <p>Practice examinations / revision tests</p> <p>Marking Point 2</p> <p>Practice examinations / revision tests</p> <p>Marking Point 3</p> <p>Practice examinations / revision tests</p>
Cultural Enrichment	<p>Applying scientific concepts to the real world and advances in STEM. Considering social, moral, and ethical implications of scientific interventions. Sharing ideas and opinions and considering opposing viewpoints of scientific theories.</p>	<p>Applying scientific concepts to the real world and advances in STEM. Considering social, moral, and ethical implications of scientific interventions. Sharing ideas and opinions and considering opposing viewpoints of scientific theories.</p>	<p>Applying scientific concepts to the real world and advances in STEM. Considering social, moral, and ethical implications of scientific interventions. Sharing ideas and opinions and considering opposing viewpoints of scientific theories.</p>	<p>Applying scientific concepts to the real world and advances in STEM. Considering social, moral, and ethical implications of scientific interventions. Sharing ideas and opinions and considering opposing viewpoints of scientific theories.</p>	
Character	 <p>QoS – Optimism</p> <p>Optimism – students continuously track their own progress throughout the year and reflect on their learning journey. This for many can provide optimism and motivation. Students will use PLC's after every sub topic to monitor their own learning and set targets for future revision. Teachers will encourage students to be optimistic as they approach the start of their college entry exams and as they map out their learning journey for the year.</p>	 <p>QoS – Empathy</p> <p>Empathy – student-friendly mark schemes are provided and used by peers to assess work and give constructive feedback. Students will provide support to their peers during group and investigative activities.</p>	 <p>QoS – Creativity & Curiosity</p> <p>Creativity – students are encouraged to use their creativity in group and application tasks. Topics such as modelling, presentations and problem solving will allow opportunity for this skill to be developed. Students will also be encouraged to be creative with their time to accommodate all subjects into their revision timetables.</p>	 <p>QoS – Responsibility & Reflection</p> <p>Responsibility – students are provided with a choice of revision topics at afterschool sessions and it is their responsibility to choose an area of weakness to focus on. Staff are available to support at the revision hub and this is to promote independence of students. Students will be encouraged to use Doodle to look at</p>	



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			<p>Curiosity – students are encouraged to learn independently through doddle, GCSE Pod and using Science revision resources.</p>	<p>revision topics from their own areas of weakness and assess themselves using the online quiz tests.</p> <p>Reflection – students are encouraged to reflect on every practice exam performance through the use of an exam PLC.</p>	
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