



Science

Key Stage 4 Framework for Learning

Year 9 2017-2018: Happy Foundations

Syllabus:

AQA GCSE



Combined Science Trilogy

Specification 8464

Autumn 1



<p>Knowledge</p>	<p>(Biology) Animal and plant cells Microscopy Specialisation Eukaryotic and Prokaryotic cells Chromosomes EOT Infectious disease Bacterial and fungal disease Viral Disease Malaria Writing to inform malaria Defence systems Vaccinations Resistance Antibiotics EOT</p>
<p>Skills</p>	<p>Inference Modelling Key terms Misconceptions in science Comparisons Graph analysis Calculations</p>
<p>Assessment</p>	<p><i>Marking Point 1 complete advert / peer assessment</i> <i>Marking Point 2 Writing to inform malaria</i> <i>Marking Point 3 End of topic test</i></p>
<p>Cultural enrichment</p>	<p>Looking at disease/death rates in other countries Risk factors for disease and cancer Contraception in developing countries and appreciation of differing viewpoints Life expectancy Topical issues with health in the media Essay Homework Fed Up</p>



	A task that asks students to question their own diet and that of the average 'westerner'. Having done so they are asked to draw conclusions and write to the Headteacher and ask that the food available in school is of a suitable quality and will support a healthy lifestyle.
Character	 QofS – Optimism
Autumn 2	
Knowledge	<p>(Chemistry) Atomic structure (pt1) Atomic structure (pt2) Atom size and electron structure The reactivity series Extraction of metal oxides Alternative methods of extraction</p> <p>EOT The evolving atmosphere atmospheric pollutants cause and effect of global warming</p> <p>Human impacts</p> <p>MCT Progress test before the flood documentary</p>
Skills	Students will be assessed on their skills and knowledge retention. The skill assessed this unit will be: Students will peer assess knowledge tests and unit tests to prepare them for the end of term exam.
Assessment	<i>Marking Point 1</i> <i>EOT</i> <i>Marking Point 2</i> <i>Human impacts</i> <i>Marking Point 3</i> <i>PROGRESS TEST</i>
Cultural enrichment	Essay homework – Historical science Looking at famous scientists Essay Chemistry: a volatile history? (the order of the elements) Students should write an article about the history of the periodic table.
Character	 QofS – Empathy





Spring 1

<p>Knowledge</p>	<p>(Physics)</p> <p>Energy stores and systems changes in energy (GPE) changes in energy (KE) changes in energy (EPE)</p> <p>EOT (ENERGY)</p> <p>work power Sankey diagrams Useful energy and efficiency</p> <p>MCT</p> <p>changes of state density investigating density (pt1)</p> <p>EOT</p>
<p>Skills</p>	<p>Investigative skills, group work, completion of practicals, Method writing, Evaluating</p>
<p>Assessment</p>	<p><i>Marking Point 1</i> <i>EOT (ENERGY)</i> <i>Marking Point 2</i> <i>MCT</i> <i>Marking Point 3</i> <i>End of topic test</i></p>
<p>Cultural enrichment</p>	<p>Essay Homework Imitation game A task that asks students to consider the homosexuality, ethical and gender issues raised in the film. Students then, via their own research should try to decide whether the attitudes in Britain have progressed since the end of the second world war, and whether this has been legislated for by the governments that have been in power.</p>
<p>Character</p>	<p> </p> <p>QoS – Creativity & Curiosity</p>



Spring 2

<p>Knowledge</p>	<p>(Biology)</p> <p>sexual and Asexual reproduction Advantages and disadvantages of reproduction DNA and the genome Variation Classification</p> <p>MCT</p>
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	<p>Metabolism Aerobic respiration Anaerobic respiration Response to exercise Photosynthesis reaction</p> <p>MCT Progress test</p>
Skills	<p>Presentations Evaluation Comprehension Extended writing Calculations Analyzing graphs HSW key terms</p>
Assessment	<p><i>Marking Point 1</i> <i>MCT</i> <i>Marking Point 2</i> <i>MCT</i> <i>Marking Point 3</i> <i>PROGRESS TEST</i></p>
Cultural enrichment	<p>Essay Homework GATTACA A task that asks students to consider the ethical and discriminatory issues raised in the movie GATTACA. Students are also asked to consider whether these issues are addressed in society today and to what extent we know and understand this.</p>
Character	<p> </p> <p>QofS – Responsibility & Reflection</p>
Summer 1	
Knowledge	<p>(Chemistry)</p> <p>Collision theory Factors affecting rate Calculating rates of reaction</p> <p>Buffer</p> <p>Catalysts Effect of changing temperature</p> <p>Effect of changing concentration Effect of changing concentration</p> <p>EOT</p> <p>Crude oil properties of hydrocarbons cracking</p>




	cracking method Polymers
Skills	Students will peer assess knowledge tests and unit tests to prepare them for the end of term exam.
Assessment	<i>Marking Point 1</i> <i>Investigation write up</i> <i>Marking Point 2</i> <i>Effect of changing concentration write up</i> <i>Marking Point 3</i> <i>End of topic test</i>
Cultural enrichment	Essay homework – The Armstrong Lie Students will write about drug testing in sport. They will write about the extreme actions of certain athletes to evade detection and the morality surrounding blood doping.
Character	  QoS – Practice & Resiliency

Summer 2

Knowledge	<p>(Physics)</p> <p>Forces</p> <p>Resolving forces</p> <p>work done</p> <p>Forces and elasticity</p> <p>Hooke's Law</p> <p>Speed and distance time graphs</p> <p>velocity and displacement</p> <p>velocity and acceleration</p> <p>terminal velocity</p> <p>Gravity</p> <p>stopping distances</p> <p>mct</p> <p>National grid</p> <p>DOCUMENTARY</p> <p>national grid</p> <p>year 9 prog test</p>
Skills	Modelling. Comprehension exercises. Practical completion. Calculations. Using equations.



Assessment	<i>Marking Point 1</i> <i>Hooke's Law</i> <i>Marking Point 2</i> <i>stopping distances 2</i> <i>Marking Point 3</i> <i>PROGRESS TEST</i>
Cultural enrichment	To consider road safety and the actions of lawmakers and communities towards speeding and poor vehicle maintenance.
Character	 QoS – Motivation