

Science Curriculum

Rationale for topic choices in each year group:

KS3 pupils receive 3 hours of science teaching per fortnight. They study AQA Entry Level Science. These are nationally recognised qualifications which give students the opportunity to achieve a certificated award. The ELC Science specification is co-teachable with GCSE Combined Sciences so it prepares students for them to return to mainstream. The assessment is on demand so students can complete assignments when they are ready, helping to keep them motivated.

The ELC provides flexibility, but on a clear progression pathway. It equips students with skills and knowledge transferable to both educational and career settings, and provides a worthwhile course for students of various ages and from diverse backgrounds in terms of general education and lifelong learning.

Long Term Plan:

Year group	Autumn term	Spring term	Summer term	Schemes of work and further information	How are pupils assessed?
7	Biology Component 2 <u>Environment, evolution and inheritance</u> Feeding relationships. Competition between species. Theories of evolution Reproduction and DNA.	Chemistry Component 3 <u>Elements, mixtures and compounds</u> Atoms, elements and compounds. States of matter.	Physics Component 5 <u>Energy, forces and the structure of matter</u> Energy, energy transfers and energy resources. Forces at work. Speed and stopping distances.	http://filestore.aqa.org.uk/resources/science/specifications/AQA-5960-SP-2016.PDF http://filestore.aqa.org.uk/resources/science/AQA-59602-SOW.DOCX	Pupils work is assessed against 2 assessment objectives (AO). Assessment is through completion of the externally set assignments (ESAs) and teacher devised assignments (TDAs). <u>Single Award</u> Evidence for three components, with at least one chosen from biology, chemistry and physics. <u>Double Award</u> Evidence from all six components. Six ESAs and six TDAs. Please refer to AO and grading framework in the chart below.
8	Biology Component 2 <u>Environment, evolution and inheritance</u> Feeding relationships. Competition between species. Theories of evolution Reproduction and DNA.	Chemistry Component 3 <u>Elements, mixtures and compounds</u> Atoms, elements and compounds. States of matter.	Physics Component 5 <u>Energy, forces and the structure of matter</u> Energy, energy transfers and energy resources. Forces at work. Speed and stopping distances.	http://filestore.aqa.org.uk/resources/science/AQA-59603-SOW.DOCX http://filestore.aqa.org.uk/resources/science/AQA-59605-SOW.DOCX http://filestore.aqa.org.uk/resources/science/AQA-59602-WS-07.DOCX	
9	Biology Component 2 <u>Environment, evolution and inheritance</u> Feeding relationships. Competition between species. Theories of evolution Reproduction and DNA.	Chemistry Component 3 <u>Elements, mixtures and compounds</u> Atoms, elements and compounds. States of matter.	Physics Component 5 <u>Energy, forces and the structure of matter</u> Energy, energy transfers and energy resources. Forces at work. Speed and stopping distances.	http://filestore.aqa.org.uk/resources/science/AQA-59603-WS-03.DOCX http://filestore.aqa.org.uk/resources/science/AQA-59605-WS-02.DOCX	

Grade	AO1: knowledge and understanding	AO2: Demonstrate the ability to design an investigation
1	<p>Students can recall and understand simple limited parts of the specification, e.g. a good diet and exercise is needed to keep the body healthy or that materials have a range of properties and these properties determine the uses of the materials. Students can communicate simple ideas using everyday language. They can communicate their findings in simple ways.</p>	<p>Students can use simple equipment safely and can carry out simple scientific investigations, under instruction. They can describe the steps in an experiment where they were given help. They can state what they found out in an experiment.</p>
2	<p>Students can recall, understand and apply knowledge from across the specification, e.g. they are familiar with different ways of conserving energy in the home and can compare the efficiency of different methods. Students use their knowledge about living things to describe the basic conditions (e.g. a supply of food, water, air, light). Students working at this level can communicate using simple scientific terms.</p>	<p>Students can suggest simple experiments to find out answers to given problems. They respond to suggestions about how to find things out and can make suggestions about how to collect data to answer questions. They can use simple equipment safely and make observations or simple measurements related to their task recording results in a given format. They describe their observations using scientific vocabulary and record them, using simple tables when appropriate.</p>
3	<p>Students can recall, understand and apply knowledge from a wide range of the specification, e.g. students have an understanding of basic life processes (e.g. growth, reproduction) and understand how living things may be subjected to competition and environmental changes. Students use their knowledge and understanding of physical phenomena to link cause and effect in simple explanations. Students communicate in a scientific way what they have found out and suggest improvements in their work. They can obtain information from data provided, assimilate it and communicate ideas and conclusions in short, coherent sentences.</p>	<p>Students can put forward ideas for investigations and make simple predictions about outcomes. They can make observations in detail and make measurements using appropriate apparatus. They can carry out scientific investigations safely and with some confidence, and record their results, create tables for data and label drawings or diagrams. They are able to make some comparisons between observations or measurements. If appropriate, they can find patterns in their results. Students can draw simple conclusions from the evidence found.</p>