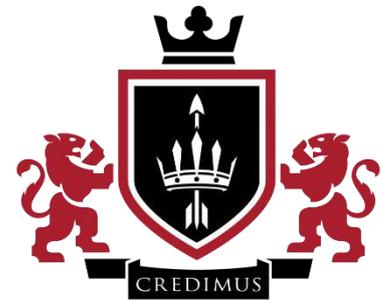


Y8 KLAB Curriculum



KING'S LEADERSHIP
ACADEMY BOLTON



Y8 Science Curriculum

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Intent, Implementation and Impact

The physicist Richard Feynman once said “what we are looking for, is how everything works”, he was right! Science is a subject that opens up the world by imbuing pupils with the collective knowledge of over two thousand years of acquired knowledge. Our curriculum will ensure that every child leaves the school viewing the world in a different light, able to make decisions about their career, health and engagement with science within society. Furthermore, we want no pupil to feel shut out from accessing documentaries, museums, stories and media about science. Science knowledge is the entitlement of every child!

Richard Feynman also said “there are no miracle people”. We stand by that statement at Kings and take all pupils through a well sequenced, knowledge rich curriculum. Further to this, we believe the best route to mastery in science is practice, teacher led lessons and hard work!

Throughout their time at kings, pupils will study a wide range of subjects across biology, chemistry, physics and astronomy. These topics range from human biology or the formation of the universe to the structure of atoms. Our programme of study is identical for all pupils at key stage three. When pupils get to GCSE, we will help them to choose one of two streams:

Combined science 9-1 (AQA)

This stream awards pupils **two GCSE** grades, and covers biology, chemistry and physics. This is still a suitable stream for those who wish to pursue careers which require science knowledge.

Separate science (AQA)

This stream awards pupils with **three distinct GCSE's**:

GCSE Biology (9-1)

GCSE Chemistry (9-1)

GCSE Physics (9-1)

These courses contain **all of the combined science** content, but provide **extra depth** for each subject. This course occupies one of the GCSE option slots for a pupil.

SCIENCE LC1

SUBJECT	Science	YEAR	7	LEARNING CYCLE	1		
Module(s)	Chemical Reactions						
Outline and Rationale	<p>Brief explanation to place the new learning in to context</p> <p>The module Chemical Reactions explores how atoms of different elements can react to form new compositions or can react in a way in which composition is unchanged. Key reactions of acids and alkalis, metals and oxidation processes are investigated.</p> <p>Why is this topic being taught?</p> <p>This module develops the systematic understanding that atoms of most elements do not exist in isolation Understanding of how atoms react and introducing both word and symbol equations is key to all future learning in Chemistry and Biology</p> <p>How does it build on prior learning?</p> <p>The module Chemical Reactions develops learning from KS2 Year 5 programme of Study where reversible and irreversible changes are identified and the production of new materials are explored. It builds on the learning in LC4 Science GST Project developing the systematic understanding of the atom , periodic table and elements , mixtures and compounds.</p>						
Learning Cycle Overview	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7
	Identifying Chemical and Physical Changes	Describing Chemical Reactions	Acids and Alkalis	Reactions of Metals	Oxidation, Combustion and Thermal Decomposition	Revision Assessment	Gap week (review of topics Week 1-5)

SCIENCE LC2

SUBJECT	Science	YEAR	8	LEARNING CYCLE	2		
Module(s)	Waves and Space						
Outline and Rationale	<p>The topic of Waves and Space is being taught as it is part of everyday life and covers a wide range of sub-topics included within waves. The module develops learning from KS2 program of study on light, sound, Earth, Space and Forces. It links forces and develops an understanding of different types of wave both longitudinal and transverse waves, it covers some of the uses of waves in everyday life and also space. It also looks at the history of theories and discoveries and also leading edge discoveries and voyages into space and space travel.</p> <p>It is a topic that covers areas of debate and discussion for future science exploration and current exploration including Space X and the International Space station. It is a topic that pupils can look at current research and theories and how they have developed over time. It links to the history of some of the greatest discoveries in the history of mankind. Waves are an important part of everyday life and cements a foundation for further study at GCSE both combined and separate sciences. It covers a wide range of topics within the topic including light, sound, gravity, planets, day and night, seasons and a year.</p> <p>Pupils will have developed prior knowledge of particles and forces in previous learning cycles, it builds on the forces and their effects in a previous learning cycle.</p> <p>It is important to build on prior knowledge and to develop understanding further introducing key terms e.g. the planets, light, sound, gravity and the universe. It builds on ideas introduced in the unit on the Earth, Sun and Moon and also how we see things. It also links to Light and Shadows and builds on changing sounds from the KS2 program of study.</p>						
Learning Cycle Overview	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7
	Solar system	Gravity	Satellites and The Big Bang	Light waves	Sound waves	Revision Assessment	Gap week (review of topics Week 1-5)