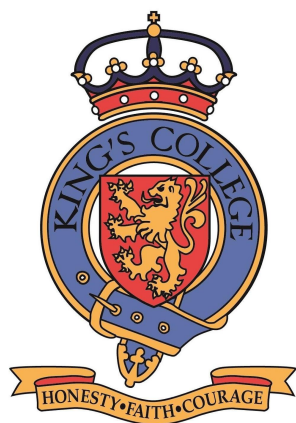


Key Stage 3 Curriculum Overview

Science

2022-23



King's College
The British School of Murcia

Science Programme at Key Stage 3

Curriculum Rationale

The Science curriculum at King's College Murcia is broad and balanced, and it provides students with the opportunity to study all three disciplines through the teaching of the theory, and through hands-on experimentation. From the smallest units of matter to the vast expanses of the Universe, our students will be encouraged to appreciate the awe and wonder of science and develop a natural curiosity for learning about this amazing subject. The curriculum is designed to give opportunities for students to learn about the world around them, about the discoveries that have taken place and how science continues to make new discoveries today and into the future. The knowledge, understanding and the skills they learn throughout KS3 are transferable to their other subjects at this key stage, for their future studies but also for life.

The aim of the KS3 curriculum is to:

- *Build on their scientific knowledge from key stage 2 and make connections between different areas of science and to then create a solid foundation for continuing science into their GCSE studies and beyond*
- *Use scientific ideas and models to explain phenomena and events. The use of scientific language is actively encouraged so that it becomes a natural part of their vocabulary*
- *Carry out investigations of different types, in groups, and make use of reference sources and ICT to analyse and evaluate their results.*
- *Develop their investigative skills and teach them how to present, analyse and evaluate their results*
- *Develop an appreciation of how science is relevant in their lives*

Below you will find a term by term description of the topics/skills normally taught each term. The exact timings may of course vary and the order in which the topics are covered may change. Science is taught through a mixture of theory and practical lessons in our superbly resourced science laboratories.

Each topic typically lasts for three to four weeks during which time students will be given tasks to complete both individually and collaboratively. Discussion and deep-thinking skills are encouraged in the lessons and there is an emphasis on question and answer sessions, debates and the presentation of student's ideas. We aim to Nurture an environment that is stimulating and challenging and that also allows students to be creative and express their opinions and ideas. The lessons are designed to be accessible to all learners regardless of ability or prior knowledge, with the aim of creating a path of continuous progress.

Student progress will be assessed throughout the topic but there will be key tasks set in class or for homework that will be assessed more formally. Additionally, end of topic tests will be used to determine students' knowledge and understanding and will be used to set targets and for tracking of student progress

Science At Key Stage 3 - what will pupils study?

YEAR 7

AUTUMN	<i>Science skills</i>	<i>Measurement, safety in the laboratory, practical skills</i>
	<i>Biology</i>	<i>Cells, microscopes and organisation</i>
	<i>Chemistry</i>	<i>Particles and states of matter</i>
	<i>Physics</i>	<i>Energy transfers and energy resources</i>
SPRING	<i>Biology</i>	<i>Animal and plant reproduction</i>
	<i>Chemistry</i>	<i>Acids and alkalis</i>
	<i>Physics</i>	<i>Forces and motion</i>
SUMMER	<i>Biology</i>	<i>Ecosystems</i>
	<i>Chemistry</i>	<i>Atoms, elements and compounds</i>
	<i>Physics</i>	<i>Earth and Space</i>
	<i>Review</i>	<i>Year review - what have we learned ? What do I need support with?</i>

YEAR 8

These topics build on the prior learning from Year 7 and there is an incremental development of their skills and application of knowledge and understanding. Project based topics have been added to the curriculum to give students the opportunity to extend their learning, work collaboratively, make essential links between the theory of what they have learned and to design, perform and analyse the data from their investigations.

AUTUMN	<i>Biology</i>	<i>Nutrition and digestion</i>
	<i>Physics</i>	<i>Heating and cooling</i>
	<i>Chemistry</i>	<i>Pure and impure substances</i>
	<i>Biology</i>	<i>Respiration and circulation</i>
SPRING	<i>Physics</i>	<i>Waves , sound and light</i>
	<i>Chemistry</i>	<i>Chemical reactions</i>
	<i>Biology</i>	<i>Plants and photosynthesis</i>
SUMMER	<i>Physics</i>	<i>Electricity</i>
	<i>Physics</i>	<i>Project - Electromagnets</i>
	<i>Biology</i>	<i>Project - Health and disease</i>
	<i>Review</i>	<i>End of KS summary - what have we learned? What do I need help with?</i>

YEAR 9

The students in Year 9 start learning some of the less challenging topics from the GCSE Combined Science curriculum. The three year GCSE scheme of work has been adopted by many private and international schools as it allows for better preparation and transition to the GCSE. These topics are then reviewed at the beginning of term 1 in Year 10 as this helps with consolidation and making links between topics they have covered in Year 9. The students are provided with an electronic book (ebook), Pearson Active Learn. This is the primary resource they will use in Year 9 and into Years 10 and 11.

AUTUMN	<i>Physics</i>	<i>Motion</i>
	<i>Chemistry</i>	<i>States of matter and separation techniques</i>
	<i>Biology</i>	<i>Cells, microscopes and specialised cells, cell division</i>
SPRING	<i>Chemistry</i>	<i>Atomic structure and the Periodic Table</i>
	<i>Physics</i>	<i>Forces and motion (1)</i>
	<i>Biology</i>	<i>Ecosystems</i>
SUMMER	<i>Chemistry</i>	<i>Bonding (and electrolysis)</i>
	<i>Physics</i>	<i>Forces and motion (2)</i>
	<i>Biology</i>	<i>General principles of Biology - diffusion, transport membranes</i>
	<i>Review</i>	<i>Year review - what have we learned ? What do I need support with?</i>

Resources:

These resources are used in lessons as a teaching resource but are also used by students at home to help complete homework tasks and help with revision for end of topic tests. It is recommended that parents also access these resources so they can help support their children's learning.

Google Classroom - most lessons and all homework tasks are placed on the Classroom. Parents are invited to access this resource

Doddle - <https://www.doddlelearn.co.uk/> this is an online learning platform with colourful and interactive presentations covering the theory, quizzes and homework tasks

BBC Bitesize - <https://www.bbc.co.uk/bitesize/subjects/zng4d2p> a learning resource for students which includes topic notes, revision and quizzes

YouTube sites including ones such as

https://www.youtube.com/results?search_query=malmesbury+education+ks3

Year 9 only

Pearson Active Learn <https://www.pearsonactivelearn.com/app/home> (Year 9)

Physics and Maths tutor <https://www.physicsandmathstutor.com/>

Cognito <https://cognitoedu.org/>

