

# Curriculum Overview



## Science



## KS3



At SUA the science curriculum at KS3 is exciting, purposeful and practical based. Students are encouraged become a scientist by developing their science skills through thought provoking practical lessons and enquiry. The science curriculum has been designed to develop curious independent learners and to deepen their understanding of science and the world around them. At KS3 students will study units that interleave Biology, chemistry and physics. In year 7 students will study the following topics: Becoming a scientist, cooking with chemistry, to infinity and beyond, what's in the box, give us a wave and reproduction, In year 8 students will study the following topics: The jungle, charging up, what's in the box 2, fuelling up, shipwrecked

## KS4



All students at SUA will study for 3 GCSEs in science giving them opportunity to excel and continue on with their science studies. Students follow the AQA biology, chemistry and physics course which focuses on practical's supporting the knowledge students. In biology students will look at aspects such a DNA and how its code make us who we are, in addition will explore the communicable and non-communicable diseases. In chemistry students will understand the language of the periodic table to allow them to predict reactions. Students will also look at the world around them and reflect on the impact we are having on our world. In physics students will further their studies in electricity and forces as well as ponder space.

## KS5



At SUA 6 students will follow the Pearson BTEC specification. This course has been designed for post-16 students wishing to continue their passion for science through applied learning, and who aim to progress to higher education, apprenticeships or employment in the field of science. At KS5 students will apply their curious minds to physics, chemistry and biology and how these sciences play an important role in everyday life.

KS5 biology overview  
At SUA the A Level Biology course we follow is OCR Biology A. It has a flexible approach and is divided into key biology concepts. The teaching of practical skills is integrated with the theoretical topics and they are assessed through written papers at the end of the two-year course. Content is split into six modules:  
Module 1 – Development of practical skills in biology  
Module 2 – Foundations in biology  
Module 3 – Exchange and transport  
Module 4 – Biodiversity, evolution and disease  
Module 5 – Communication, homeostasis and energy  
Module 6 – Genetics, evolution and ecosystems

### Links from KS2

- Our Curriculum develops students KS2 learning by building on student's enquiry skills taken their knowledge of variable, equipment and conclusions to a more complex working process of designing practical's, analysis and evaluation their practical's.
- Our curriculum ensures that connections between biology, chemistry and physics. Examples of these are the links between structure and function in living organisms, the particulate model as the key to understanding the properties and interactions of matter in all its forms, and the resources and means of transfer of energy as key determinants of all of these interactions.

### Experiences

- A STEM club where students have the opportunity to extract DNA, create their own bottle rockets and erupt model volcanoes.
- Attend seminars with industry experts, enabling our students to ask questions, use professional vocabulary and increase their social mobility.
- Opportunities for students to design their own scientific models, increasing their authenticity in the subject.

### Links to CHARACTER

- Students will be made aware of a variety of scientific careers.
- Students will become responsible for their own safety and the safety of others during practical investigations.
- Discussions regarding the lifestyle choices that can lead to certain diseases will ensure that a respect for personal health is instilled in all students.