Oxford Spires Academy
Science

Our ambition as a science team at OSA is to inspire a love and curiosity for science learning not just inside but also outside the classroom. We aim to equip students with analytical and problem solving skills using both theory and hands-on practical work as well as an enthusiasm and thirst for scientific knowledge. This is enabled by our specialist teaching team and the creative teaching strategies we endeavour to deliver through our schemes of learning.

We are a very proud of the science GCSE and A-level results students achieve and the progress they make across all three disciplines (Biology, Chemistry and Physics) during their time at OSA. Our dedication to robust assessment, development of skills as well as the delivery of scientific knowledge has allowed us to be consistently one of the highest achieving faculties in the school.

KS3

Our KS3 curriculum has been written to promote inquiry and a love for the subject by including a large amount of investigation and practical science. Our main focus is therefore in developing practical and investigatory skills within the context of learning about different topics across Biology, Chemistry and Physics.

The order of the topics has been chosen to link with the order of topics in KS4 in order so pupils don't repeat topics too soon or with too much of a gap when they return to study them in greater detail. Some of the topics we cover during KS3 include: forces, energy, electricity and magnetism, plants and ecology, cells, genetics, mixtures and materials, elements and chemical reactions.

KS4

Our curriculum in KS4 is designed to promote independent thought, memory and recall. In each module we have a revision skills and recall lessons. The purpose of this is to promote the importance of recall in science given the large amount of content there is to learn across the three disciplines and also to explicitly teach the pupils methods for committing information and ideas to memory. We aim to teach lessons that engage pupils in the science content and that pupils find enjoyable and rewarding. We also aim to build strong and positive rapport with the pupils.

We follow the AQA specification and students will be assigned one of two course routes at the start of KS4 (Year 10): Combined Science Trilogy (equivalent of 2 GCSE grades) or Separate Sciences (a separate GCSE in each: Biology, Chemistry and Physics). Both routes allow students to achieve top grades and pursue science A-level courses if that is their intention.

There is a huge range of topics at GCSE across both courses with something to suit the abilities and interest of all students including: infection and response, bioenergetics, variation and evolution, chemical analysis, atomic structure and the periodic table, organic chemistry, waves, electromagnetism and space physics.

KS5

We are pleased to offer 4 popular A-level science courses: Biology, Chemistry, Physics and Psychology. Our A-level provision aims to really stretch and challenge students to build on the fundamental concepts from GCSE and apply them to much wider contexts applicable in everyday life or further scientific study. We have a large focus on development of analytical and practical skills, as well as promoting independence outside of the classroom and resilience as key components of successful A-level study.

Our A-level science students in the past have shown high aspirations and exceptional attainment to apply and take up places to study at Russel Group Universities, pursuing a range of subjects such as ; Medicine, Engineering, Pharmacology, Biomedical Sciences, Biochemistry, Physics, Child Psychology, Computer Sciences and Economics.

“Science lessons include logical thinking and problem solving, which is enjoyable and the topics can often be related to examples in everyday life. It also sometimes explains small curiosities about life in general!”

“Science is my favourite subject as I enjoy becoming educated in weird and amazing knowledge. Science helps me see things differently and intrigues me. Thank you to all the science teachers in Oxford Spires Academy who helped me make progress. You’re all amazing!”

“I like science, because it makes me think about some of the human and world problems like deforestation and global warming. It also gives me a wider understanding of why something is happening in the way it is like forces, waves and chemicals”

“I find all the sciences engaging and interesting and never a lesson without learning something new!”

Examples of Students Work