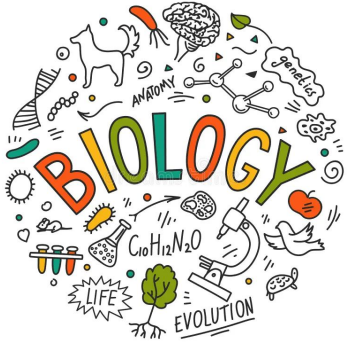
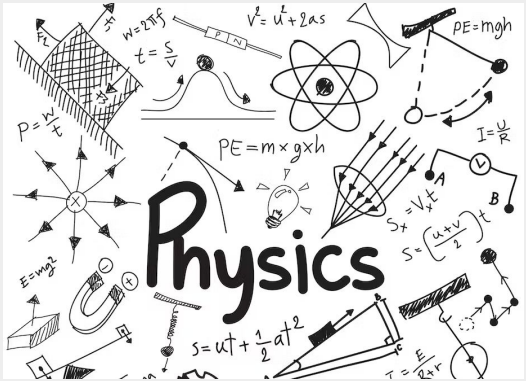
Vyners School

Striving for Excellence

Welcome to the Science Department





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KS5 Biology

Pearson Edexcel

At A Level, we follow the Salters Nuffield specification. We build upon the knowledge gained at GCSE and extend to cover cutting edge science such as Epigenetics and Stem cells, the human impact on Biodiversity and Climate change and diseases and their treatments. We look at the various ethical issues raised and the impact on society and the economy.

Alongside the examined part of the specification students will also complete a number of required practicals and if successful will be awarded a CPAC qualification.

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KS5 Chemistry

Pearson Edexcel

At A Level, we follow the Edexcel specification. We cover a wide variety of concepts such as the structure of the atom; the interaction of matter and energy; how to control reactions; patterns in the periodic table; understanding carbon-based molecules. Chemistry also helps you develop research, problem-solving and analytical skills. Alongside the examined part of the specification students will also complete a number of required practicals and if successful will be awarded a CPAC qualification.

KS5 Physics

AQA

At A Level, we follow the AQA specification. A level Physics give you the opportunity to explore the phenomena of the Universe and to look at the theories that explain what is observed. The practical skills that you develop and the subject knowledge will help you solve novel and complex problems.

Alongside the examined part of the specification students will also complete a number of required practicals and, if successful, will be awarded a CPAC qualification

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KS5 Medical Science BTEC

Pearson Edexcel

This programme covers key areas such as human anatomy, health issues, practical microbiology and infectious diseases. Through the course, students will develop a strong understanding of human physiology, anatomy, and pathology while gaining essential secondary research skills such as collecting and interpreting data from reliable sources to draw well-reasoned conclusions. They will also acquire practical expertise in microbiology, applying these techniques to the diagnosis of disease. Alongside these, students will refine their critical thinking abilities, enabling them to analyse information, evaluate evidence, and make informed scientific judgments.

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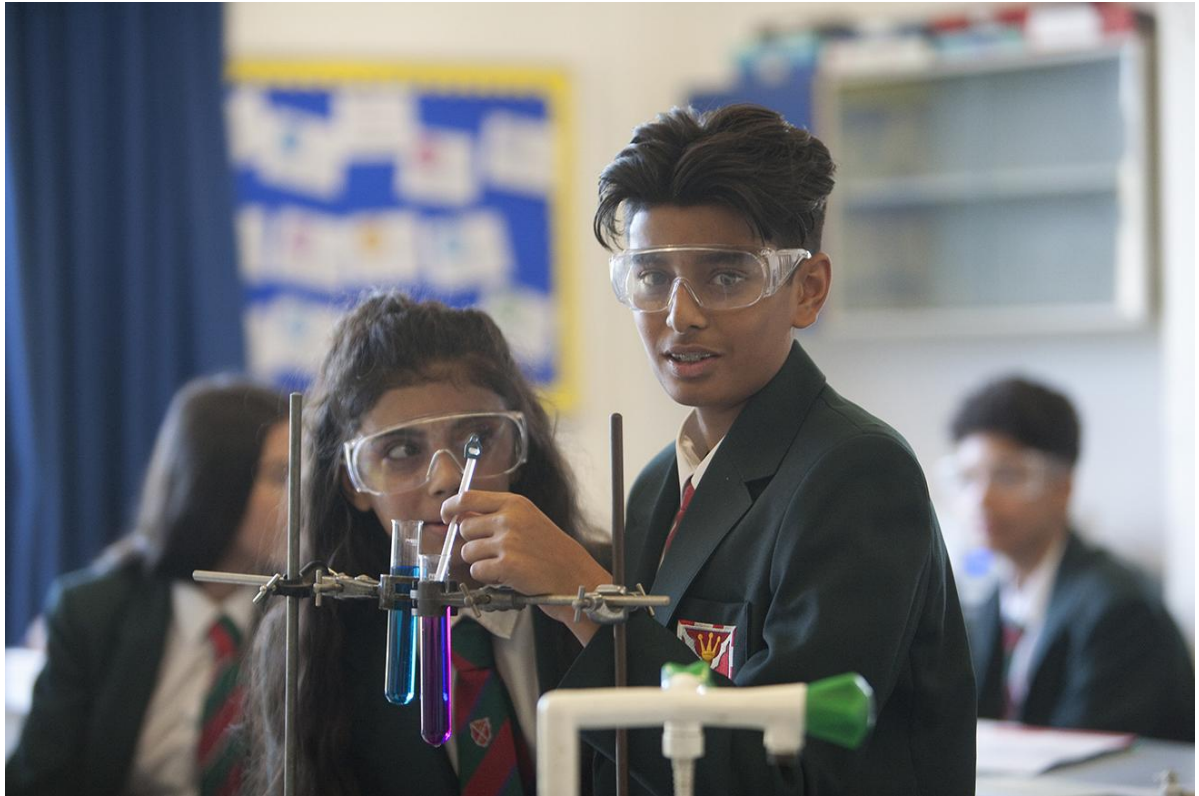

Our Co-curricular Offer

Students have the opportunity to join a very popular KS3 Science club and CREST award. Here 6th Formers and staff lead students through a variety of interesting practicals.
We have successfully competed in a number of STEM challenges and worked closely with Imperial College for a number of years.
We compete in the Biology Olympiad and other science competitions each year
At 6th Form we participate in the AMGEN Biotech Experience where students isolate their own DNA and complete DNA fingerprinting.

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Frequently Asked Questions

Will my child have to do dissections in Science? *Students can take part in dissections if they want to; however there is no insistence on this. They may want to just watch their teacher or friend doing the dissection. They can complete some questions on paper instead.*

How will my child be challenged in Science lessons? *The nature of the curriculum allows us to approach more challenging concepts with our pupils as we spiral through topics. From Year 7 onwards, we embed the skills needed to be successful in all key stages of Science. We train students to be critical of the data they collect, use reasoning to identify anomalies, identify patterns and links across topics taught and ideas currently held.*

How can you support your child in Science? *We do not use textbooks in science however we do endorse some revision guides that we feel offer the types of questions and retrieval practice that help students achieve. We would always advise watching documentaries and discussing current events outside of school. BBC bitesize is a great tool for testing understanding and offers links to BBC documentaries on health, planet Earth, space and historical scientists.*

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Frequently Asked Questions

How do teachers assess work in Science? *At Key Stage Three, pupils are assessed each term using real examination questions: Within topics students will either have a practical write up or a piece of homework marked with feedback given alongside a self-assessed end of topic test. At Key Stage Four, pupils are assessed using end of topic tests which are made using real AQA exam questions and practical write ups. These write-ups will have specific feedback given by staff and include exam practice too. Similarly, at Key Stage Five, teachers will mark a variety of tests and practical work including that needed for the CPAC qualification*

How often will my child do practicals in Science? *The government changed the GCSE and the A level specification to have a heavy weighting on practical skills. Because of these changes we have tailored our KS3 schemes of learning to ensure Vyners students have the required skills to excel. Most topics will have at least two key practicals out of a 6-8 lesson unit. These may involve using a variety of equipment but essentially we want all of our students to; learn how to be safe, read and follow a method, collect valid data and collate it in a table and eventually draw clear conclusions based on the data collected. These skills are easily transferable to most careers and workplaces.*

We look forward to meeting you in September!