



In Lower School Science we pride ourselves on providing students with the skills to design their own rigorous scientific studies and to evaluate the vast quantity of science that they are presented with in everyday life through the news and social media.

We are conscious that we are responsible for igniting students' love of learning and setting the foundation for three core GCSE subjects with the majority of our students taking science beyond GCSE. We therefore emphasise encouraging the inquisitive natures of our students. All our staff are experienced teachers with specialists in each discipline enabling us to maximise the enthusiasm with which our students tackle new subject content.

Through every topic we prioritise developing practical skills with a range of laboratory experiments given at every opportunity. Students are taught to plan their own investigations, analyse their results, draw well justified conclusions and, as we develop their reasoning, to evaluate experiments. We are conscious that students arrive having studied science at primary school to different depths. Focussing on practical work enables us to stretch students who have had more exposure to science previously, while bringing up the knowledge of students with less experience.

We teach a range of topics throughout year seven and eight giving a balanced blend of Chemistry, Physics and Biology. We work with the KS4 departments to ensure that we are providing a solid base for when students start GCSE. For example, we introduce particles and cells in year 7 with a view to students building on those in year 8 and 9. In electricity and energy, we work with the physics department to ensure we have a common language and models so that there is consistency and a reduction in student misconceptions. Although we assess students' knowledge gained in each topic, we give equal weighting to their ability to communicate their understanding of the topics using high quality scientific language that is compatible with GCSE and A-level stretching our students and having high expectations as befits their abilities and the Pate's Way. Students are given opportunities to develop their knowledge and understanding through visits to the Cheltenham Science Fair in Y8 and workshops from engineering firms in Y7.

By the end of year eight, all students take part in a science fair where they run their own investigations into a plethora of topics that have captured their interest. Each group aims to showcase their understanding of the scientific experimental process that they have learnt in the previous two years.

Y7	Y8
Introduction	Atoms, Elements and Compounds
Particles	Electricity
Solutions	Magnetism
Cells	Digestion
Reproduction	Chemical Reactions 2
Forces	Genetics & Variation
Speed	Light
Chemical Reactions 1	Sound
Energy	Ecological Relationships
Variation & Classification	Science Fair