



## **Science Department Curriculum Statement**

### **Vision**

Our core aim is to inspire students to nurture their natural curiosity and actively engage with the science that shapes the world around them. Through a diverse and challenging curriculum, we equip learners with a broad range of transferable skills that are valuable not only in scientific careers but across all professional fields.

We are committed to continually reviewing and evolving our curriculum to ensure that students develop their knowledge in a logical and incremental manner, which is essential for mastering complex scientific concepts. Recent refinements to teaching approaches at Key Stage 4, alongside developments in assessment practices across both Key Stage 3 and Key Stage 4, have strengthened our provision. In addition, an enhanced focus on effective questioning techniques and oracy supports deeper understanding. Together, these developments place a strong emphasis on the secure accumulation of knowledge, regular retrieval practice, and the systematic development of key scientific skills. This enables us to develop a deeper understanding of each student's grasp of Science, allowing us to identify gaps with precision and set targeted, personalised goals that support sustained progress.

### **Action**

In Year 7, students are introduced to the foundational principles of Biology, Chemistry, and Physics, laying the groundwork for future learning. They also begin developing the essential "vocabulary of Science," which includes the core skills that underpin scientific study through to GCSE and beyond.

From Year 8 onwards, students are taught by passionate subject specialists who bring their expertise and enthusiasm into the classroom. Practical work is seamlessly integrated into lessons thanks to extended teaching periods, creative timetabling, and a wealth of resources, ensuring all students have hands-on experience at key learning points.

We place strong emphasis on developing reading and oracy skills. Students are encouraged to explore current scientific issues through journals available in the Library and online. Examination technique is taught with a focus on understanding command words, processing information thoroughly, and using subject-specific vocabulary accurately.

Our popular Session 3 activities provide valuable opportunities for both enrichment and consolidation. Highlights include the Year 7 trip to Chester Zoo, which brings key topics such as adaptation, conservation, and habitats to life, helping students to apply their learning in a real-world context. These experiences also support students in developing an awareness of careers in fields such as conservation, environmental science, zoology, and animal care.

The Science Online Curriculum provides all classroom resources, enabling students to catch up on missed work and explore topics in greater depth.

Assessment is carefully structured through Key Assessment Points (KAPs), which monitor cumulative knowledge, retrieval and skills. These help identify students who need additional support and those who are ready for further challenge. Weekly formative assessments reinforce recall and understanding, while also identifying misconceptions for timely intervention.

### **Impact**

Our department consistently achieves outcomes that exceed national standards in both attainment and progress. Science is one of the most popular subjects in our Sixth Form, with around 140 students studying at least one A-level in Biology, Chemistry, or Physics.

We are proud of our students' success in gaining places at prestigious universities to study Medicine, Veterinary Medicine, Dentistry, and other science-based degrees. Science is also the leading department in preparing students for Oxford and Cambridge through our personalised mentoring programme.

A highlight of the academic year is the Year 8 Science Fair, where students work in teams to design and carry out investigations, culminating in an exhibition presented to staff, parents, and invited guests. This event showcases students' teamwork, communication, and presentation skills.

Our teachers are passionate about sharing their love of Science through a range of well-attended Session 3 activities, including KS3 Science Club, Medical Society, Lego Robotics, and STEM competitions. These opportunities not only deepen students' enthusiasm and understanding but also help to raise awareness of future pathways and careers in fields such as medicine, engineering, robotics, and scientific research. This is further enriched at A Level through fieldwork opportunities, such as the A level Biology Cranedale Centre trip, and engagement with engineering focused STEM events. These experiences provide students with valuable insight into real-world applications of scientific concepts and support their understanding of potential career pathways.

### **Subject contact**

Director of Science Miss L Foulkes [lfoulkes@ttsonline.net](mailto:lfoulkes@ttsonline.net)