



Science: Our DNA

Head of Department: Ms Wadham

We believe scientific, technological and practical skills and understanding are the foundation of our modern society. This makes engaging and effective teaching and learning of the Sciences incredibly important. The Bolingbroke Academy Science Department is committed to ensuring all pupils make greater than expected progress in Science, Computer Science and Food Science, preparing them for our STEM Specialist 6th Form and for courses and careers beyond. We will deliver interesting, academically rigorous lessons to every pupil, every day, valuing the role played by support staff, other Bolingbroke departments and parents and carers in allowing us to do this. Through implementation of our five key pledges, the expectations we have of our students and ourselves to BE BOLD can translate into enjoyment and outstanding achievement in the Sciences across all 3 Key Stages.

- **Subject Specialist Informed Planning** – Our subjects are exciting, dynamic and complex. As specialists, we commit to planning carefully to allow coherent mastery of the ‘Big Ideas’, with students working systematically to build and deepen understanding of central themes in the longer term. We will ensure material is cognitively appropriate yet stimulating and current, and that there is time within our curriculum to respond to the developments happening in the Sciences every day. We pledge to work collaboratively to share fantastic practice through CPD, observation and feedback cycles, pedagogical study and shared subject knowledge to ensure students receive the very best lessons we can offer.
- **Practical Work at the Core** – The Sciences are fundamentally practical subjects, leading to practical based courses and careers, and we pledge that our provision will pave the way for this. Lessons will have purposeful, investigative practical work that helps to build a culture of enquiry, satisfying and stimulating our students’ natural curiosity about the world and mechanisms around them. We commit to being focused on practical elements, ranging from in depth scientific investigations and food preparation to kinaesthetic activities and modelling. With long term strategy in place, students will master skills over time, embedding their knowledge within real contexts, and deepening their understanding of core concepts through experimentation.
- **Progress for All** – We commit to ensuring lessons maximise the potential progress of all students with appropriate stretch and support for everyone. We will challenge pupils within a growth mind-set framework, engaging them and encouraging resilience to prepare them for the challenges of their future studies and careers. We will ensure assessment is rigorous, frequent and carefully analysed to formulate targeted response to pupil attainment. We will only return to areas that require further mastery, preventing stagnation by avoiding unnecessary repetition of content or skills practise.
- **Scientific Literacy** – Studying the Sciences is not dissimilar to learning a new language and failing to master key vocabulary can limit the potential progress of students. We pledge that as a Department we will promote and prioritise Literacy from the first day in Year 7 to the last lesson before University or College. We will specifically teach the skills needed to ensure our students can access examination questions at all levels and are able to write extended responses that include sophisticated terminology, illustrating their analytical and evaluative skills.
- **Beyond the Classroom** – We are committed to taking learning further than the confines of a classroom or timetable. We will enthuse students with fantastic opportunities such as visits, trips and talks by professionals within the industry. Our tailored extra-curricular programme will also help to develop students with minds and skill sets ready for challenges of KS5 and beyond. We will offer individualised information and support to all pupils about possible future pathways into STEM courses and careers so all students can see the value and potential of their learning of the Sciences.