

OUR SCIENCE VISION

Our Science vision for students and staff is as follows:

“With our positive spirit, we are ready to face the challenges to ensure we succeed in Science.”

Our Science staff are a caring bunch of professionals and fundamentally strive to ensure students feel empowered to achieve their goals in our care. Staff work to the vision below:

“Our teaching, behaviours, attitudes and classroom environment, ensure children feel we care.”

OUR SCIENCE AIMS

- To offer specialism within our subjects to ensure students and staff can deliver an engaging curriculum.
- To prepare students for the rigor and challenge presented by our three science subjects of Biology, Chemistry and Physics.
- To equip students with science skills and strategies to enable them to become curious about the World around them and know how to seek answers to questions they may consider.
- To instil confidence in our students so they can enter high education and the workplace as competent and determined individuals.

In 2017, student progress in Science was in the top 40% nationally. Our high ability science students ranked in the top 2% nationally in terms of progress from their KS2 assessment.

We aim to continue to build on this success.

In the classroom, we regularly identify what students have grasped and build on any misconceptions through clear verbal and written feedback. Regular assessment in exam conditions is essential to prepare students for their final examinations.

Self-assessment is critical as it enables a student to work out for themselves why they got the answer right or wrong. It forms the basis for the process of metacognition. Further information regarding metacognition can be found in the website below.

<https://educationendowmentfoundation.org.uk/evidence-summaries/teaching-learning-toolkit/meta-cognition-and-self-regulation/>

Literacy and mathematical skills are an essential pre-requisite for Science.

Science requires knowledge to solve problems. Therefore students must be able to interpret and comprehend questions, and use their mathematical skills in order to solve the problem.

The majority of questions in GCSE and A-level papers now expect students to apply knowledge using their science skills set, together with literacy and mathematical skills. Therefore students are frequently given

exam-style questions to practice this. Work is corrected for mathematical process errors and also SPaG where appropriate.

Across the department, we offer our students a wide variety of opportunities in order to develop their science skills for the world of work. Some examples are detailed below:

- Crest programme. We actively support our students to achieve the Bronze crest award in Year 7&8. This is a nationally recognised programme which allows students to work independently and develop their science research and project management skills. We hope to offer the Silver Crest award this year.
- We take part in the Physicist of the Year award.
- Visits to Newcastle University, Archinova and Piramal (local pharmaceutical industries). We hope to extend this to lower school this year.
- Year 12 are encouraged to participate in the Nuffield Science project, sponsored by the Nuffield foundation. If selected, students in Year 12 are given the opportunity to complete a four-week project within an industrial environment, during their summer holidays. This also qualifies them for the Gold Crest award.
- This year we are focusing on using our local environment (in particular Hauxley nature reserve) as a learning space.
- We actively encourage speakers to visit our students to discuss careers in science

For any further information, please don't hesitate to contact Mrs Bailey, Director of Science.