Science

The Science curriculum has ten key ideas that encompass the National Curriculum for Science: Forces; Electromagnets; Energy; Waves; Matter; Reactions; Earth; Organisms; Ecosystems and Genes. Each big idea contains four related topics; their complexity and the relationships between topics are reflected in the route through. The foundations of the big ideas are laid early in KS3 and then developed throughout the five-year curriculum; it is our intent that by the end of year 11 each student will be able to relate scientific explanations to phenomena around them and confidently take part in the big conversation.

An understanding of the nature, processes and methods of science are developed through the scientific enquiry skill families of analyse, communicate, enquire and solve. Together these skill families capture what it means to work scientifically. They are taught alongside the knowledge and conceptual understanding curriculum and develop an understanding of how scientists work.

It is the intention that the curriculum will evolve to address the following aims:

- Deepen each student's understanding of 'science' through interleaving topics in different big idea topics and identifying common themes such as the relationship between structure and function / properties.
- Enquiry skills integrated into the knowledge and conceptual understanding curriculum so that they are developed purposefully in a range of contexts. This will enable students to relate scientific explanations to phenomena but also understand how scientists work to shape the world around us (e.g. how we should respond to phenomena such as global warming and SARS-COV-2). Through explicitly telling the stories of different scientists and the challenges they have faced, we will also address the disparity in attainment between boys and girls.
- Eliminate misconceptions through explicitly addressing them within lessons and through careful consideration of lesson sequences and how they lead to misconceptions.
- Develop written communication skills so that by the end of Year 11 students can communicate their ideas about science clearly and concisely.