SCIENCE AT THE OPEN ACADEMY

Our school vision **"Courage in every step, faith in every journey"**

Students will gain an understanding of how science helps us to explain and explore the world around us. Students will study key ideas from biology, chemistry and physics that develop their curiosity about the natural world and encourage them to think scientifically. They will investigate scientific concepts through practical enquiry, discussion and problem solving, enabling them to develop the skills required to question evidence and draw informed conclusions. Students will have opportunities to develop their scientific literacy so that they can communicate scientific ideas clearly, both verbally and in writing. Through experimentation, analysis and evaluation, students will grow in confidence as young scientists who can apply their knowledge to real-world situations and global challenges. Our curriculum encourages students to think critically, explore new ideas and appreciate the role science plays in improving people's lives and shaping the future of our planet.

RESPECT	ASPIRATION	PERSEVERANCE
Students will develop respect for the scientific process, recognising the importance of evidence, accuracy and ethical responsibility in scientific work. They will learn about the contributions of scientists from diverse backgrounds and understand how scientific discoveries have shaped the modern world. Students will also learn to respect the natural environment and understand the responsibility that science has in protecting and sustaining our planet for future generations.	Through exposure to a wide range of scientific ideas, discoveries and careers, students will be inspired to develop curiosity and ambition in science. The curriculum aims to motivate students to ask questions about the world and to pursue deeper understanding through investigation and research. Students will be encouraged to challenge themselves, take intellectual risks and aim for excellence in their scientific thinking and practical work.	Students will learn that the scientific process is built upon persistence, experimentation and learning from mistakes. They will develop resilience when solving problems, analysing results and refining their understanding. By embracing challenges and reflecting on their learning, students will build the determination and independence needed to develop strong scientific knowledge and skills that will support them throughout their education and beyond.
SPIRITUALITY	**GLOBAL CITIZENS**	**AWE AND WONDER**
Through the study of science, students will be encouraged to reflect on the complexity and interconnectedness of the natural world. At Key Stage 3 and Key Stage 4, students will explore fundamental scientific ideas that raise important questions about life, the universe and humanity's place within it. Students will have opportunities to reflect on the ethical and moral implications of scientific developments such as medical technology, genetic engineering and environmental sustainability. In doing so, they will develop a sense of responsibility for the world around them and an appreciation for thoughtful enquiry and reflection.	Students will develop an understanding of global challenges such as climate change, biodiversity loss, energy resources and public health. They will explore how scientific knowledge can help societies make informed decisions and address issues that affect people across the world. Students will learn about the contributions of scientists from different cultures and countries and understand that scientific progress often relies on international collaboration, helping them to appreciate the importance of responsible actions and informed choices in creating a sustainable future.	Science provides many opportunities for students to experience awe and wonder at the natural world. From the vast scale of the universe to the complexity of living organisms, students will explore ideas that inspire curiosity and fascination. Through practical investigations and scientific discovery, students will be encouraged to ask questions, explore new ideas and develop a sense of curiosity about the world around them. This sense of wonder helps to inspire a lifelong interest in science and a deeper appreciation of the natural world.