

Intent:

In science our approach teaching encourages all students to be curious and develop into young scientists. We use relevant contemporary research and context whenever possible to capture pupil's engagement and interest. We are making a move to create a curriculum that provides a clear progression in students' understanding of the big ideas in science and the key principles that underpin full engagement with, and success in science.

The Science Department will stress the importance of critical thinking and logical reasoning using various methods of investigation, such as observation, comparison, experimentation and mathematical manipulation of data. These skills are transferable across all subjects and we strive to ensure that the full range of skills are built on from key stage three upwards. A key fundamental is to develop pupil's scientific literacy to ensure they can access examination questions, provide answers that include the correct scientific terminology and have a sound literary and numeracy foundation throughout their science education.

Alongside scientific literacy is the need to develop practical scientific skills – The Science Department places great emphasis on the need for students, especially at key stage three level, to master a range of practical scientific skills. Giving students regular and challenging practical opportunities will hopefully increase their enjoyment and confidence of the subject. The teaching, assessment and review of these skills is often neglected, with greater time attributed to knowledge and content. However, students that can master these skills inevitably achieve greater success in examinations and enter key stage four with a solid foundation from which to build upon.

Developing students into responsible citizens is a key objective. Social responsibility and ethics is embedded into topics taught. Opportunity should be given to formulate opinions, make decisions and draw conclusions from listening to others experiences and looking at evidence. We want our young people to take an active role in society and have the confidence to debate and make decisions about factors that will affect their future.

The Science Department is also committed to the concept that science has a practical application and must be understood in a larger cultural context. It is through inquiry that students are able to view science as an interdisciplinary study applicable to society. This has huge implications when students are nearing the end of their schooling at Archway and are looking at job roles in the future. Science lends itself to so many career paths from microbiologist to astronaut.

Implementation:

The Science Department use a range of different teaching and learning ideas to engage students and ultimately make them better scientists. From practical lessons using specialist scientific equipment to ICT lessons to help embed and understand difficult to grasp concepts we are constantly updating our schemes of work to include new research, ideas and scientific discoveries.

Beyond the classroom:

As well as a plethora of scientific equipment to help discover and explain the world around us we use the school grounds to explore nature close to us. Our intent is to ensure that students experience science in the real world and that they understand that science is not just theory but that they can see that theory in action. Encouraging them to appreciate everyday objects or processes from a scientific point of view improves their understanding and application skills. Moving onto study A-level sciences will include field trips to study the effect of humans on the environment.