



Spiritual, Moral, Social and Cultural Curriculum

Mathematics

Spiritual development within Mathematics

- Developing questioning and deep thinking in the way in which the world works promotes the spiritual growth of our students. Students are always encouraged to delve deeper into their understanding of Mathematics in lessons and to make links to daily life and how it relates to the world around them. The skills of analyzing data are taught from Year 7 to Year 11 to enable students to make sense of vast amounts of data available in our contemporary society. Sequences, patterns, measures and ultimately the entire study of Mathematics was created to make more sense of the world around us and we enable each of our students to use Mathematics as a tool to explore it in greater detail.
- Almost all members of the department are subject specialists and we all share an innate passion for Mathematics. Our awareness of the beauty of Mathematics in the world around us, its precision, meticulousness and accuracy, is shared with our students. Creativity and imagination are developed through all areas of Mathematics. Additionally, combining Mathematics and art, students can demonstrate their creative talents when designing tessellations whilst understanding the mathematical rules as to why they work.
- As a department we aim to enthuse and excite students through our delivery of lessons and by incorporating investigative, problem-solving activities that allow opportunities to discover mathematics for themselves. Emphasizing the numerous links between different mathematical topics allows students to have an awareness of the bigger picture of how integrated all aspects of mathematics are, but also they can see how mathematics relates to other curriculum areas. This, in turn, raises the importance of this subject in its need to be understood.

Moral development within Mathematics

- The moral development of students is a central and recurrent feature of our mathematics syllabus. In Years 7-9, students devote time on projects and investigations when they try to use Mathematics in real life contexts, applying and exploring the skills required in solving a variety of problems. Projects and investigations focus on applying their data analysis skills in a real-life context.
- All students are made aware of the fact that the choices that they make may lead to unintended consequences. They must then make a choice that relates to the result they are looking for. The logical aspect of this relates strongly to the right/wrong responses in mathematics.
- The department follows the school policy for both behavior and rewards in lessons.

Social development within Mathematics

- Problem solving skills and teamwork are fundamental to Mathematics, through creative thinking, discussion, explaining and presenting ideas. Students are always encouraged to develop their Mathematical reasoning skills, communicating with and explaining concepts to their peers. Self-assessment and peer-assessment are very important to enable pupils to have an accurate grasp of where they are and how they need to improve. Working together in pairs or small groups and supporting others is a key part of Mathematics lessons.
- Mathematics classes have a strong sense of teamwork in the seating arrangement in classrooms. Students are encouraged to become less dependent on the teachers and to rely initially on their peers' support. By supporting each other, students uncover their own strengths and feel a sense of achievement which, in turn, boosts confidence. Over time they become much more independent but very supportive of each other.

Cultural development within Mathematics

- Mathematics is a universal language with countless cultural inputs throughout time. At Conisborough College, we promote the teaching of various approaches to Mathematics including multiplication methods from around the world such as the Egyptian, Russian and Chinese lattice method. We also explore the Mathematics applied in different cultures such as Rangoli patterns, symmetry project; Fibonacci sequences, tessellations and Islamic geometric patterns. The ability to use exchange rates for foreign travel is also an important life skill students will learn.
- Introductions to topics within mathematics often leads to discussions about their origins, such as Pythagoras' Theorem from Greece, algebra from the middle East and debates as to where Trigonometry was first used. We try to develop an awareness of both the history of mathematics alongside the realization that many topics that we still learn today have travelled across the world and are used internationally.