SMSC Statement – Mathematics

Spiritual development within Mathematics

Developing deep thinking and questioning the way in which the world works promotes the spiritual growth of students. In Maths lessons pupils are always encouraged to delve deeper into their understanding of Mathematics and how it relates to the world around them. The skills of analysing data are taught from Year 9 to Year 11 to enable students to make sense of vast amounts of data available in the modern world around them. 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 Maths as a tool to explore it more fully.

Almost all members of the department are subject specialists and we all share a passion for maths. Our awareness of the beauty of maths in the world around us, its precision and accuracy, is shared with our pupils. Creativity and imagination are developed through all areas of maths in designing and making their own resources such as videos, teaching tools, revision aids, posters, slide shows, challenging questions etc. In addition, combining mathematics and art, pupils can demonstrate their creative talents when designing tessellating patterns and shapes whilst understanding the mathematical rules as to why they work.

As a department we aim to enthuse and excite pupils through our delivery of lessons and by incorporating investigative tasks that allow pupils the opportunity to discover maths for themselves. Highlighting the various links between different mathematical topics allows pupils to have an awareness of the bigger picture of how integrated all aspects of maths are, but also they can see how maths 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 pupils is an important thread running through the mathematics syllabus. In Years 7/8/9 students spend time on various projects when they try to use Maths in real life contexts, applying and exploring the skills required in solving various problems. Projects focus on applying their data analysis skills in a real-life context.
All pupils are made aware of the fact that the choices that they make lead to various 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 maths.
The department follow the school policy for behaviour 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 others and explaining concepts to each other. Self and peer reviewing 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 groups and supporting others is a key part of Maths lessons.
Maths classes have a strong sense of teamwork. By supporting each other, pupils realise their own strengths and feel a sense of achievement which often 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 a myriad of cultural inputs throughout the ages. We encourage the teaching of various approaches to Mathematics including multiplication methods from around the world. We also explore the Mathematics applied in different cultures such as Rangoli patterns, 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 maths 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 maths alongside the realisation that many topics that we still learn today have travelled across the world and are used internationally.