

## SMSC opportunities in Maths

Spiritual	Moral	Social	Cultural
<p>Developing deep thinking and questioning through maths about the way in which the world works promotes spiritual growth.</p> <p>We aim to give all students an appreciation of the richness and power of maths.</p> <p>We promote a sense of wonder in the exactness of mathematics in the exploration of shapes, number patterns and real world examples.</p> <p>We aim to be consistently enthusiastic about the subject and to use a range of teaching strategies that allow pupils to be creative or imaginative.</p> <p>Maths can be used you explain the world and the mathematical patterns that occur in nature: Symmetry in snowflakes Fibonacci patterns in plant growth To discuss how vast the universe is</p>	<p>Within the classroom, we encourage respect and reward good behaviour. We value listening to others' views and opinions on problem solving.</p> <p>Students are given the chance to be aware of misleading information and data, especially when discussing averages. Students are made aware as to how data can be used in different ways to support opposite arguments and therefore should never assume that the statistics are accurate and a full representation of the complete picture.</p> <p>In our subject we look specifically at bias and how this can effect and support a point of view when in fact this is not a true representation.</p> <p>We promote discussion about mathematical understanding and challenge assumptions, supporting students to question information and data that they are presented with.</p> <p>We recognise how logical reasoning can be used to make decisions and choices that help them to learn in mathematics.</p> <p>Within probability we look at gambling as well as high interest loans, loan sharks etc. within number these can begin a moral debate</p>	<p>In the classroom, we look for opportunities for students to use mini whiteboards to promote self-esteem and build self-confidence.</p> <p>We encourage collaborative learning in the classroom – in the form of listening and learning from each other and paired discussion / working partners in order to show that the result is often better than they could achieve alone.</p> <p>Within Statistics and probability we regularly used data collection and experiments which require group work and collaboration across the class which promotes creative thinking, discussion and presenting of their ideas.</p> <p>We help pupils develop their mathematical voice and powers of logic, reasoning and explanation by offering explanations to each other. We exhibit pupils work in classrooms on working walls and displays to share their good practice and celebrate achievement.</p> <p>We hope to enable our students to enjoy their success in Maths and will celebrate accordingly whilst supporting any short term failure through interventions as and when required. Social development is aided further by fostering a problem solving approach to any work set that encourages students to breaking tasks into smaller manageable parts, often with the assistance of other students.</p>	<p>Mathematics is the universal language of the world and we aim to develop an understanding that many topics we learn today have travelled across the world and are used internationally.</p> <p>Opportunities are given to students to explore aspects of personal culture and identity through maths.</p> <p>Symmetry in patterns, number systems and mathematical thinking from other cultures – various methods from across the world for multiplication and various other aspects.</p> <p>We discuss the history of mathematics looking at the origins of theories and where the mathematicians have come from to develop these key aspects. (Pythagoras, Trigonometric ratios, Pi, Fibonacci etc.)</p> <p>We ensure that when we are creating questions (similar to the exam board) we incorporate a wide range of common names from around the globe and this can lead to discussions around names in various cultures which can be handled effectively by the member of staff.</p> <p>The use of money from around the globe and not sticking to the 'common' currencies that students are aware of will enrich their awareness of the wider cultures.</p>

## British values opportunities in Maths

Democracy	The rule of law	Individual liberty	Respect	Tolerance of those with different faiths
<p>Students conduct an opinion survey on a moral issue and are aware that these results represent the opinion of that population.</p> <p>Students need to have an awareness of sexist, racist, stereotypical bias in materials – including females in labour jobs, males in office/secretarial jobs.</p>	<p>Students will be consistently reminded of the importance of abiding by the law.</p> <p>Some discussions in which these can arise: Lottery/gambling – have to be over 16/18 Best buy – stealing is cheaper Voting – 16 and over Alcohol use</p>	<p>Encouraging an allowing discussions and debates around the incorrect use of statistics and how abusing the system can cause an influx of misleading information.</p> <p>Allow discussions on the cultural and historical roots of mathematics.</p>	<p>Students will consistently show respect for all cultures and beliefs within all discussions.</p>	<p>Students have the ability to debate responsibly around gambling, high interest loans and around the general financial responsibility of all members of society.</p> <p>Students can use the currencies from around the world and can be exposed to other aspects of that country and culture other than what is shown in the media available to them.</p>