Mathematics Rationale

"Good numeracy is the best protection against unemployment, low wages and poor health." Andreas Schleicher,
"To me, mathematics, computer science, and the arts are insanely related. They're all creative expressions."
Sebastian Thrun
"Go down deep enough into anything and you will find mathematics." Dean Schlichter

Mathematics unlocks the world around us, we use maths in every aspect of our lives at work and in practical everyday activities at home and beyond. We use maths when we go shopping or plan a holiday, decide on a mortgage or decorate a room. Good numeracy is essential to us as parents helping our children learn, as patients understanding health information, as citizens making sense of statistics and economic news. Decisions in life are so often based on numerical information; to make the best choices, we need to be numerate.

Maths also helps strengthen reasoning skills and critical thinking. It helps us think analytically about the world and reason logically. The same steps you take to understand a problem, identify the knowns and unknowns and then solve it, can be applied to other areas of your life. In addition, mathematical knowledge plays a crucial role in understanding the contents of other school subjects such as science, social studies, and even music and art.

We believe everyone can achieve mathematically. The five "Big Ideas" of mastery are coherence, representation and structure, mathematical thinking, fluency and variation, and these are the basis of our curriculum.

Developing Key Skills and Knowledge through participation in mathematics

Maths is all about problem solving. The skills developed whilst in maths support the development of problem-solving abilities in other ways, including:

- Pattern spotting
- Working backwards
- Visualising
- Working systematically
- Using logical reasoning

School priorities and vision

The school's vision is "enabling the self", and the attributes of the IB Learner Profile, as developed in all subjects, are at the heart of this.

At the end of their school journey, our pupils will be:

- Knowledgeable about mathematics and its place in their world.

- Reflective on their own learning in mathematics and how they can approach a problem that needs solving
- Moral when considering their impact on the world
- Able to celebrate difference when discussing how other people might approach the same problem
- Thinking hard about complex topics and making connections within mathematics and with other subjects
- Caring towards other people and their experiences with mathematics.
- Able to communicate their ideas effectively, presenting complex information in an accessible way.
- Able to give a balanced view on a debate taking into account evidence.
- Confident in using mathematical knowledge when carrying out an inquiry
- Courageous in attempting something new, knowing that learning involves making mistakes.