Mathematics Overview

Rationale

Mathematics equips pupils with the uniquely powerful set of tools to understand and change the world. These tools include logical reasoning, problem solving skills and the ability to think in abstract ways. Mathematics is important in everyday life. It is integral to all aspects of life and with this in mind we endeavour to ensure that pupils develop a positive and enthusiastic attitude towards mathematics that will stay with them.

The National Curriculum states: Mathematics is a creative and highly interconnected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject.

Main Aims

Our aims agree with those set out in the National Curriculum:

- to become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately
- to reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- to solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

Organisation and planning

Mathematics is taught daily across the school and each session is approximately one hour long. The National Curriculum for mathematics (2014) describes in detail what pupils must learn in each year group. Each teacher will cover all the areas necessary for their year group, deciding when to teach and how long to spend on each area depending of the needs of their current class. The teachers will then create a medium term plan at the start of each term detailing the length of time they intend to spend on each area and specific objectives they will be covering. This, alongside marking and assessments, will then be used to inform their weekly planning. Throughout this process, teachers will refer to the schools' Calculation Policy to ensure continuity, progression and high expectations for attainment in mathematics. Underpinning our mathematics curriculum are the skills of fluency, reasoning and problem solving. Every week each class completes a 'Big Maths' session. The aim of the session is to reinforce and secure the pupils' application of calculation strategies and other key number skills.

Areas covered by each year group are outlined below:

Year group	Areas to cover throughout the year
R	- Number - Shape
1	- Number and place value - Addition and subtraction - Multiplication and division

	- Fractions - Geometry- properties of shapes - Geometry- position and direction - Measurement
2	- Number and place value - Addition and subtraction - Multiplication and division - Fractions - Geometry- properties of shapes - Geometry- position and direction - Measurement - Statistics
3	- Number and place value - Addition and subtraction - Multiplication and division - Fractions - Geometry- properties of shapes - Measurement - Statistics
4	- Number and place value - Addition and subtraction - Multiplication and division - Fractions (including decimals) - Geometry- properties of shapes - Geometry- position and direction - Measurement - Statistics
5	- Number and place value - Addition and subtraction - Multiplication and division - Fractions (including decimals and percentages) - Geometry- properties of shapes - Geometry- position and direction - Measurement - Statistics
6	- Number and place value - Addition, subtraction, multiplication and division - Fractions (including decimals and percentages) - Geometry- properties of shapes - Geometry- position and direction - Measurement - Statistics - Ratio and proportion - Algebra

Cross curricular links

Through our use of thematic planning, teachers make links where possible to other subjects and also make links within mathematics to the current topic if it suits.

Times tables

The children are regularly assessed on their times tables to ensure they know them all (up to 12 x 12) by the end of year 4. To support with this and all other areas of Mathematics, the school subscribes to Mathletics, Time Tables Rock Stars and Numbots