

## Mathematics

Mathematics is a dynamic and creative subject that is essential to everyday life, science, technology and most forms of employment.

**A high-quality mathematics education 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.** Mathematic Programme of Study 2014 (D of E)

Mathematics has a unique place in the school curriculum. It provides children with a means of communication through prediction, representation of ideas and explanation of results. They learn to count, measure, reason, order and classify. They experience enjoyment in investigating patterns in number and shape and in pursuing the solutions in closed and open-ended tasks. Children, through Mathematics, learn to solve problems which touch on all areas of life. The skills that are taught are not seen as an end in themselves but as an effective tool that will enable them as adults to become independent citizens; and is part of their Spiritual, Moral, Social and Cultural education. Mathematics contributes to a child's personal, social and intellectual development.

### Aims

The national curriculum for mathematics aims to ensure that all pupils:

- 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
- reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- can 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

To ensure children master a robust understanding and secure foundation in maths we use the mastery approach. This programme allows teachers to

ascertain which areas of maths children are confident in and their gaps in learning, so that all pupils become confident mathematicians.

Teaching maths for mastery involves employing approaches that help pupils to develop a deep and secure knowledge and understanding of mathematics at each stage of their learning, so that by the end of every school year or Key Stage, pupils will have acquired mastery of the mathematical facts and concepts they've been exposed to, equipping them to move on confidently and securely to more advanced material.

- \* Children need to have an appreciation of our number system and strong grasp of place value.
- \* Children need a secure banks and understanding of number facts.
- \* Children need an exposure to consistent and developmental models and images.
- \* Children need a comprehension of the key mathematical functions based on doubling and halving.

In addition, we use White Rose and Numicon to support and enhance our provision so that children have a wide range of opportunities for investigating, problem solving and reasoning. These curriculum materials help teachers recognise possible misconceptions and provide resources and ideas to help children achieve mastery in the different aspects of mathematics.