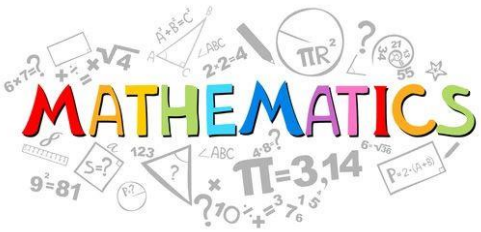
Mathematics at St Dunstan's



Mathematics is a creative and highly inter-connected 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.

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.

Intent:

Mathematics is all around us in our everyday lives, so at St Dunstan's we strive towards ensuring that all pupils are resilient and happy and inspired mathematicians who can apply their knowledge, understanding, skills and abilities to all manner of situations. We offer opportunities for pupils to be challenged in a secure environment in order to develop independent and reflective learners. We promote an excitement for learning and a 'can do' attitude in our young mathematicians. The children are taught and encouraged to make links between the areas of mathematics, to think logically, demonstrate reasoning skills and to apply these skills to more abstract concepts. These abilities do not only allow them to progress and succeed in mathematics but in all areas of the curriculum. The mathematics curriculum is ambitious and covers the full breadth of skills and strategies. It is taught in a way which allows coherent, sequenced learning to take place whilst also preparing pupils for future learning.

Implementation:

As a school, we deliver the Mathematics National Curriculum through the White Rose Maths Schemes of Learning. In addition, we purchase annual subscriptions to Mathletics and Times Tables Rock Stars, plus many staff subscribe to various additional supporting websites such as Classroom Secrets, Maths Shed, N:Rich and Master the Curriculum. In most lessons, children are given the opportunity to use reasoning and problem solving skills as well as developing their mathematical fluency. The majority of children move through the content at broadly the same pace with adaptations being made for those needing additional support or intervention. Most of the work is recorded in exercise books with additional photographic evidence for more practical lessons.

Impact

There is clear progress of mathematical skills across the school as we utilise the White Rose Schemes of Learning. Progress from individual starting points as well as class and year data show progress

across the school. Work in children's books show evidence of progress and the depth of understanding and application. Children are able to explain their mathematical thinking and apply their learning in different contexts. Children are beginning to be given opportunities to demonstrate their mathematical skills in other subject areas. Modelling and use of concrete resources allow children to develop their understanding of mathematical concepts.

Maths - School Overview

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Nursery	Listen to and join in with songs, rhymes, stories and games that have mathematical theme. Count reliably up to 5 objects. Recite numbers 0-10 forwards and backwards in songs and rhymes. Recognise numbers 0-5 and relate to quantities. Compare and ' or 'less'. Order numbers 0-5. Use mark making to represent numbers. Use the terms first, second, third and last. Use 'more/Compare size, length, weight and capacity of objects. Describe sequence of events (first, then). Talk about and explore 2D & 3D shapes. Talk about & identify patterns.					
Reception	Baseline Match and sort numbers Counting, numbers 1-5 Compare size, mass capacity. Explore patterns	One more/ one less. Representing & comparing numbers 1-5 Recognising 2D shapes Positional language	Counting & recognising numbers 1-10 Combining two amounts Comparing mass & capacity	Comparing numbers 1-10 Addition Number bonds to 10. Ordering length & height 3D shapes Sequencing events/time	Counting & recognising numbers 1-20 Addition & subtraction Doubling Spatial reasoning: match, rotate & manipulate.	Odd & even numbers Doubling/ having Sharing / grouping Patterns & relationships Spatial reasoning: visualise & build
Year 1	Place value within 10 Addition & subtraction within 10	Addition & subtraction within 10 Geometry: shape	Place value within 20 Addition & subtraction within 20	Place value within 50 Measurement: length & height Measurement: mass & volume	Multiplication & division Fractions Geometry: position & direction	Place value within 100 Measurement: money. Measurement: time
Year 2	Place value. Addition & subtraction	Addition & subtraction Geometry: shape	Measurement: money Multiplication & division	Measurement: length & height Measurement: Capacity, mass & temperature	Fractions Measurement: time	Statistics Geometry: Position & direction
Year 3	Place value. Addition & subtraction	Addition subtraction Multiplication & division	Multiplication & division Measurement: length & perimeter Fractions	Fractions Measurement: mass & capacity	Fractions Measurement: money Measurement: time	Geometry: shape Statistics
Year 4	Place value Roman numerals Addition & subtraction	Measurement: Area Multiplication & division	Multiplication & division Measurement: length & perimeter Fractions	Fractions Decimals	Fractions Measurement: money Measurement: time	Geometry: shape Statistics Geometry: position & direction
Year 5	Place value. Addition & subtraction Multiplication & division	Multiplication & division Fractions	Multiplication & division Fractions Decimals	Decimals & percentages Measurement: perimeter & area Statistics	Geometry: shape Geometry: position & direction Decimals	Decimals Negative numbers Measurement: converting units Measurement: volume
Year 6	Place value Addition & subtraction Multiplication &	Fractions Measurement: converting units	Ratio Algebra Decimals	Decimals & percentages. Measurement: area, perimeter & volume.	Geometry: shape Geometry: position & direction	Themed projects & problem solving

	division			Statistics.		