Maths

Characteristics

- An understanding of the important concepts and an ability to make connections within mathematics.
- A broad range of skills in using and applying mathematics.
- Fluent knowledge and recall of number facts and the number system.
- The ability to show initiative in solving problems in a wide range of contexts, including the new or unusual.
- The ability to think independently and to persevere when faced with challenges, showing a confidence of success.
- The ability to embrace the value of learning from mistakes and false starts.
- The ability to reason, generalise and make sense of solutions.
- Fluency in performing written and mental calculations and mathematical techniques.
- A wide range of mathematical vocabulary.
- A commitment to and passion for the subject.

Opportunities

Key Stage 1	Key Stage 2
• Count and calculate in a range of practical contexts.• Use and apply mathematics in everyday activities and across the curriculum. • Repeat key concepts in many different practical ways to secure retention. • Explore numbers and place value up to at least 100. • Add and subtract using mental and formal written methods in practical contexts. • Multiply and divide using mental and formal written methods in practical contexts. • Explore the properties of shapes. • Use language to describe position, direction and movement. • Use and apply in practical contexts a range of measures, including time. • Handle data in practical contexts.	• Count and calculate in increasingly complex contexts, including those that cannot be experienced first hand. • Rigorously apply mathematical knowledge across the curriculum, in particular in science, technology and computing. • Deepen conceptual understanding of mathematics by frequent repetition and extension of key concepts in a range of engaging and purposeful contexts. • Explore numbers and place value so as to read and understand the value of all numbers. • Add and subtract using efficient mental and formal written methods. • Multiply and divide using efficient mental and formal written methods. • Use the properties of shapes and angles in increasingly complex and practical contexts, including in construction and engineering contexts. • Describe position, direction and movement in increasingly precise ways. • Use and apply measures to increasingly complex contexts. • Gather, organise and interrogate data. • Understand the practical value of using algebra.

Broad Learning Objectives

- To know and use numbers
- To add and subtract
- To multiply and divide
- To use fractions
- To understand the properties of shapes
- To describe position, direction and movement
- To use measures
- To use statistics
- To use algebra

MATHS YR 4							
Number – Number and Place Value	Number – Addition and subtraction	Number – Multiplication and division	Number – fractions Including Decimals	Measurement	Geometry – Properties of shape	Geometry – Position and direction	Statistics
Pupils should be taught to • count in multiples of 6, 7, 9, 25 and 1000 • find 1000 more or less than a given number • count backwards through zero to include negative numbers • recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) • order and compare numbers beyond 1000 • identify, represent and estimate numbers using different representations • round any number to the nearest 10, 100 or 1000 • solve number and practical problems that involve all of the above and with increasingly large positive numbers • read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value.	Pupils should be taught to: • add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate • estimate and use inverse operations to check answers to a calculation • solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why	Pupils should be taught to: • recall multiplication and division facts for multiplication tables up to 12 x 12 • use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers • recognise and use factor pairs and commutativity in mental calculations • multiply two-digit and three-digit numbers by a one-digit number using formal written layout • solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.	Pupils should be taught to: • recognise and show, using diagrams, families of common equivalent fractions • count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. • solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number • add and subtract fractions with the same denominator • recognise and write decimal equivalents of any number of tenths or hundredths • recognise and write decimal equivalents to ¼ ½ ¾ • find the effect of dividing a one- or two digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths • round decimals with one decimal place to the nearest whole number • compare numbers with the same number of decimal places up to two decimal places • solve simple measure and money problems involving fractions and decimals to two decimal places.	Pupils should be taught to: • Convert between different units of measure [for example, kilometre to metre; hour to minute] • measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres • find the area of rectilinear shapes by counting squares • estimate, compare and calculate different measures, including money in pounds and pence • read, write and convert time between analogue and digital 12- and 24-hour clocks • solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.	Pupils should be taught to: • compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes • identify acute and obtuse angles and compare and order angles up to two right angles by size • identify lines of symmetry in 2-D shapes presented in different orientations • complete a simple symmetric figure with respect to a specific line of symmetry.	Pupils should be taught to: • describe positions on a 2-D grid as coordinates in the first quadrant • describe movements between positions as translations of a given unit to the left/right and up/down • plot specified points and draw sides to complete a given polygon.	Pupils should be taught to: • interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. • solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs