




Year Four Mathematics	Intent	Implementation	Impact
	<p>At St John Vianney Catholic Primary School, we recognise that Mathematics is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. We aim to provide a high-quality mathematics education with a mastery approach so that all children:</p> <ul style="list-style-type: none"> • become fluent in the fundamentals of mathematics; • reason mathematically; • can solve problems by applying their mathematics. <p>(National Curriculum 2014)</p> <p>Our intent for mathematics is to teach a rich, balanced and progressive curriculum using Maths to reason, problem solve and develop fluent conceptual understanding in each area. Staff are supported and aided in their roles ensuring confidence in the skills and facts they are required to teach. Lessons are child focused and maths is kept fun and current in school.</p> <p>Our curriculum allows children to better make sense of the world around them relating the pattern between mathematics and everyday life. Our policies, resources and schemes support our vision e.g. our calculations policy linked to our Mastery Text Book resource, Power Maths, which is based on White Rose Maths, and NCETM Teaching for Mastery.</p> <p>The mapping of Mathematics across school shows clear progression in line with age-related expectations and the National Curriculum. Mathematics in our school is enhanced by our focus on additional practise of key mathematics skills through Assertive Mentoring Weekly Skills Checks and our focus on key instant recall facts (KIRFs). We promote and encourage over learning of key facts through our use of Numbots and TT Rockstars competitions. We constantly seek to improve our provision and we are proud of enhancements made through our collaboration with partner schools within our M.A.C. and our work to develop our mastery approach to mathematics through our involvement with the Central Maths Hub.</p>	<p>The curriculum hours for mathematics are non-negotiable and followed by all staff. Teachers plan three lessons with a number focus per week and two lessons linked to either geometry, statistics or measures.</p> <p>Knowledge organisers linked to each of the mathematical areas, support the children with their learning.</p> <p>High quality teaching responds to the needs of children. Teachers use questioning well and aim to identify and address any misconceptions at an early stage.</p> <p>Planning: Lessons are planned and sequenced so that new knowledge and skills build on previous learning. Staff refer to the Calculation Policy when teaching formal methods but also understand that sometimes children find their own efficient methods along the way. Number bonds and times tables practice take place weekly to give children the opportunity to practise and improve their rapid recall of key mathematics facts.</p> <p>Teaching: At St John Vianney we employ a variety of teaching styles and opportunities for children to learn and develop their Mathematical skills and competencies, both individually and collaboratively. Our pupils are encouraged to physically represent mathematical concepts. Objects and pictures are used to demonstrate and visualise abstract ideas, alongside numbers and symbols.</p> <p>Concrete – children have the opportunity to use concrete objects and manipulatives to help them understand and explain what they are doing.</p> <p>Pictorial – children then build on this concrete approach by using pictorial representations, which can then be used to reason and solve problems.</p> <p>Abstract – With the foundations firmly laid, children can move to an abstract approach using numbers and key concepts with confidence.</p>	<p>The impact of our mathematics curriculum is that children understand the relevance of what they are learning in relation to real world concepts. We have fostered an environment where Maths is fun and where it is accepted that sometimes we will make errors on our journey to finding an answer. The children understand that learning from mistakes is a key skill.</p> <p>The children's Mathematics books demonstrate the use of a range of activities and show evidence of fluency, reasoning and problem solving. Positive verbal and written feedback and early intervention support the children to strive to be the best mathematicians they can be and ensure that a greater proportion of children are on track.</p> <p>The Mathematics leader, in collaboration with the Senior Leadership Team, takes responsibility for the monitoring of the Mathematics curriculum and the standards achieved by the children.</p> <p>The Mathematics leader monitors for appropriate pitch and progression at least once every half term. This monitoring takes the form of:</p> <ul style="list-style-type: none"> • Lesson observations with written feedback; • Learning walks and pupil voice conversations; • Planning scrutiny followed by support where necessary; • Book scrutiny per term; • Termly data analysis; • Moderation with other Mathematic Subject Leaders with the M.A.C. <p>Data is collected half-termly and reported to SLT. All teachers contribute to a termly Pupil Progress Meetings, where the data is analysed to highlight those pupils not meeting expectations. The meetings focus on target setting and identifying the next steps to support the children to make good or better progress.</p>



Number and Place Value	Addition and Subtraction	Multiplication and Division	Fractions	Geometry (including Position and Direction)	Geometry – Statistics	Measurement
I can count in steps of 6, 7, 9, 25 and 1000.	I can add numbers with up to four-digit using written methods.	I can recall multiplication and division facts for multiplication tables up to 12 x 12.	I can recognise and show, using diagrams, families of common equivalent fractions.	I can compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.	I can interpret and present data using bar charts.	I can convert between different units of measure [for example, kilometre to metre; hour to minute].
I can count backwards through zero to include negative numbers.	I can subtract numbers with up to four digits using written methods.	I can use place value, known and derived facts to multiply mentally.	I can count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.	I can compare and order angles up to two right angles, by size.	I can interpret and present data using line graphs.	I can measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres.
I can recognise the place value of each digit in a four-digit number.	I can solve mental calculations with increasingly large numbers.	I can use place value, known and derived facts to divide mentally.	I can 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.	I can identify acute and obtuse angles.	I can solve 'sum' problems using information presented in charts.	I can find the area of rectilinear shapes by counting squares.
I can round any number to the nearest 10, 100 or 1000.	I can solve addition two-step problems, deciding methods to use.	I can recognise and use factor pairs in mental calculations.	I can recognise and write decimal equivalents of any number of tenths or hundredths. I can recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$.	I can identify lines of symmetry in 2-D shape in different orientations.	I can use a range of scales when interpreting and presenting data.	I can estimate, compare and calculate different measures, including money in pounds and pence.
I can find 100 more or less than a given number.	I can solve subtraction two-step problems, deciding methods to use.	I can multiply three numbers together.	I can add and subtract fractions with the same denominator.	I can complete a simple symmetric figure.	I can solve 'comparison' problems using information presented in charts.	I can read, write and convert time between analogue and digital 12- and 24-hour clocks.
I can order and compare numbers beyond 1000.	I can estimate to check answers to calculations.	I can multiply two-digit numbers by a one-digit number.	I can 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.	I can describe position on a 2-D grid as co-ordinates in the first quadrant.		I can solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.



Number and Place Value	Addition and Subtraction	Multiplication and Division	Fractions	Geometry (including Position and Direction)	Geometry – Statistics	Measurement
I can identify, represent and estimate numbers.	I can use inverses to check answers to calculations.	I can multiply three-digit numbers by a one-digit number.	I can round decimals with one decimal place to the nearest whole number.	I can translate shapes.		
I can solve number and practical problems using place value and all of the above, which include increasingly large positive numbers.		I can solve problems involving multiplying and dividing.	I can compare numbers with the same number of decimal places up to two decimal places.	I can plot points and draw sides to complete a polygon.		
I can 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.			I can solve simple measure and money problems involving fractions and decimals to two decimal places.			

End of Lower Key Stage 2 Outcomes

The principal focus of mathematics teaching in lower key stage 2 is to ensure that pupils become increasingly fluent with whole numbers and the 4 operations, including number facts and the concept of place value. This should ensure that pupils develop efficient written and mental methods and perform calculations accurately with increasingly large whole numbers.

At this stage, pupils should develop their ability to solve a range of problems, including with simple fractions and decimal place value. Teaching should also ensure that pupils draw with increasing accuracy and develop mathematical reasoning so they can analyse shapes and their properties, and confidently describe the relationships between them. It should ensure that they can use measuring instruments with accuracy and make connections between measure and number.

By the end of year 4, pupils should have memorised their multiplication tables up to and including the x12 multiplication table and show precision and fluency in their work.

Pupils should read and spell mathematical vocabulary correctly and confidently, using their growing word-reading knowledge and their knowledge of spelling.