



Maths Progression at St Michael's Nursey and Infant School

Number and Place Value	Early Years	Year 1	Year 2	Year 3
Counting	<ul style="list-style-type: none">• Subitise numbers to 5• Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle').• Understand the 'one more than/one less than' relationship between consecutive numbers.	<ul style="list-style-type: none">• count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number• count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens• identify one more and one less of a given number	<ul style="list-style-type: none">• count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward	<ul style="list-style-type: none">• count from 0 in multiples of 4, 8, 50 and 100;• find 10 or 100 more or less than a given number
Comparing	<ul style="list-style-type: none">• Compare using language more than, less than and fewer.	<ul style="list-style-type: none">• use the language of: equal to, more than, less than (fewer), most, least	<ul style="list-style-type: none">• compare and order numbers from 0 up to 100; use $<$, $>$ and $=$ signs	<ul style="list-style-type: none">• compare and order numbers up to 1000
Represent		<ul style="list-style-type: none">• identify and represent numbers using objects and pictorial representations including the number line	<ul style="list-style-type: none">• identify, represent and estimate numbers using different representations, including the number line	<ul style="list-style-type: none">• identify, represent and estimate numbers using different representations
Reading and Writing Numbers	<ul style="list-style-type: none">• Link the number symbol (numeral) with its cardinal number value.	<ul style="list-style-type: none">• read and write numbers from 1 to 20 in numerals and words.	<ul style="list-style-type: none">• read and write numbers to at least 100 in numerals and in words	<ul style="list-style-type: none">• read and write numbers up to 1000 in numerals and in words
Understanding Place Value	<ul style="list-style-type: none">• Have a deep understanding of number to 10, including the composition of each number.		<ul style="list-style-type: none">• recognise the place value of each digit in a two-digit number (tens, ones)	<ul style="list-style-type: none">• recognise the place value of each digit in a threedigit number (hundreds, tens, ones)
Problem Solving		<ul style="list-style-type: none">• use place value and number facts to solve problems		solve number problems and practical problems involving these ideas.

Addition and Subtraction	Early Years	Year 1	Year 2	Year 3
Number bonds: Recall, Represent, Use	<ul style="list-style-type: none"> Automatically recall number bonds for numbers 0-5 and some to 10. Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally. 	<ul style="list-style-type: none"> represent and use number bonds and related subtraction facts within 20 read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs 	<ul style="list-style-type: none"> recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems. 	
Calculations	<ul style="list-style-type: none"> Explore the composition of numbers to 10. 	<ul style="list-style-type: none"> add and subtract one-digit and two-digit numbers to 20, including zero 	<ul style="list-style-type: none"> add and subtract numbers using concrete objects, pictorial representations, and mentally, including: <ul style="list-style-type: none"> a two-digit number and ones a two-digit number and tens two two-digit numbers adding three one-digit numbers 	<ul style="list-style-type: none"> add and subtract numbers mentally, including: <ul style="list-style-type: none"> a three-digit number and ones a three-digit number and tens a three-digit number and hundreds add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction estimate the answer to a calculation and use inverse operations to check answers
Solve Problems		<ul style="list-style-type: none"> solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = * - 9$ 	<ul style="list-style-type: none"> solve problems with addition and subtraction: <ul style="list-style-type: none"> using concrete objects and pictorial representations, including those involving numbers, quantities and measures 	<ul style="list-style-type: none"> solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction

			- applying their increasing knowledge of mental and written methods	
--	--	--	---	--

Multiplication and Division	Early Years	Year 1	Year 2	Year 3
Recall, Represent, Use		<ul style="list-style-type: none"> count in multiples of twos, fives and tens 	<ul style="list-style-type: none"> count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot 	<ul style="list-style-type: none"> recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables
Calculations			<ul style="list-style-type: none"> calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (\times), division (\div) and equals (=) signs 	<ul style="list-style-type: none"> write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods
Problem Solving		<ul style="list-style-type: none"> solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher 	<ul style="list-style-type: none"> solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts 	<ul style="list-style-type: none"> solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects

Fractions	Early Years	Year 1	Year 2	
Recognise and write		<ul style="list-style-type: none"> recognise, find and name a half as one of two equal parts of an object, shape or quantity 	<ul style="list-style-type: none"> recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity 	<ul style="list-style-type: none"> count up and down in tenths recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators recognise that tenths arise from dividing an object into 10 equal parts and in dividing one – digit numbers or quantities by 10. recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators
Calculations and equivalence			<ul style="list-style-type: none"> write simple fractions e.g. $\frac{1}{2}$ of $6 = 3$ and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$. 	<ul style="list-style-type: none"> compare and order unit fractions, and fractions with the same denominators recognise and show, using diagrams, families of common equivalent fractions recognise and write decimal equivalents of any number of tenths or hundredths recognise and write decimal equivalents to $\frac{1}{4}$; $\frac{1}{2}$; $\frac{3}{4}$ add and subtract fractions with the same denominator within one whole (e.g. $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$)

Measurement	Early Years	Year 1	Year 2	
Using Measures	<ul style="list-style-type: none"> • Make comparisons between objects relating to size, length, weight and capacity. • Compare length, weight and capacity. 	<ul style="list-style-type: none"> • compare, describe and solve practical problems for: <ul style="list-style-type: none"> - lengths and heights [e.g. long/short, longer/shorter, tall/short, double/half] - mass/weight [e.g. heavy/light, heavier than, lighter than] - capacity and volume [e.g. full/empty, more than, less than, half, half full, quarter] - time [e.g. quicker, slower, earlier, later] • measure and begin to record: <ul style="list-style-type: none"> - lengths and heights - mass/weight - capacity and volume - Time 	<ul style="list-style-type: none"> • compare and order lengths, mass, volume/capacity and record the results using >, < and = • choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels 	<ul style="list-style-type: none"> • compare durations of events, for example to calculate the time taken by particular events or tasks • measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) • measure the perimeter of simple 2-D shapes
Money		<ul style="list-style-type: none"> • recognise and know the value of different denominations of coins and notes 	<ul style="list-style-type: none"> • recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value • find different combinations of coins that equal the same amounts of money • solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change 	<ul style="list-style-type: none"> • add and subtract amounts of money to give change, using both £ and p in practical contexts •
Time	Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...	<ul style="list-style-type: none"> • sequence events in chronological order using language [e.g. before and after, next, first, today, yesterday, 	<ul style="list-style-type: none"> • compare and sequence intervals of time • tell and write the time to five minutes, including quarter 	<ul style="list-style-type: none"> • tell and write the time from an analogue clock, including using Roman numerals from

		tomorrow, morning, afternoon and evening] <ul style="list-style-type: none"> • tell the time to the hour and half past the hour and draw the hands on a clock face to show these times. • recognise and use language relating to dates, including days of the week, weeks, months and years 	past/to the hour and draw the hands on a clock face to show these times. <ul style="list-style-type: none"> • know the number of minutes in an hour and the number of hours in a day. 	I to XII, and 12-hour and 24-hour clocks <ul style="list-style-type: none"> • estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight (appears also
--	--	---	--	--

Geometry	Early Years	Year 1	Year 2	Year 3
2D Shapes	<ul style="list-style-type: none"> • Talk about and explore 2D and 3D shapes using informal and mathematical language: 'sides', 'corners'; 'straight', 'flat', 'round'. • Select shapes appropriately: flat surfaces for building, a triangular prism for a roof, etc. • Combine shapes to make new ones – an arch, a bigger triangle, etc. 	<ul style="list-style-type: none"> • recognise and name common 2-D and 3-D shapes, including: <ul style="list-style-type: none"> - 2-D shapes [e.g. rectangles (including squares), circles and triangles] - 3-D shapes [e.g. cuboids (including cubes), pyramids and spheres]. 	<ul style="list-style-type: none"> • identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line • identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid] • compare and sort common 2-D shapes and everyday objects 	<ul style="list-style-type: none"> • draw 2-D shapes and make 3-D shapes using modelling materials;
3D Shapes	<ul style="list-style-type: none"> • Select, rotate and manipulate shapes in order to develop spatial reasoning skills. • Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can. 		<ul style="list-style-type: none"> • identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces • compare and sort common 3-D shapes and everyday objects 	<ul style="list-style-type: none"> • recognise 3-D shapes in different orientations and describe them
Position and Direction	<ul style="list-style-type: none"> • Understand position through words alone – for example, "The bag is under the table," – with no pointing. 	<ul style="list-style-type: none"> • describe position, direction and movement, including half, quarter and three-quarter turns. 	<ul style="list-style-type: none"> • use mathematical vocabulary to describe position, direction and movement including movement in a straight line and distinguishing between 	

	<ul style="list-style-type: none"> Describe a familiar route. 		rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise)	
Pattern	<ul style="list-style-type: none"> Talk about and identifies the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. Use informal language like 'pointy', 'spotty', 'blobs', etc. Extend and create ABAB patterns – stick, leaf, stick, leaf. Notice and correct an error in a repeating pattern. 		<ul style="list-style-type: none"> order and arrange combinations of mathematical objects in patterns and sequences 	