

St Nicholas First School Whole school progression in maths skills.					
	EYFS	Year 1	Year 2	Year 3	Year 4
Place value					
Place value - counting	Develop counting-like behaviour, such as making sounds, pointing or saying some numbers in sequence. Count in everyday contexts, sometimes skipping numbers – '1-2-3-5'. Subitise 3 objects. Recite numbers past 5. Know that the last number reached when counting a small set of objects tells you how many there are in total. <i>The cardinal principle.</i> Count objects. <i>The one to one principle.</i> Count actions and sounds <i>The abstraction principle</i> Count beyond ten. <i>The Stable-order principle</i> <i>The order irrelevance principle</i> Subitise up to 5 Verbally count beyond 20.	Read and write numbers from 1 to 20 in numerals and words Count to and across 100, forwards and backwards, beginning with zero or 1, or from any given number Count, read and write numbers to 100 in numerals; count in multiples of 2s, 5s and 10s	Read and write numbers to at least 100 in numerals and in words Count in steps of 2, 3 and 5 from 0, and in 10s from any number, forward and backward	Read and write numbers up to 1,000 in numerals and words Count from zero in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number	Count in multiples of 6, 7, 9, 25 and 1,000
Place value – representing numbers	Take part in finger rhymes with numbers. Show 'finger numbers' up to 5. Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5.	Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least	Identify, represent and estimate numbers using different representations, including the number line	Identify, represent and estimate numbers using different representations	Identify, represent and estimate numbers using different representations

	Experiment with their own symbols and marks as well as numerals. Link the numeral with its cardinal number value. <i>Represent number stories using 10 frames, number tracks and fingers.</i>				
Place value – using place value and comparing	Compare amounts, saying 'lots', 'more' or 'same' Compare quantities using language: 'more than', 'fewer than' Understand the 'one more than/one less than' relationship between consecutive numbers. Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity.	Given a number, identify 1 more and 1 less.	Recognise the place value of each digit in a 2-digit number (tens, ones)	Recognise the place value of each digit in a 3-digit number (hundreds, tens, ones) find 10 or 100 more or less than a given number Compare and order numbers up to 1,000	Recognise the place value of each digit in a 4-digit number (thousands, hundreds, tens and ones) Find 1,000 more or less than a given number Order and compare numbers beyond 1,000
Place value – problems and rounding	Solve real world mathematical problems with numbers up to 5. <i>Solve problems linked to stories and play.</i> <i>Create a plan, solve and review strategy.</i> Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally				Round any number to the nearest 10, 100 or 1,000 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
Addition and subtraction					
Addition and subtraction: Recall, representing calculations	Combine objects like stacking blocks and cups. Put objects inside others and take them out again.	Read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs	Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100	Add and subtract numbers mentally, including: - a 3-digit number and ones - a 3-digit number and tens	

	<i>Using real objects children see that the quantity of a group can be changed by taking items away.</i> <i>Combine two groups using real objects.</i> <i>Represent number stories using 10 frames, number tracks and fingers.</i> Explore the composition of numbers to 10. Automatically recall number bonds for numbers 0–5 and some to 10. Automatically recall number bonds up to 5 and some number bonds to 10, including double facts.	Represent and use number bonds and related subtraction facts within 20	Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a 2-digit number and 1s, a 2-digit number and 10s, two 2-digit numbers and adding three 1-digit numbers	• a 3-digit number and hundreds	
Addition and Subtraction: Calculations Refer to Calculation Policy	<i>Using real objects children see that the quantity of a group can be changed by taking items away.</i> <i>Represent number stories using 10 frames, number tracks and fingers.</i>	Add and subtract 1-digit and 2-digit numbers to 20, including zero	Add and subtract numbers using concrete objects, pictorial representations, including: a 2-digit number and 1s, a 2-digit number and 10s, two 2-digit numbers and adding three 1-digit numbers	Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction	Add and subtract numbers with up to four digits using the formal written methods of columnar addition and subtraction where appropriate
Addition and Subtraction: Solving Problems	Automatically recall number bonds up to 5 including subtraction facts	Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = ? - 9$	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	Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction Estimate the answer to a calculation and use inverse operations to check answers	Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why Estimate and use inverse operations to check answers to a calculation
Multiplication and division					
Multiplication and Division: Recall, Represent,	Explore and represent patterns within numbers up to 10, including evens and odds, double	Count, read and write numbers to 100 in numerals; count in multiples of 2s, 5s and 10s	Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including	Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables	Recall multiplication and division facts for multiplication tables up to 12×12

	facts and how quantities can be distributed equally.		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		Recognise and use factor pairs and commutativity in mental calculations Count in multiples of 6, 7, 9, 25 and 1,000 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
Multiplication and Division: Calculation Refer to Calculation Policy			Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication ($\times$), division ($\div$) and equals (=) signs	Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for 2-digit numbers times 1-digit numbers, using mental and progressing to formal written methods	Multiply 2-digit and 3-digit numbers by a 1-digit number using formal written layout
Multiplication and Division: Solve Problems		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		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	Solve problems involving multiplying and adding, including using the distributive law to multiply 2-digit numbers by 1 digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects
Fractions, decimals and percentages					
Fractions – read and write		Recognise, find and name a half as one of two equal parts of an object, shape or quantity Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity	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	Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators	Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators
Fractions - compare			Write simple fractions, for example $\frac{1}{2}$ of $6 = 3$ and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$	Compare and order unit fractions, and fractions with the same denominators Recognise and show, using diagrams, equivalent fractions with small denominators	Recognise and show, using diagrams, families of common equivalent fractions
Fractions – calculate				Add and subtract fractions with the same denominator within one whole solve problems that involve all of the above	Add and subtract fractions with the same denominator round decimals with one decimal place to the nearest whole number

Decimals – read and write					Recognise and write decimal equivalents of any number of tenths or hundredths recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$
Decimals – compare					Compare numbers with the same number of decimal places up to 2 decimal places
Decimals - calculations and problems					Find the effect of dividing a 1- or 2-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths <i>solve simple measure and money problems involving fractions and decimals to two decimal places</i>
Geometry					
3D shapes	<i>Talk about and explore 3D shapes using informal and mathematical language.</i> <i>Explore and manipulate 3D shape through modelling and building</i> <i>Name 3D shapes.</i> <i>Identify similarities and differences between 3D shapes.</i>	Recognise and name common 3-D shapes, including for example, cuboids including cubes, pyramids and spheres	Compare and sort common 3-D shapes and everyday objects Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces	Make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them <i>describing the properties 3-D shapes using accurate language, including lengths of lines and acute and obtuse for angles greater or lesser than a right angle.</i>	Make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them
2D shapes	<i>Talk about and explore 2D shapes using informal and mathematical language.</i> <i>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.</i> <i>Identify basic 2D shapes in different orientations and sizes.</i>	Recognise and name common 2-D including: [for example, rectangles including squares, circles and triangles;	Identify and describe the properties of 2-D shapes, including the number of sides, and line symmetry in a vertical line Compare and sort common 2-D shapes and everyday objects	Draw 2-D shapes and <i>describe the properties of 2-D shapes using accurate language, including lengths of lines and acute and obtuse for angles greater or lesser than a right angle.</i> Recognise angles as a property of shape or a description of a turn	Draw 2-D shapes complete a simple symmetric figure with respect to a specific line of symmetry. identify lines of symmetry in 2-D shapes presented in different orientations compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes
Angles and lines	<i>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.</i>			Recognise angles as a property of shape or a description of a turn Identify right angles, recognise that two right angles make a half	Recognise angles as a property of shape or a description of a turn Identify right angles, recognise that two right angles make a half turn, three make three-quarters of a turn and four a complete turn; identify

				turn, three make three-quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle Identify horizontal and vertical lines and pairs of perpendicular and parallel lines	whether angles are greater than or less than a right angle Identify horizontal and vertical lines and pairs of perpendicular and parallel lines identify acute and obtuse angles and compare and order angles up to two right angles by size
Position and direction	Climb and squeeze themselves into different types of spaces. Build with a range of resources. Complete inset puzzles. Notice patterns and arrange things in patterns. Understand position through words alone. Describe a familiar route. Discuss routes and locations, using words like 'in front of' and 'behind'. Talk about and identify the patterns around them. Extend and create ABAB patterns – stick, leaf, stick, leaf. Notice and correct an error in a repeating pattern. Select, rotate and manipulate shapes 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. Continue, copy and create repeating patterns.	Describe position, direction and movement, including whole, half, quarter and three-quarter turns Use the language of position, direction and motion, including: left and right, top, middle and bottom, on top of, in front of, above, between, around, near, close and far, up and down, forwards and backwards, inside and outside Practise counting (1, 2, 3...), ordering (for example, 1st, 2nd, 3rd ...)	Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anticlockwise)		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.

Measures					
Using measures	Compare sizes, weights etc. using gesture and language - 'bigger/little/smaller', 'high/low', 'tall', 'heavy'. Make comparisons between objects relating to size, length, weight and capacity. Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...' <i>Use objects such as cubes to measure</i> Compare length, weight and capacity	Compare, describe and solve practical problems for: lengths and heights; mass/weight; capacity and volume; time Measure and begin to record the following: lengths and heights; mass/weights; capacity and volume; time Sequence events in chronological order using language (for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening) Recognise and use language relating to dates, including days of the week, weeks, months and years Compare, describe and solve practical problems for time Measure and begin to record time (hours, minutes, seconds) Tell the time to the hour and half past the hour and draw the hands on a clockface to show these times	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 Compare and order lengths, mass, volume/capacity and record the results using >, < and = Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clockface to show these times Know the number of minutes in an hour and the number of hours in a day	Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks • Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, am/pm, morning, afternoon, noon and midnight Know the number of seconds in a minute and the number of days in each month, year and leap year Compare durations of events	Convert between different units of measure [for example, kilometre to metre; hour to minute] Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, am/pm, morning, afternoon, noon and midnight Know the number of seconds in a minute and the number of days in each month, year and leap year Compare durations of events
Perimeter and area	Combine objects like stacking blocks and cups. Put objects inside others and take them out again. Select, rotate and manipulate shapes to develop spatial reasoning skills. Compose and decompose shapes so that children recognise a			Measure the perimeter of simple 2-D shapes	Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres Measure the perimeter of simple 2-D shapes

	shape can have other shapes within it, just as numbers can.				
Money		Recognise and know the value of different denominations of coins and notes	Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change	Add and subtract amounts of money to give change, using both £ and p in practical contexts	Add and subtract amounts of money to give change, using both £ and p in practical contexts solve simple measure and money problems involving fractions and decimals to two decimal places.
	Statistics				
Statistics			Interpret and construct simple pictograms, tally charts, block diagrams and simple tables Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity Ask and answer questions about totalling and comparing categorical data	Interpret and present data using bar charts, pictograms and tables Solve one-step and two-step questions using information presented in scaled bar charts and pictograms and tables	