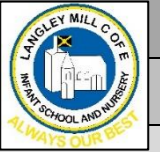


Langley Mill Church of England Infant School and Nursery – Curriculum Progression



Mathematics (page 1 of 3)

Numbers and Place Value

Pre-nursery	Nursery	Reception	ELG	Year 1	Year 2	Mastery & Greater Depth
<ul style="list-style-type: none"> Takes part in finger rhymes with numbers. Reacts to changes of amount in a group of up to three items. Compares amounts, saying 'lots', 'more', 'same' and 'fewer'. Counting like behaviour, such as making sounds, pointing or saying some number names in sequence. Counts in everyday contexts, sometimes skipping numbers. 	<ul style="list-style-type: none"> Recites numbers past 5. Says one number name for each item in order: 1,2,3,4,5. Knows that the last number you reached when counting a small set of objects tells you how many there are in total. Fastly recognise up to 3 objects, without having to count them individually (subitising). Shows 'finger numbers' up to 5. Links numerals and amount e.g. showing the right amount number of objects to match the numerals up to 5. Experiments with their own symbols and marks as well as numerals. Compares quantities using language 'more than', 'fewer than'. Solves real world mathematical problems with numbers up to 5. 	<ul style="list-style-type: none"> Counts actions, objects and sounds. Counts beyond 10. Subitises. Links the number symbol (numeral) with its cardinal number value. Compares numbers. Understands the 'one more than/ one less than' relationship between consecutive numbers. Explores the composition of numbers to 10. 	<ul style="list-style-type: none"> Verbally counts beyond 20, recognising the pattern of the counting system. Subitises (recognising quantities without counting) up to 5. Compares quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or then same as another. Has a deep understanding of numbers to 10, including the composition of each number. 	<ul style="list-style-type: none"> Counts to 100 forwards and backwards. Counts from 0 or 1 or from any given number. Counts, reads and writes numbers to 100 in numerals. Counts in multiples of 2, 5 and 10. Identifies one more and one less than a given number. Identifies and represent numbers using objects & pictures including the number line. Uses number vocabulary such as equal to, more than, less than (fewer), most, least. Reads and writes numbers from 1 to 20 in numerals and words. 	<ul style="list-style-type: none"> Counts in steps of 2, 3, and 5 from 0. Counts in 10s from any number forwards and backwards. Recognises the place value of each digit in a two-digit number (tens, ones). Identifies and represents numbers in different ways. Estimates a number based on its position e.g. an arrow on a 0 to 10 number line. Reads and writes numbers to at least 100 in numerals and words. Compares and orders numbers from 0 up to 100. Rounds any two-digit number to the nearest 10. Uses the less than, more than and equals symbols in number sentences (<, > and =). Uses place value and number facts to solve problems. 	<ul style="list-style-type: none"> Uses reasoning about numbers and relationships to solve more complex problems and explain their thinking (e.g. $29 + 17 = 15 + 4 + \dots$; 'together Jack and Sam have £14. Jack has £2 more than Sam. How much money does Sam have?' etc.). Solves unfamiliar word problems that involve more than one step (e.g. 'which has the most biscuits, 4 packets of biscuits with 5 in each packet or 3 packets of biscuits with 10 in each packet?').

Addition and Subtraction

<ul style="list-style-type: none"> Reacts to changes of amount in a group of up to three items. 	<ul style="list-style-type: none"> Solves real world mathematical problems with numbers up to 5. 	<ul style="list-style-type: none"> Automatically recalls number bonds for numbers 0-10. Understands the 'one more than/ one less than' relationship between consecutive numbers. Explores the composition of numbers to 10. 	<ul style="list-style-type: none"> Automatically recalls (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts. Explores and represents patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed evenly. 	<ul style="list-style-type: none"> Reads, writes & interprets mathematical statements involving addition (+), subtraction (-) and equals (=) signs. Solves problems involving addition, subtraction and equals using practical equipment to help me. Knows and uses number bonds and related subtraction facts within 20. Adds and subtracts one-digit and two-digit numbers to 20, including 0. Solves missing number problems such as $7 = [] - 9$. 	<ul style="list-style-type: none"> Adds and subtracts numbers using practical equipment to help and mentally: <ul style="list-style-type: none"> TO + O TO + multiple of 10 TO + TO O + O + O Solves problems with addition and subtraction: <ul style="list-style-type: none"> using practical equipment. with numbers, quantities, and measures. using increasing mental calculation strategies and written methods. Recalls and uses addition and subtraction facts to 20 fluently, and derives and uses related facts up to 100. Shows that addition can be done in any order (commutative). Shows that subtraction cannot be done in any order. Recognises and uses the inverse relationship between addition and subtraction. Uses and applies the inverse to check calculations. Uses and applies the inverse to solve missing number problems. 	<ul style="list-style-type: none"> Uses reasoning about numbers and relationships to solve more complex problems and explain their thinking (e.g. $29 + 17 = 15 + 4 + \dots$; 'together Jack and Sam have £14. Jack has £2 more than Sam. How much money does Sam have?' etc.). Solves unfamiliar word problems that involve more than one step (e.g. 'which has the most biscuits, 4 packets of biscuits with 5 in each packet or 3 packets of biscuits with 10 in each packet?').
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Multiplication and Division

			<ul style="list-style-type: none"> Explores and represents patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed evenly. 	<ul style="list-style-type: none"> Solves one-step problems involving multiplication and division using objects, pictures and arrays, with the support of the teacher. 	<ul style="list-style-type: none"> Recalls and uses multiplication facts for 2, 5 and 10 times tables. Recalls and uses division facts for the 2, 5 and 10 times tables. Recognises odd and even numbers. Uses the multiplication, division and equals symbols to calculate mathematical problems. Shows that multiplication of two numbers can be done in any order (commutative). Shows that division of one number by another cannot be done in any order. Solves problems involving multiplication and division within a variety of contexts using: <ul style="list-style-type: none"> practical equipment. arrays. repeated addition. mental methods. Multiplication/ division facts known. 	<ul style="list-style-type: none"> Recalls and uses multiplication and division facts for 2, 5 and 10 and make deductions outside known multiplication facts.
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Mathematics (page 2 of 3)

Fractions						
Pre-nursery	Nursery	Reception	ELG	Year 1	Year 2	Mastery & Greater Depth
			<ul style="list-style-type: none"> Explores and represents patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed evenly. 	<ul style="list-style-type: none"> Describes whole, half, quarter and three-quarter turns. Uses mathematical vocabulary to describe quarter, half and three-quarter turns. 	<ul style="list-style-type: none"> Recognises, names and writes the fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$, and $\frac{3}{4}$. Finds $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity. Writes simple fractions, e.g. $\frac{1}{2}$ of 6 = 3. Recognises simple equivalent fractions e.g. $\frac{2}{4}$ is the same as half. 	
Measures						
<ul style="list-style-type: none"> Compares sizes, weights, etc. using gesture and language - bigger, little, small, high, low, tall heavy. 	<ul style="list-style-type: none"> Makes comparisons between objects relating to size, length, weight and capacity. 	<ul style="list-style-type: none"> Compares length, weight and capacity. 		<ul style="list-style-type: none"> Compares, describes and solves problems for lengths and heights using words such as long, short, longer, shorter, tall, taller, short, shorter, double, half. Compares, describes and solves problems for mass or weight using words such as heavy, light, heavier than, lighter than. Compares, describes and solves problems for capacity/volume using words such as full, empty, more than, less than, half, half full, quarter. Measures and begins to record the length, height, mass/weight and capacity. 	<ul style="list-style-type: none"> Chooses and uses the standard units to estimate and measure: <ul style="list-style-type: none"> length/height (m/cm). mass (kg/g). temperature ($^{\circ}$C). capacity (litres/ml). Chooses and uses the appropriate equipment to measure: <ul style="list-style-type: none"> length/height (<i>rulers</i>). mass (<i>scales</i>). temperature (<i>thermometers</i>). capacity (<i>measuring vessels</i>). Knows the relationship between units of measure for length, mass and capacity e.g. 100 cm = 1m, 1000g = 1 Kg, 1000ml = 1L. Uses knowledge of the relationship between units of measure to compare and order lengths, mass and capacity and record the results using >, < and =. Compares and describes mass or weight using words such as heavy, light, heavier than, lighter than. Compares and describes capacity using words such as full, empty, more than, less than, quarter. Measures and begins to record the length, height, mass and capacity. 	<ul style="list-style-type: none"> Reads scales where not all numbers on the scale are given and estimates points in between (the scale can be in the form of a number line or a practical measuring situation).
Time						
	<ul style="list-style-type: none"> Begins to describe a sequence of events, real or factual, using words, such as, 'first', 'then'. 			<ul style="list-style-type: none"> Compares, describes and solves problems for time using words such as quicker, slower, earlier, later. Tells the time to the hour. Tells the time to half past the hour. Draws hands on a clock face to show o'clock and half past times. Measures and begins to record time. Sequences events in chronological order using words such as before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening. Uses language relating to dates. Says the days of the week. Says the months of the year. 	<ul style="list-style-type: none"> Understands, compares and sequences intervals of time such as seconds, minutes, hours, days, weeks, months, years. Knows the number of minutes in an hour and the number of hours in a day. Tells and writes quarter past and quarter to times. Draws the quarter past and to times on a clock face. Tells and writes the time to 5 minutes. Draws the times to 5 minutes on a clock face. 	<ul style="list-style-type: none"> Reads the time on a clock to the nearest 5 minutes.

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Mathematics (page 3 of 3)

Money						
Pre-nursery	Nursery	Reception	ELG	Year 1	Year 2	Mastery & Greater Depth
				<ul style="list-style-type: none"> Recognises and knows the value of UK coins and notes. Orders coins from smallest to largest value. Solves simple addition and subtraction problems involving money. 	<ul style="list-style-type: none"> Recognise and uses symbols for pounds (£) and pence (p). Combines coins to make a given value. Finds different combinations of coins that equal the same amounts of money. Solves addition and subtraction money problems in the same unit of money, including giving change. 	
Properties of shape (Patterns)						
<ul style="list-style-type: none"> Climbs and squeezes selves into different types of spaces. Builds with a range of resources. Completes inset puzzles. Notices patterns and arrange things in patterns. 	<ul style="list-style-type: none"> Talks about and explores 2D shapes using informal and mathematical language: side, corners, straight, flat and round. Selects shapes appropriately: flat surfaces for building a triangular pattern for a roof. Combines shapes to make new ones and arch, a bigger triangle, etc. Talks about and identifies patterns around them. Extends simple ABABAB patterns- stick, leaf, stick, leaf. Notices and corrects an error in a repeating pattern. 	<ul style="list-style-type: none"> Selects, rotates and manipulates shapes in order to develop spatial reasoning skills. Composes and decomposes shapes and recognises a shape can have other shapes within it, just as numbers can. Continues, copies and creates repeating patterns. 		<ul style="list-style-type: none"> Recognises and names common 2D shapes including e.g. rectangles, squares, circles and triangles. Recognises and names common 3D shapes e.g. cuboids, pyramids and spheres. 	<ul style="list-style-type: none"> Identifies and describes the properties of 2D shapes including the number of sides. Identifies vertical lines of symmetry. Identifies and describes the properties of 3D shapes including the number of edges, vertices and faces. Identifies 3D shape faces and 2D shapes e.g. a circle on a cylinder and a triangle on a pyramid. Compares and sorts common 2D and 3D shapes and everyday objects according to their properties. 	<ul style="list-style-type: none"> Describes similarities and differences of 2D and 3D shapes, using their properties (e.g. that two different 2D shapes both have only one line of symmetry; that a cube and a cuboid have the same number of edges, faces and vertices, but different dimensions).
Position and Direction						
	<ul style="list-style-type: none"> Understands position through words alone e.g. 'The bag is under the table' with no pointing. Describes a familiar route. Discusses routes and locations, using words like 'in front of' and 'behind'. 	<ul style="list-style-type: none"> Draws information from a simple map. (UW) 		<ul style="list-style-type: none"> Describes position, direction and movement, including whole, half, quarter and three-quarter turns. 	<ul style="list-style-type: none"> Orders and arranges combinations of mathematical objects in patterns and sequences, including those in different orientations. Uses mathematical language to describe position. Uses mathematical vocabulary to describe direction and movement such as quarter, half and three-quarter turns, clockwise, anti-clockwise, straight, left and right. Recognises quarter turns as right angles. 	
Statistics						
	<ul style="list-style-type: none"> Experiments with their own symbols and marks, as well as numerals. 				<ul style="list-style-type: none"> Interprets and constructs: <ul style="list-style-type: none"> pictograms tally charts block diagrams simple tables Asks and answers simple questions involving: <ul style="list-style-type: none"> counting the number of objects in each category totaling given categories Compares given categories 	