



Wicklewood Primary School

Maths Progression at Wicklewood



The progression chart below should be used in conjunction with the non-statutory guidance (Ready to Progress documents)

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Number and Place Value	<p>counts up to 10 objects by saying one number name for each item</p> <p>counts actions or objects</p> <p>can count a number of things in two groups and recognise that when recombined these still make the same total</p> <p>says the number that is one more than a given number</p> <p>finds one more or less than groups of objects</p> <p>recognise some numerals of personal significance</p> <p>uses the language of 'more' and 'fewer' to compare two sets of objects</p> <p>recognise numerals and puts them in the correct order</p> <p>ELG Children count reliably with</p>	<p>count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number</p> <p>count, read and write numbers to 100 in numerals;</p> <p>count in multiples of 2s, 5s and 10s</p> <p>given a number, identify 1 more and 1 less</p> <p>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</p> <p>read and write numbers from 1 to 20 in numerals and words.</p>	<p>count in steps of 2, 3, and 5 from 0, and in 10s from any number, forward and backward</p> <p>recognise the place value of each digit in a two-digit number (10s, 1s)</p> <p>identify, represent and estimate numbers using different representations, including the number line</p> <p>compare and order numbers from 0 up to 100; use <, > and = signs</p> <p>read and write numbers to at least 100 in numerals and in words</p> <p>use place value and number facts to solve problems.</p>	<p>count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number</p> <p>recognise the place value of each digit in a 3-digit number (100s, 10s, 1s)</p> <p>compare and order numbers up to 1,000</p> <p>identify, represent and estimate numbers using different representations</p> <p>read and write numbers up to 1,000 in numerals and in words</p> <p>solve number problems and practical problems involving these ideas.</p>	<p>count in multiples of 6, 7, 9, 25 and 1,000</p> <p>find 1,000 more or less than a given number</p> <p>count backwards through 0 to include negative numbers</p> <p>recognise the place value of each digit in a four-digit number (1,000s, 100s, 10s and 1s)</p> <p>order and compare numbers beyond 1,000</p> <p>identify, represent and estimate numbers using different representations</p> <p>round any number to the nearest 10, 100 or 1,000</p> <p>solve number and practical problems that involve all of the above and with</p>	<p>read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit</p> <p>count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000</p> <p>interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through 0</p> <p>round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000</p> <p>solve number problems and practical problems that involve all of the above</p>	<p>read, write, order and compare numbers up to 10 000 000 and determine the value of each digit</p> <p>round any whole number to a required degree of accuracy</p> <p>use negative numbers in context, and calculate intervals across 0</p> <p>solve number and practical problems that involve all of the above.</p>

	numbers from 1 to 20, place them in order and say which number is one more or one less than a given number				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 0 and place value.	read Roman numerals to 1,000 (M) and recognise years written in Roman numerals.	
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	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Addition and Subtraction	<p>Finds the total number of items in two groups by counting all of them. In practical activities and discussion, beginning to use the vocabulary involved in adding and subtracting.</p> <p>ELG Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer</p>	<p>read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs. represent and use number bonds and related subtraction facts within 20. add and subtract one-digit and two-digit numbers to 20, including 0. solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = ? - 9$.</p>	<p>solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures. applying their increasing knowledge of mental and written methods. recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100. add and subtract numbers using concrete objects, pictorial</p>	<p>add and subtract numbers mentally, including: a three-digit number and 1s a three-digit number and 10s a three-digit number and 100s add and subtract numbers with up to 3 digits, using written methods addition and subtraction estimate the answer to a calculation and use inverse operations to check answers solve problems, including missing number problems, using number facts, place value, and more complex</p>	<p>add and subtract numbers with up to 4 digits using the written methods. 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.</p>	<p>add and subtract whole numbers with more than 4 digits, including using written methods add and subtract numbers mentally with increasingly large numbers use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.</p>	<p>use their knowledge of the order of operations to carry out calculations involving addition and subtraction solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why solve problems involving addition and subtraction use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.</p>

			<p>representations, and mentally, including: a two-digit number and 1s a two-digit number and 10s 2 two-digit numbers adding 3 one-digit numbers show that addition of 2 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.</p>	addition and subtraction			
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	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Multiplication and Division	ELG They solve problems, including doubling, halving and sharing.	solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the	recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers calculate mathematical statements for	recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables write and calculate mathematical statements for multiplication and division using the multiplication tables	recall multiplication and division facts for multiplication tables up to 12×12 use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1;	identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. know and use the vocabulary of prime numbers, prime factors and	multiply multi-digit numbers up to 4 digits by a two-digit whole number using a written method for multiplication divide numbers up to 4 digits by a two-digit whole number using a written method for division,

		support of the teacher.	<p>multiplication and division within the multiplication tables and write them using the multiplication (\times), division (\div) and equals (=) signs show that multiplication of 2 numbers can be done in any order (commutative) and division of 1 number by another cannot solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.</p>	<p>that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to written methods solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which objects are connected to objects.</p>	<p>multiplying together 3 numbers recognise and use factor pairs and commutativity in mental calculations multiply two-digit and three-digit numbers by a one-digit number using written methods solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by 1 digit, integer scaling problems and harder correspondence problems such as objects are connected to m objects.</p>	<p>composite (non-prime) numbers establish whether a number up to 100 is prime and recall prime numbers up to 19 multiply numbers up to 4 digits by a one- or two-digit number using a written method, divide numbers mentally drawing upon known facts divide numbers up to 4 digits by a one-digit number using a written method of division and interpret remainders appropriately for the context multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000 recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3) solve problems involving multiplication and division, including using their knowledge of factors</p>	<p>and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context divide numbers up to 4 digits by a two-digit number using the written method for division where appropriate, interpreting remainders according to the context perform mental calculations, including with mixed operations and large numbers identify common factors, common multiples and prime numbers use their knowledge of the order of operations to carry out calculations involving multiplication and division operations solve problems involving multiplication and division use estimation to check answers to calculations and</p>
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						and multiples, squares and cubes multiplication and division, including scaling by simple fractions and problems involving simple rates.	determine, in the context of a problem, an appropriate degree of accuracy
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	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Fractions	ELG they solve problems, including doubling, halving and sharing	recognise, find and name a half as 1 of 2 equal parts of an object, shape or quantity recognise, find and name a quarter as 1 of 4 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 write simple fractions, for example $\frac{1}{2}$ of $6 = 3$ and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$.	count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10 recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators recognise and show, using diagrams, equivalent fractions with small denominators	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 a 100 and dividing tenths by 10. 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	compare and order fractions whose denominators are all multiples of the same number identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number add and subtract fractions with the same denominator and denominators	use common factors to simplify fractions; use common multiples to express fractions in the same denomination compare and order fractions, including fractions > 1 add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions multiply simple pairs of proper fractions, writing the answer in its simplest form divide proper fractions by whole numbers associate a fraction with division and calculate decimal

				<p>add and subtract fractions with the same denominator within one whole compare and order unit fractions, and fractions with the same denominators solve problems that involve all of the above</p>	<p>recognise and write decimal equivalents of any number of tenths or hundredths recognise and write decimal equivalents to $\frac{1}{4}$; $\frac{1}{2}$; $\frac{3}{4}$ 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 1 decimal place to the nearest whole number compare numbers with the same number of decimal places up to 2 decimal places solve simple measure and money problems involving fractions and decimals to 2 decimal places.</p>	<p>that are multiples of the same number multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams read and write decimal numbers as fractions recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents round decimals with 2 decimal places to the nearest whole number and to 1 decimal place read, write, order and compare numbers with up to 3 decimal places solve problems involving number up to 3 decimal places recognise the per cent symbol (%) and understand that per cent relates to “number of parts per 100”, and write percentages as a fraction with denominator 100, and as a decimal fraction</p>	<p>fraction equivalents for a simple fraction. identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1,000 giving answers are up to three decimal places multiply one-digit numbers with up to 2 decimal places by whole numbers use written division methods in cases where the answer has up to 2 decimal places solve problems which require answers to be rounded to specified degrees of accuracy recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.</p>
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						<p>solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and fractions with a denominator of a multiple of 10 or 25.</p>	
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	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Measurement	<p>Orders two or three items by length or height</p> <p>Orders two items by weight or capacity</p> <p>Orders and sequences familiar events</p> <p>Beginning to use everyday language related to money</p> <p>ELG Children use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems</p>	<p>compare, describe and solve practical problems for: lengths and heights [for example, long/short, longer/shorter, tall/short, double/half mass / weight capacity and volume time measure and begin to record the following: lengths and heights mass/weight capacity and volume time (hours, minutes, seconds) recognise and know the value of different denominations of coins and notes</p>	<p>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 = recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value</p>	<p>measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) measure the perimeter of simple 2-D shapes add and subtract amounts of money to give change, using both £ and p in practical contexts 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</p>	<p>convert between different units of measure 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</p>	<p>convert between different units of metric measure understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres calculate and compare the area of rectangles (including squares) including using standard units, square centimetres (cm²) and square metres (m²) and</p>	<p>solve problems involving the calculation and conversion of units of measure, using decimal notation up to 2 decimal places where appropriate use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to 3 decimal places convert between miles and kilometres recognise that shapes with the same areas can have</p>

		sequence events in chronological order using language recognise and use language relating to dates, including days of the week, weeks, months and years tell the time to the hour and half past the hour and draw the hands on a clock face to show these times	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 compare and sequence intervals of time tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times. know the number of minutes in an hour and the number of hours in a day	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	seconds, years to months, weeks to days	estimate the area of irregular shapes estimate volume and capacity solve problems involving converting between units of time use all four operations to solve problems involving measure using decimal notation including scaling.	different perimeters and vice versa recognise when it is possible to use formulae for area and volume of shapes calculate the area of parallelograms and triangles calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm ³) and cubic metres (m ³), and extending to other units
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	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Properties of Shape	Beginning to use mathematical names for 'solid' 3D shapes and 'flat' 2D shapes, and mathematical terms to describe shapes Selects a particular named shape	recognise and name common 2-D and 3-D shapes, including: 2-D shapes 3-D shapes	identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line identify and describe the properties of 3-D shapes, including the	draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them recognise angles as a property of shape or	compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes identify acute and obtuse angles and compare and order	identify 3-D shapes, including cubes and other cuboids, from 2-D representations know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles	draw 2-D shapes using given dimensions and angles recognise, describe and build simple 3-D shapes, including making nets compare and classify geometric shapes

	<p>Uses familiar objects and common shapes to create and recreate patterns and build models</p> <p>ELG: They recognise, create and describe patterns. They explore characteristics of everyday objects and shapes and use mathematical language to describe them.</p>		<p>number of edges, vertices and faces identify 2-D shapes on the surface of 3-D shapes compare and sort common 2-D and 3-D shapes and everyday objects.</p>	<p>a description of a turn identify right angles, recognise that 2 right angles make a half-turn, 3 make three quarters of a turn and 4 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.</p>	<p>angles up to 2 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.</p>	<p>draw given angles, and measure them in degrees (o) identify: angles at a point and 1 whole turn (total 360o) angles at a point on a straight line and half a turn (total 180o) other multiples of 90o use the properties of rectangles to deduce related facts and find missing lengths and angles distinguish between regular and irregular polygons based on reasoning about equal sides and angles.</p>	<p>based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.</p>
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	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Position and Direction	<p>Can describe their relative position such as 'behind' or 'next to'</p> <p>ELG Children use everyday language to talk about size... position, distance... to compare quantities and</p>	<p>describe position, directions and movements, including whole, half, quarter and three-quarter turns</p>	<p>order and arrange combinations of mathematical objects in patterns and sequences use mathematical vocabulary to describe position, direction and movement including movement in a straight line and distinguishing</p>		<p>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</p>	<p>identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed.</p>	<p>describe positions on the full coordinate grid (all 4 quadrants) draw and translate simple shapes on the coordinate plane, and reflect them in the axes.</p>

	objects and to solve problems.		between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise).		complete a given polygon.		
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	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Statistics	Statistics can be used in EYFS for example: As a class begin to use tally charts e.g. when taking votes for favourite stories		interpret and construct simple pictograms, tally charts, block diagrams and 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.	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.	solve comparison, sum and difference problems using information presented in a line graph complete, read and interpret information in tables, including timetables. Home About Us Parents Children Community	interpret and construct pie charts and line graphs and use these to solve problems calculate and interpret the mean as an average.

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
A g e b r a	Begins to identify own mathematical problems based on own interests and fascinations. Orders and sequences familiar events	Algebra is not in the National Curriculum for these year groups, however it is woven throughout other strands of the Maths Curriculum as can be seen below.					use simple formulae generate and describe linear number sequences express missing number problems algebraically find pairs of numbers that satisfy an equation with two unknowns enumerate possibilities of combinations of 2 variables.
		-solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = * - 9$ (Addition and Subtraction NC Objective) - represent and use number bonds and related subtraction facts within 20 (Addition and Subtraction NC Objective) -sequence events in chronological order using language such as: before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening (Measurement NC Objective)	-recognise and use the inverse relationship between addition and subtraction and use this to check calculations and missing number problems. (Addition and Subtraction NC Objective) -recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 (Addition and Subtraction NC Objective) -compare and sequence intervals of time (Measurement NC Objective) -order and arrange combinations of mathematical objects in patterns (Geometry: position and direction NC Objective)	-solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction. (Addition and Subtraction NC Objective) -solve problems, including missing number problems, involving multiplication and division, including integer scaling (Multiplication & Division NC Objective)	-Perimeter can be expressed algebraically as $2(a + b)$ where a and b are the dimensions in the same unit. (Link to Measurement NC Objective)	-use the properties of rectangles to deduce related facts and find missing lengths and angles (Geometry: Properties of Shapes NC Objective)	

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Ratio and Proportion	<p>Uses familiar objects and common shapes to create and recreate patterns and build models.</p> <p>ELG: They recognise, create and describe patterns.</p>	<p>Ratio and Proportion objectives only appear in Year 6. However, it is vital that these objectives build upon children's prior learning in other mathematical concepts, in particular: fractions, decimals and percentages. Therefore, this chart should be used in conjunction with the fractions progression chart on page 7 of this document.</p>					<p>solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts</p> <p>solve problems involving the calculation of percentages and the use of percentages for comparison</p> <p>solve problems involving similar shapes where the scale factor is known or can be found</p> <p>solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.</p>