



Woodrow First School Maths Progression

Nursery	Reception	Year 1	Year 2	Year 3	Year 4
Place Value: Counting					
<ul style="list-style-type: none"> recite numbers past 5 say one number for each item in order: 1,2,3,4,5 know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle') 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 	<ul style="list-style-type: none"> count objects, actions and sounds count beyond ten and verbally beyond 20 <p>Numerical Patterns ELG - Verbally count beyond 20, recognising the pattern of the counting system</p>	<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 numbers to 100 in numerals; 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 and 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 	<ul style="list-style-type: none"> count in multiples of 6, 7, 9, 25 and 1000 count backwards through zero to include negative numbers
Place Value: Represent					
<ul style="list-style-type: none"> Experiment with their own symbols and marks as well as numerals 	<ul style="list-style-type: none"> link the number symbol (numeral) with its cardinal number value <p>Number ELG - Have a deep understanding of number to 10, including the composition of each number;</p>	<ul style="list-style-type: none"> identify and represent numbers using objects and pictorial representations read and write numbers to 100 in numerals 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 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 read and write numbers up to 1000 in numerals and in words 	<ul style="list-style-type: none"> identify, represent and estimate numbers using different representations 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



Place Value: Use and Compare					
<ul style="list-style-type: none"> Compare quantities using language: 'more than', 'fewer than'. 	<ul style="list-style-type: none"> compare numbers <p>Numerical Patterns ELG - Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity</p>	<ul style="list-style-type: none"> given a number, identify one more and one less 	<ul style="list-style-type: none"> recognise the place value of each digit in a two-digit number (tens, ones) compare and order numbers from 0 up to 100; use <, > and = signs 	<ul style="list-style-type: none"> recognise the place value of each digit in a three-digit number (hundreds, tens, ones) compare and order numbers up to 1000 	<ul style="list-style-type: none"> find 1000 more or less than a given number recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) order and compare numbers beyond 1000 round any number to the nearest 10,100 or 1000
Addition and Subtraction: Number Facts					
<ul style="list-style-type: none"> Fast recognition of up to 3 objects, without having to count them individually ('subitising'). 	<ul style="list-style-type: none"> subitise explore the composition of numbers to 10 automatically recall number bonds for numbers 0–5 and some to 10 <p>Number ELG - Subitise (recognise quantities without counting) up to 5 Number ELG - Automatically recall (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 ELG -Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally</p>	<ul style="list-style-type: none"> Given a number, identify one more and one less Represent and use number bonds and related subtraction facts within 20 	<ul style="list-style-type: none"> use place value and number facts to solve problems Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 		



Addition and Subtraction: Mental					
		<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: TO+O, TO+T, TO+TO and O+O+O show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot 	<ul style="list-style-type: none"> add and subtract numbers mentally, including: HTO+O, HTO+T and HTO+H 	
Addition and Subtraction: Written					
				<ul style="list-style-type: none"> add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction 	<ul style="list-style-type: none"> add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate
Addition and Subtraction: 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 $7 = \square - 9$ 	<ul style="list-style-type: none"> solve problems with addition and subtraction, using concrete, pictorial and abstract representations recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems 	<ul style="list-style-type: none"> 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 addition and subtraction 	<ul style="list-style-type: none"> 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



Multiplication and Division: Number Facts					
			<ul style="list-style-type: none"> recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers 	<ul style="list-style-type: none"> recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables 	<ul style="list-style-type: none"> recall multiplication and division facts for multiplication tables up to 12×12
Multiplication and Division: Mental					
			<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 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"> 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 methods 	<ul style="list-style-type: none"> 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 recognise and use factor pairs and commutativity in mental calculations
Multiplication and Division: Written					
				<ul style="list-style-type: none"> progress to formal written methods calculations as above 	<ul style="list-style-type: none"> multiply two-digit and three-digit numbers by a one-digit number using formal written layout



Multiplication and Division: Problems					
		<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.	<ul style="list-style-type: none">• solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects
Recognising Fractions					
		<ul style="list-style-type: none">• recognise, find and name a half as one of two equal parts of an object, shape or quantityrecognise, find and name a quarter as one of four 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 that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10	<ul style="list-style-type: none">• count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.
Comparing Fractions					
				<ul style="list-style-type: none">• compare and order unit fractions, and fractions with the same denominators• recognise and show, using diagrams, equivalent fractions with small denominators	<ul style="list-style-type: none">• recognise and show, using diagrams, families of common equivalent fractions



Finding Fractions of Quantities					
				<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• 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
Fraction Calculations					
			<ul style="list-style-type: none">• write simple fractions for example, $1/2$ of 6 = 3 and recognise the equivalence of $2/4$ and $1/2$.	<ul style="list-style-type: none">• add and subtract fractions with the same denominator within one whole [for example, $5/7 + 1/7 = 6/7$]	<ul style="list-style-type: none">• add and subtract fractions with the same denominator
Decimals as Fractional Amounts					
					<ul style="list-style-type: none">• recognise and write decimal equivalents of any number of tenths or hundredths• recognise and write decimal equivalents to $1/4$, $1/2$ and $3/4$• 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



Ordering Decimals					
					<ul style="list-style-type: none"> round decimals with one decimal place to the nearest whole number compare numbers with the same number of decimal places up to two decimal places
Fraction Problems					
				<ul style="list-style-type: none"> solve problems using all fraction knowledge 	<ul style="list-style-type: none"> solve simple measure and money problems involving fractions and decimals to two decimal places
Measures					
<ul style="list-style-type: none"> make comparisons between objects relating to size, length, weight and capacity 	<ul style="list-style-type: none"> Compare length, weight and capacity. 	<ul style="list-style-type: none"> compare, describe and solve practical problems for: length/height, weight/mass, capacity/volume & time measure and begin to record length/height, weight/mass, capacity/volume & time 	<ul style="list-style-type: none"> choose and use appropriate standard units to estimate and measure length/height (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 = 	<ul style="list-style-type: none"> measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) 	<ul style="list-style-type: none"> Convert between different units of measure estimate, compare and calculate different measures, including money in pounds and pence



Perimeter and Area					
				<ul style="list-style-type: none">• measure the perimeter of simple 2-D shapes	<ul style="list-style-type: none">• measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres• find the area of rectilinear shapes by counting squares
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	<ul style="list-style-type: none">• Write amounts using decimal notation• Estimate, compare and calculate amounts of money



Time					
		<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• 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, a.m./p.m., 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	<ul style="list-style-type: none">• convert between different units of measure (e.g. Hours to minutes)• read, write and convert time between analogue and digital 12- and 24-hour clocks• solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days
Shape Vocabulary					
<ul style="list-style-type: none">• talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language: 'sides', 'corners'; 'straight', 'flat', 'round'		<ul style="list-style-type: none">• recognise and name common 2-D shapes (e.g. Square, circle, triangle)• recognise and name common 3-D shapes (e.g. Cubes, cuboids, pyramids & spheres)	<ul style="list-style-type: none">• (vertices, edges, faces, symmetry)	<ul style="list-style-type: none">• identify horizontal and vertical lines and pairs of perpendicular and parallel lines	



Properties of 2D Shape					
<ul style="list-style-type: none">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">select, rotate and manipulate shapes to develop spatial reasoning skillscompose 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 2-D shapes, including the number of sides and line symmetry in a vertical line.compare and sort common 2-D and 3-D shapes and everyday objects	<ul style="list-style-type: none">draw 2-D shapes	<ul style="list-style-type: none">compare and classify geometric shapes, including quadrilaterals and triangles, based on properties and sizesidentify lines of symmetry in 2-D shapes presented in different orientationscomplete a simple symmetric figure with respect to a specific line of symmetry
Properties of 3D Shape					
			<ul style="list-style-type: none">identify and describe the properties of 3-D shapes, including the number of edges, vertices and facesidentify 2-D shapes on the surface of 3-D shapes. compare and sort common 2-D and 3-D shapes and everyday objects	<ul style="list-style-type: none">make 3-D shapes using modelling materials recognise 3-D shapes in different orientations and describe them	



Angles					
				<ul style="list-style-type: none"> 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 whether angles are greater or less than right angle 	<ul style="list-style-type: none"> identify acute and obtuse angles and compare and order angles up to two right angles by size
Position & Direction					
<ul style="list-style-type: none"> understand position through words alone – for example, “The bag is under the table,” – with no pointing. Describe a familiar route. Discuss routes and locations, using words like ‘in front of’ and ‘behind’. 	<ul style="list-style-type: none"> understand position through words alone – for example, “The bag is under the table,” – with no pointing. Describe a familiar route. Discuss routes and locations, using words like ‘in front of’ and ‘behind’. 	<ul style="list-style-type: none"> describe position, direction and movement, including whole, half, quarter and three-quarter turns. 	<ul style="list-style-type: none"> 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 between rotation as a turn and in terms of right angles for quarter, half and $\frac{3}{4}$ turns 		<ul style="list-style-type: none"> 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
Interpreting Data					
			<ul style="list-style-type: none"> interpret and construct simple pictograms, tally charts, block diagrams and simple tables 	<ul style="list-style-type: none"> interpret and present data using bar charts, pictograms and tables 	<ul style="list-style-type: none"> interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs



Extract Information from Data

			<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables	<ul style="list-style-type: none">• solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs
--	--	--	---	--	--