



Neroche Primary School Maths Curriculum Progression



** Please note: this document sets out EYFS- KS2 Maths curriculum progression under the new National Curriculum. This curriculum progression is linked to White Rose schemes of learning.*

PLACE VALUE

COUNTING						
EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
Verbally count beyond 20, recognising the pattern of the counting system.	Count to and across 100, forwards and backwards beginning with 0 or 1, or from any given number.	Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward.	Count from 0 in multiples of 4, 8, 50 and 100.	Count in multiples of 6, 7, 9, 25 and 1000	Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000	
	Count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens.		Find 10 or 100 more or less than a given number	Count backwards through zero to include negative numbers	Count forwards and backwards with positive and negative whole numbers, including through zero.	
USE PLACE VALUE AND COMPARING NUMBERS						
Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as.	Identify 1 more and 1 less than a given number.	Recognise the place value of each digit in a 2-digit number (tens and ones).	Recognise the place value of each digit in a three-digit number (hundreds, tens and ones).	Find 1,000 more or less than a given number.	(Read, write) order and compare numbers to at least 1,000,000 and determine the value of each digit.	(Read, write), order and compare numbers up to 10,000,000 and determine the value of each digit.
		Compare and order numbers from 0 up to 100; use <, > and = signs.	Compare and order numbers up to 1,000.	Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens and ones).		
				Order and compare numbers beyond 1,000.		

PLACE VALUE CONT.

REPRESENTING NUMBER						
EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
Have a deep understanding of number to 10, including the composition of each number.	Identify and represent numbers using objects and pictorial representations.	Read and write numbers to at least 100 in numerals and words.	Identify, represent and estimate numbers using different representations.	Identify, represent and estimate numbers using different representations.	Read, write, (order and compare) numbers to 1,000,000 and determine the value of each digit.	Read, write (order and compare) numbers to 10,000,000 and determine the value of each digit.
Subitise up to 5.	Read and write numbers to 100 in numerals.	Identify, represent and estimate numbers using different representations, including the number line.	Read and write numbers up to 1,000 in numerals and words.	Read Roman Numerals to 100 and know that over time, the numeral system changed to include the concept of zero and place value.	Read Roman Numerals to 1,000 and recognise years written in Roman Numerals.	
Explore and represent patterns in numbers up to 10, including even and odds, double facts and how quantities can be distributed equally.	Read and write numbers from 1-20 in numerals and words.					
PROBLEMS AND ROUNDING						
		Use place value and number facts to solve problems.	Solve number problems and practical problems involving these ideas.	Round any number to the nearest 10, 100 or 1,000.	Interpret negative numbers in context.	Round any whole number to a required degree of accuracy.
				Solve number and practical problems that involve all of the above with increasingly large positive numbers.	Round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000.	Use negative numbers in context, and calculate intervals across zero.
					Solve number problems and practical problems that involve all of the above.	Solve number and practical problems that include all of the above.

ADDITION AND SUBTRACTION

RECALL, REPRESENT, USE						
EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
Automatically recall number bonds to 5 (including subtraction facts) and some number bonds to 10, including double facts.	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.	Estimate the answer to a calculation and use inverse operations to check answers.	Estimate and use inverse operations to check answers to a calculation.	Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.	
	Represent and use number bonds and related subtraction facts within 20.	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						
	Add and subtract one-digit and two-digit numbers to 20, including zero.	Add and subtract numbers using concrete objects, pictorial representations and mentally, including: <i>a two-digit number and ones</i> <i>a two-digit number and tens</i> <i>two two-digit numbers adding three one-digit numbers.</i>	Add and subtract numbers mentally including: <i>a three-digit number and ones</i> <i>a three-digit number and tens</i> <i>a three-digit number and hundreds</i>	Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate.	Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction).	Perform mental calculations, including with mixed operations and large numbers.
			Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction.		Add and subtract numbers mentally with increasingly large numbers.	Use their knowledge of the order of operations to carry out calculations involving the four operations.

ADDITION AND SUBTRACTION CONT

SOLVE PROBLEMS						
EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
	Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations and missing number problems such as $7 = \underline{\quad} - 9$	Solve problems with addition and subtraction using concrete objects and pictorial representations, including those involving numbers, quantities and measures.	Solve problems, including missing number problems, using number facts, place value and more complex addition and subtraction.	Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.	Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.	Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.
		Solve problems by applying knowledge of mental and written methods			Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign.	

MULTIPLICATION AND DIVISION

RECALL, REPRESENT, USE

EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
		Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers.	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 12x12.	Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.	Identify common factors, common multiples and prime numbers.
		Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.		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.	Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers.	Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.
				Recognise and use factor pairs and commutativity in mental calculations.	Establish whether a number up to 100 is prime and recall prime numbers up to 19.	
					Recognise and use square and cube numbers and the notation.	

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 involving multiplication and division, using materials, arrays, repeated addition, mental methods and multiplication and division facts, including problems in context.	Solve problems, including missing number, involving multiplication and division, including positive integer scaling and correspondence in which n objects are connected to m objects.	Solve problems involving multiplying and adding, using the distributive law to multiply two digit numbers by one digit, integer scaling and harder correspondence such as n objects are connected to m objects.	Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes.	Solve problems involving addition, subtraction, multiplication and division.
					Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.	

MULTIPLICATION AND DIVISION CONT

CALCULATIONS						
EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
		Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication, division and equals signs.	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.	Multiply two-digit and three-digit numbers by a one-digit number using formal written layout.	Multiply numbers up to 4 digits by a one-or two-digit number using a formal written methods, including long multiplication for two-digit numbers.	Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication.
					Multiply and divide numbers mentally drawing upon known facts.	Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division and interpret remainders as whole number remainders, fractions or by rounding, as appropriate for the context.
					Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context.	Divide numbers up to 4 digits by a two-digit number using the formal written method of short division and interpreting remainders according to the context.
					Multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000.	Perform mental calculations, including with mixed operations and large numbers

FRACTIONS, DECIMALS, PERCENTAGES, RATIO AND ALEGBRA

RECOGNISE AND WRITE						
EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
	Recognise, find and name a half as one of two 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.	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.	Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.	Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.	
	Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.		Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators.		Recognise mixed numbers and improper fractions and convert from one form to another and write mathematical statements >1 as a mixed number.	
			Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators.			
COMPARE						
		Recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$.	Recognise and show using diagrams, equivalent fractions with small denominators.	Recognise and show using diagrams, families of common equivalent fractions.	Compare and order fractions whose denominators are all multiples of the same number.	Use common factors to simplify fractions, use common multiples to express fractions in the same denomination.
			Compare and order unit fractions and fractions with the same denominators.			Compare and order fractions, including fractions >1 .

FRACTIONS, DECIMALS, PERCENTAGES, RATIO AND ALEGBRA CONT

CALCULATIONS						
EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
		Write simple fractions for example, $\frac{1}{2}$ of 6 = 3	Add and subtract fractions with the same denominator within one whole e.g. $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$.	Add and subtract fractions with the same denominator.	Add and subtract fractions with the same denominator and denominators that are multiples of the same number.	Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions.
					Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.	Multiply simple pairs of proper fractions, writing the answer in its simplest form.
						Divide proper fractions by whole numbers.
SOLVE PROBLEMS						
			Solve problems that involve all of the above.	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.		
DECIMALS: RECOGNISE AND WRITE						
				Recognise and write decimal equivalents of any number of tenths or hundredths.	Read and write decimal numbers as fractions.	Identify the value of each digit in numbers given to three decimal places.
				Recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$.	Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.	

FRACTIONS, DECIMALS, PERCENTAGES, RATIO AND ALEGBRA CONT

DECIMALS: COMPARE

EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
				Round decimals with one decimal place to the nearest whole number.	Round decimals with two decimal places to the nearest whole number and to one decimal place.	
				Compare numbers with the same number of decimal places up to two decimal places.	Read, write, order and compare numbers with up to three decimal places.	

DECIMALS: CALCULATIONS AND PROBLEMS

				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 or hundredths.	Solve problems involving numbers up to three decimal places.	Multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places.
						Multiply one-digit numbers with up to two decimal places by whole numbers.
						Use written division methods in cases where the answer has up to two decimal places.
						Solve problems which require answers to be rounded to specified degrees of accuracy.

FRACTIONS, DECIMALS, PERCENTAGES, RATIO AND ALEGBRA CONT

FRACTIONS, DECIMALS AND PERCENTAGES						
EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
				Solve simple measure and money problems involving fractions and decimals to two decimal places.	Recognise the percent symbol and understand the percent relates to a number of parts per hundred and write percentages as a fraction with denominator of 100 and as a decimal.	Associate a fraction with division and calculate decimal fraction equivalents.
					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 those fractions with a denominator of a multiple of 10 or 25.	Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.

RATIO AND PROPORTION						
EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
						Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts.
						Solve problems involving the calculation of percentages and the use of percentages for comparison.
						Solve problems involving similar shapes where the scale factor is known or can be found.
						Solve problems involving unequal sharing and grouping.

ALGEBRA

**note- although algebraic notation isn't introduced until Y6, algebraic thinking starts earlier*

EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
	Solve one-step problems that involve addition and subtraction, using concrete apparatus and pictorial representations and missing number problems.	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.			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 two variables.

MEASUREMENT

USING MEASURES

USING MEASURES						
EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
	Compare, describe and solve practical problems for: Lengths and heights, and weight, capacity and volume and time.	Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (Degrees Celsius); capacity (l/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels.	Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume capacity (l/ml).	Convert between different units of measure.	Convert between different units of metric measure.	Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate.
	Measure and begin to record: Lengths and heights, mass/weight, capacity and volume, time.	Compare and order lengths, mass, volume/capacity and record the results using <, > and =.		Estimate, compare and calculate different measures.	Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints.	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 up to three decimal places.
					Use all four operations to solve problems involving measure using decimal notation, including scaling.	Convert between miles and kilometres.

MEASUREMENT CONT

MONEY						
EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
	Recognise and know the values of different denominations of coins and notes.	Recognise and use symbols for pounds and pence; combine amounts to make a particular value.	Add and subtract amounts of money to give change, using both £ and p in practical contexts.	Estimate, compare and calculate different measures, including money in pounds and pence.	Use all four operations to solve problems.	
		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.				
TIME						
	Sequence events in chronological order using language (e.g. next, then).	Compare and sequence intervals of time.	Tell and write the time from an analogue clock, including using Roman Numerals from I to XII and 12-hour and 24 hour clocks.	Read, write and convert time between analogue and digital 12 and 24-hour clocks.	Solve problems involving converting between units of time.	Use, read, write and convert between standard units, converting measurements of time from a smaller unit of measure to a larger unit and vice versa.
	Recognise and use language relating to dates, including days of the week, weeks, months and years.	Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face.	Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours.	Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.		
	Tell the time to the hour and draw the hands on a clock face.	Know the number of minutes in an hour and the number of hours in a day.	Know the number of seconds in a minute and the number of days in a month, year and leap year.			
			Compare durations of events.			

MEASUREMENT CONT

PERIMETER, AREA AND VOLUME						
EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
			Measure the perimeter of simple 2D shapes.	Measure and calculate the perimeter of a rectilinear figure in cm and m.	Measure and calculate the perimeter or composite rectilinear shapes in cm and m.	Recognise that shapes with the same area can have different perimeters and vice versa.
				Find the area of a rectilinear shape by counting squares.	Calculate and compare the area of rectangles and including using standard units, square cm and square m and estimate the area of irregular shapes.	Recognise when it is possible to use formulae for area and volume of shapes.
					Estimate volume and capacity.	Calculate the area of parallelograms and triangles.
						Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic cm and cubic m and extending to other units.

GEOMETRY

2D SHAPE						
EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
	Recognise and name common 2D shapes.	Identify and describe the properties of 2D shapes, including the number of sides and line symmetry in a vertical line.	Draw 2D shapes.	Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.	Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.	Draw 2D shapes using given dimensions and angles.
		Identify 2D shapes on the surface of 3D shapes.		Identify lines of symmetry in 2D shapes presented in different orientations.	Use the properties of rectangles to deduce related facts and find missing lengths and angles.	Compare and classify geometric shapes based on their properties and sizes.
		Compare and sort common 2D shapes and everyday objects.				Illustrate and name parts of a circle, including radius, diameter and circumference and know that the diameter is twice the radius.
3D SHAPE						
	Recognise and name common 3D shapes	Recognise and name common 3D shapes.	Make 3D shapes using modelling materials; recognise 3D shapes in different orientations and describe them.		Identify 3D shapes, including cubes and other cuboids, from 2D representations.	Recognise, describe and build simple 3D shapes, including making nets.
		Compare and sort common 3D shapes and everyday objects.				

GEOMETRY CONT

ANGLES AND LINES						
EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
			Recognise angles as a property of a shape or a description of a turn.	Identify acute and obtuse angles and compare and order angles up to two right angles by size.	Known angles are measured in degrees: estimate and compare acute, obtuse and reflex angles.	Find unknown angles in any triangles, quadrilaterals and regular polygons.
			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 than or less than a right angle.	Identify lines of symmetry in a 2D shape presented in different orientations.	Draw given angles, and measure them in degrees.	Recognise angles where they meet at a point are on a straight line or are vertically opposite and find missing angles.
			Identify horizontal and vertical lines and pairs of perpendicular and parallel lines.	Complete a simple symmetric figure with respect to a specific line of symmetry.	Identify: angles around a point and one whole turn; angles at a point on a straight line and $\frac{1}{2}$ a turn, other multiples of 90 degrees.	
POSITION AND DIRECTION						
	Describe position, direction and movement, including whole, half, quarter and three-quarter turns.	Order and arrange combinations of mathematical objects in patterns and sequences.		Describe positions on a 2D grid as coordinates in the first quadrant.	Identify, describe and represent the position of a shape following a reflection or translation.	Describe positions on the full coordinate grid (4 quadrants).
		Use vocabulary to describe position, movement and direction including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for $\frac{1}{4}$, $\frac{1}{2}$ and $\frac{3}{4}$ turns.		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.		Draw and translate simple shapes on the coordinate plane and reflect them in the axes.

STATISTICS

PRESENT AND INTERPRET						
EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
		Interpret and construct simple pictograms, tally charts, block diagrams and simple tables.	Interpret and present data using bar charts, pictograms and tables.	Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.	Complete, read and interpret information in tables, including timetables.	Interpret and construct pie charts and line graphs and use them to solve problems.
SOLVE PROBLEMS						
		Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity.	Solve one-step and two-step questions using information presented in scaled bar charts, pictograms and tables.	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.	Calculate and interpret the mean as an average.
		Ask and answer questions about totalling and comparing categorical data.				