THE QUEEN'S C OF E PRIMARY Maths - progression and skills map red = not part of NC but The Queen's School teach these strands

	EYFS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6
Place value	**Counting**						
	○ Counting in a stable order up to 5 and 10. ○ Recognising 1 more and 1 less than a number up to 10, including odd and even number	○ Counting to and across 100 from any given starting point.					
	○ Have a deep understanding of number up to 10.	○ Counting in multiples of 2s, 5s and 10s.	○ Counting in multiples of 2, 3, 5 and 10 (forwards and backwards).	○ Counting in multiples of 4, 8, 50, 100.	○ Count in multiples of 6, 7, 9, 25 and 1000.	○ Counting forwards and backwards in steps of powers of 10 up to 1,000,000.	
	Reading, writing and representing numbers						
	○ Read and write numbers up to 5 in words ○ Verbally count beyond 20 and recognise the pattern of the counting system.	○ To read and write numbers up to 100 in digits. ○ To read and write numbers to 20 in words.	○ Read and write numbers up to 100 in digits and words.	○ Read and write numbers up to 1000 in numbers and words.	○ Read, write and compare numbers up to 1 decimal place	○ Read and write numbers up to 1,000,000. ○ Read, write and compare numbers with up to 3 decimal places.	○ Read and write numbers up to 10,000,000. ○ Read, write and compare numbers with up to 3 decimal places.
	○ Represent numbers using objects and pictures	○ Represent numbers 20 or more using objects and pictures - including number lines.	○ Represent and estimate numbers using different representations up to 100 including a number line.	○ Represent and estimate using representations up to 1000.	○ Represent and estimate using representations beyond 1000. ○ Read roman numerals to 100 and know the history of our number system.	○ Read roman numerals to 1000 and recognise years.	
	Ordering (including more than/less than)						
	○Show more than/less than using objects, pictures and number line. ○ Using language of equal to, more than, less than up to 10	○ One more, one less ○ Using language of equal to, more than, less than	○ Comparing and ordering numbers to 100. ○ Find 10 more and less ○ Use < > =.	○ Compare and order numbers up to 1000. ○ Find 10 and 100 more and less.	○ Compare and order numbers beyond 1000. ○ Find 1000 more or less.	○ Compare and order numbers up to 1,000,000.	○ Compare and order numbers up to 10,000,000.
	Place value						

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	• Recognise quantities without counting up to 5.	○ Explore the tens and ones in a 2 digit number	○ Recognise place value of each digit in a two-digit number. ○ Partition any two-digit number into different combinations of tens and ones	○ Recognise place value of each digit in a 3 digit number.	○ Recognise place value of each digit in a 4 digit number.	○ Recognise the place value of each digit up to 1,000,000. ○ Recognise the place value of numbers, and give answers with up to 2 decimal places	○ Recognise the place value of each digit in numbers up to 10,000,000. ○ Recognise the place value of numbers, and give answers with up to 3 decimal places
	Problem solving						
			○ Use place value and number facts to solve problems.	○ Solve number problems and practical problems.	○ Solve number problems and practical problems with increasingly large positive numbers.	○ Solve number problems and practical problems involving the above.	○ Solve number problems and practical problems involving the above.
	Rounding						
				○ Round any number to the nearest 10, 100	○ Round any number to the nearest 10, 100, 1000. ○ Round decimals with one decimal place to the nearest whole number.	○ Round any number up to 1,000,000 to the nearest 10, 100, 1000, 10,000 and 100,000. ○ Round decimals with two decimal places to the nearest whole number and 1 decimal place.	○ Round any number to a required degree of accuracy including decimals.
	Negative numbers						
					○ Count backward through zero to include negative numbers.	○ Interpret negative numbers in contexts. ○ Count forwards and backwards with positive and negative whole numbers.	○ Use negative numbers in context and calculate intervals across zero.
Addition and subtractio	**Number bonds**						
	○ Calculate simple addition and subtraction questions up to 10. (0-5, 0-10)	○ Represent and use number bonds and related subtraction facts within 20.	○ Recall and use number bonds to 20 (addition and subtraction) fluently. ○ Use number bonds, and related facts, to derive related facts to 100.				

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	Mental calculation (note this may include the use of resources to scaffold)						
	○ Show addition and subtraction calculations using objects ○	○ Add and subtract 1 digit and 2 digit numbers up to 20 including 0. ○ Solve 1 step problems that involve addition and subtraction using concrete objects, pictorial representations and missing number problems.	○ Add and subtract two 2 digit numbers ○ add three 1 digit numbers (using concrete, pictorial and mental) ○ Solve problems with addition and subtraction, using concrete objects and pictorial representations, including those involving quantities, measures and money ○ Know that addition of 2 numbers is commutative and subtraction is not.	○ Add and subtract a 3 digit number and ones, 3 digit number and tens, and 3 digit number and hundreds (mentally). ○ Solve problems using number facts, place value and complex addition and subtraction.		○ Add and subtract numbers mentally using increasingly large numbers.	○ Perform mental calculations with mixed operations and large numbers. ○ Use BIDMAS
	Inverse and rounding						
			○ Recognise and use the inverse relationship ○ Use the inverse to solve missing number problems	○ Use inverse and estimation to check answers.	○ Use inverse and estimation to check answers.	○ Use rounding to check answers to calculation and determine, in the context of the problem, levels of accuracy.	
	Written calculation						

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	○ Use the + - and = sign	○ Read write and interpret mathematical statements involving addition and subtraction.		○ Add and subtracts numbers with up to 3 digits using formal written methods using column addition and subtraction.	○ Add and subtract numbers with up to 4 digits using formal written methods using column addition and subtraction.	○ Add and subtract numbers with more than 4 digits using formal written methods using column addition and subtraction.	
					○ Solve 2 step addition and subtraction questions in contexts deciding which operation and method is suitable and why.		
Multiplication and division	**Equal sharing/odd and even**						
	○ Equal sharing (halving) of numbers up to 10 using objects. ○ Doubling of numbers up to 10 using objects.	○ Recognise odd and even numbers	○ Apply multiplication and division facts to recognise odd and even numbers.				
	Mental calculation						
			○ Recall multiplication and division facts for the 2 5 and 10 times tables.	○ Recall multiplication and division facts for the 3 4 and 8 times tables.	○ Recall multiplication and division facts for multiplication facts up to 12x12.		
		○ Solve simple multiplication and division using concrete objects and arrays	○ Solve multiplication and division questions in context and using resources, arrays, mental facts and repeated addition	○ Solve multiplication and division questions using multiplication facts they know through mental methods	○ Use known facts to multiply and divide by 1 and 0 and multiply three different numbers.	○ Multiply and divide mentally using known facts.	○ Solve mixed operation questions with large numbers mentally. ○ solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts (ratio and proportion)
			○ Understand that multiplication is commutative, and division is not.		○ Use factor pairs and knowledge of commutativity in mental calculations.	○ Identify factors and multiples including 2 common factors of a pair of numbers. ○ Know and use the terms of prime numbers, prime	○ Identify common factors, common multiples and prime factors

						factors and composite numbers. ○ Establish whether any number up to 100 is a prime number. ○ Recall prime numbers up to 19. ○ Recognise and use squared and cubes including notation.	
	Written calculation						
			○ Use x and ÷ symbols to calculate questions within the multiplication tables. .	○ Solve multiplication questions using multiplication facts they know using progressing written methods.	○ Solve multiplication questions of 2/3 digit numbers by a 1 digit number using formal written methods.	○ Solve multiplication questions of 4 digit numbers by a 1/2 digit number using formal written methods including long multiplication.	○ Solve multiplication questions of 4 digit numbers by a 2 digit numbers using long multiplication.
						○ Divide 4 digit numbers with 1 digit numbers using short division and interpret the remainder.	○ Divide 4 digit numbers with 2 digit numbers using short and long division and interpret the remainder by rounding or as a fraction or whole number. ○ Use written division methods where the answer has up to 2 decimal places.
	Problem solving						
				○ Solve missing number multiplication and division problems, scaling problems (3x more girls than boys) and correspondence problems (3 packets of 4 sweets).	○ Solve missing number multiplication and addition problems using the distributive law, scaling problems (3x more girls than boys) and harder correspondence problems (3 packets of 4 sweets).	○ Solve problems using multiplication and division problems using their knowledge of factors, multiples, squares, cubes and scaling problems using simple fractions including understanding of the equals sign.	

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Fractions	**Recognising fractions**						
		○ Recognise, find and name a **half** as 1 part of 2 equal parts in an object, shape or quantity. ○ Recognise, find and name a **quarter** as 1 part of 4 equal parts in an object, shape or quantity.	○ Recognise, find, name and write **½, 1/3, 1/4, 2/4 and 3/4** of a length, shape object or quantity.	○ Recognise, find and write **unit** (1/6) and **non-unit** (2/6) fractions with small denominators. ○ Recognise, find and write **tenths** as 1 part of 10 equal pieces	○ Recognise **hundredths** are ones divided by 100 and tenths divided by 10.	○ Recognise and use **thousands** and relate them to tenths, hundredths and decimal equivalents	
				○ . Count in tenths and divide 1 digit numbers by 10.	○ Count up in down in hundredths	-round decimals with 2 d.p to the nearest whole number and to 1dp	
	Equivalence (including decimals)						
			○ Recognise the equivalence of 2/4 and 1/2.	○ Recognise and show equivalent fractions.	○ Recognise and show families of equivalent fractions.	○ Identify, name and write equivalent fractions including tenths and hundredths. ○ Read, write, order and compare numbers up to 3 dp	○ Use common factors to simplify fractions and find equivalent fractions.
					○ Recognise and write decimal equivalents of tenths and hundredths ○ Recognise and write decimal equivalents to ¼, ½ and ¾. .	○ Read and write decimal numbers as fractions (0.61 = 61/100) ○ Solve problems that require knowledge of percentage and decimal equivalent of ¼ ½ 1/5 2/5 4/5.	○ Recall and use equivalences between decimals, fractions and percentages to solve problems. ○ Recognise a fraction as division and use this to find decimal equivalents
						○ Recognise mixed fractions and improper fractions and convert between them, recognising when they are more than 1.	
	Calculations (including comparison)						

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				○ Compare unit fractions. ○ Compare fractions with the same denominator.		○ Compare and order fractions where the denominators are all multiples of the same number.	○ Compare and order fractions.
				○ Find fractions of numbers. ○ Add and subtract fractions with the same denominator within a whole.	○ Add and subtract fractions with the same denominator.	○ Add and subtract fractions with denominators that are multiples of the same number.	○ Add and subtractions fractions with different denominators and mixed fraction through equivalent fractions.
					○ Divide numbers by 10 and 100, recognising the place value position of the tenths and hundredths	○ Multiply mixed and improper fractions with whole numbers, supported by resources.	○ Multiply fractions giving the answer in its simplest form. ○ Divide fractions by whole numbers.
				○ Solve problems using all fraction knowledge.	○ Solve problems using fractions and decimals of up to 2 decimal places. ○ Solve problems to calculate and divide quantities including where the answer is a whole number.		○ solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.
						○ Recognise the percent symbol and the importance of 100. Write percentages as a fraction with a denominator of 100.	○ solve problems involving the calculation of and the use of percentages for comparison (ratio and proportion)
N e	**Units of measure**						

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	○ Explore measure of weight and length. ○ (heavier, lighter, longer, shorter) ○ Discuss capacity, identifying if things are full, half full, empty, nearly empty, half empty and nearly full.	○ Measure, record, compare, describe and solve problems involving: -Length (taller/shorter) -Mass (lighter/heavier) -capacity (full, almost full) -Time (quick/slow/earlier)	○ Use appropriate equipment and units to when estimating, ordering (using > <) and measuring -length (m/cm) - mass (g/kg) - temperature - capacity (l/ml) ○ Read scales in division of ones, twos, fives and tens	○ Measure, compare, add and subtract lengths, mass and volume, giving their answer with the correct units.	○ Convert between units of measure	○ Convert between units of measure	○ convert and solve problems between standard units using decimal notation to up to three decimal places
						○ Understand and use approximate equivalences between metric and common imperial.	○ convert between miles and kilometres
	Money						
	○ I can identify different coins and their values.	○ Recognise and know the value of different coins. ○ I can add coins together and find their total.	○ Recognise and use £ and p and combine amounts to make a value. ○ Find different combinations of coins that make the same amount of money. ○ Solve problems involving money of the same unit, including giving change.	○ Add and subtract amounts of money using £ and p, including giving change.	Estimate, compare and calculate using £ and p		
	Time						
	○ Tell the time to the hour ○ Identify and explore ways of measuring time ○	○ Tell the time to the hour and half past and draw hands on a clock.	○ Compare and sequence intervals of time. ○ Tell and write time to the nearest 15 minutes, including quarter too and quarter past and draw hands on a clock.	○ Compare duration of events ○ Read and write the time from an analogue clock including 24 hours and roman numerals. ○ Read, record and estimate time with increasing accuracy	○ Read write and convert between 12 and 24 hour clock	○ Solve problems converting between units of time	

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	○ I can say the days of the week. ○ To use everyday language related to time	○ Use days of the week, months and dates. ○ Sequence events using first, today, yesterday, tomorrow…	○ Know the number of minutes in an hour, and number of hours in a day.	○ Know the number of seconds in a minutes, and number of days in each month, year and leap year	○ Solve problems that include converting between hours to minutes, minutes to seconds, years to months and weeks to days		
	Area, perimeter and volume						
					○ Measure perimeter	○ Calculate perimeter of rectangular shapes, including composite.	○ recognise that shapes with the same area can have different perimeters
						○ Calculate the area of rectangles and estimate area of irregular shapes	○ calculate area of parallelograms and triangles
						○ Estimate volume and capacity	○ Use formulae to calculate volume of cuboids and consider when a formula if appropriate.
Properties of shapes	**2D shapes**						
	○ To recognise and name 2-d shapes	○ Recognise and recall names of common 2-D shapes (rectangles (including squares), circles and triangles)	○ Identify and describe the properties of 2d shapes including sides and lines of symmetry ○ Identify 2d shapes within a 3d shape	○ Draw 2d shapes	○ Compare and classify shapes based on their properties and sizes ○ Identify lines of symmetry in 2D shapes at different orientations Complete a symmetric figure with respect to a given line of symmetry.	○ Use properties of oblongs to deduce missing facts including sides and angles. ○ Distinguish between regular and irregular polygons based on equal sides and angles	○ Draw 2d shapes using given dimensions and angles

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							○ Illustrate and names part of a circle including: radius, circumference and diameter and know diameter is twice the radius
	3D shapes						
	○ To recognise and name 3D shapes and know some of their properties.	○ recognise and recall names of common 3-D cuboids (including cubes), pyramids and sphere	○ Identify and describe the properties of 3d shapes including edges, faces, and vertices ○ Compare and sort 2D and 3D shapes and everyday objects ○ Recognise 3d shapes in everyday objects	○ Make 3d shapes using modelling materials and recognise them at different orientations		○ Identify 3D shapes by 2D representations	○ Recognise, describe and build 3d shapes, including with nets
	Angles						
				○ Recognise angles as a properties of shape or a description of a turn		○ Know angles are measured in degreed. Draw given angles and measure them in degrees	○ Find missing angles in triangles, quadrilaterals and regular polygons.
				○ Identify right angles ○ Say whether a angle is more or less than a right angle ○	○ Identify acute and obtuse angles and compare them	○ Compare acute, obtuse and reflex angles	
				○ Identify right angles in quarter, half and three quarter turns ○ Identify horizontal and vertical lines ○ Identify pairs of perpendicular and parallel lines		○ Identify angles: around a point are 360, on a straight line are 180 and other multiples of 90	○ Recognise angles when they meet on a point, on a straight line or vertically opposite and find missing angles.
P O S	**Position and direction**						

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		○ Describe position, direction and movement ○ Use whole, half, quarter and three quarter turns	○ Use whole, half, quarter and three quarter turns (clockwise and anticlockwise) to describe position, direction and movement ○ Order and arrange objects in patterns and sequences		○ Describe positions on a 2D grid, in the first quadrant ○ Describe movement between translations (left/right up/down) ○ Plot points to draw a polygon	○ Identify, describe and present the position of a shape after a translation or reflection knowing the shape hasn't changed.	○ Describe position on a full coordinate grid ○ Draw and translate shapes and reflect them on the coordinate plane. ○ solve problems involving similar shapes where the scale factor is known or can be found (ratio and proportion)
Statistics	**Statistics**						
			○ Interpret and construct - pictograms - Tally charts - Block diagrams - Simple tables ○ Sort categories by quantity by counting the number of objects ○ Total and compare data ○ Ask and answer simple questions about information presented	○ Interpret and construct -Pictograms -Bar charts -Tables ○ Answer questions using information presented in pictograms and charts	○ Interpret and present discrete and continuous data using - bar charts - Time graphs ○ Solve comparison, sum and difference problems using information presented in charts and graphs	○ Solve comparison, sum and difference problems using information presented in line graphs ○ Complete read and interpret information in timetables	○ Interpret and construct - pie charts -line graphs use them to solve problems. ○ Calculate and interpret the mean as an average.
Algebra	**Algebra**						

							○ 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.