



MATHS PROGRESSION

St Matthew's Primary School



PROGRESSION IN PLACE VALUE

COUNTING

EYFS	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>To count things I can touch or see (abstract principle).</p> <p>To recite numbers past 5</p> <p>To say one number from each item in order: 1, 2, 3, 4, 5</p> <p>To understand that the last number reached when counting a small set of objects tells you how many there</p>	<p>To know and understand numbers to 10, linking names of numbers, numerals, their value and their position in the counting order.</p> <p>To count beyond 10.</p> <p>To verbally count beyond 20 recognising the pattern of the counting system (ELG)</p>	<p>To count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number</p>			<p>To count backwards through zero to include negative numbers</p>	<p>To interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero</p>	<p>To use negative numbers in context, and calculate intervals across zero</p>

are in total (cardinal principle).							
	To know how to use recall strategies and subitizing to identify the number or concrete/pictorial objects in the set	To count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens	To count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward	To count from 0 in multiples of 4, 8, 50 and 100;	To count in multiples of 6, 7, 9, 25 and 1000	To count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000	
	To know number structures to 5	To be given a number, identify one more and one less		To find 10 or 100 more or less than a given number	To find 1000 more or less than a given number		
COMPARING NUMBERS							
To compare quantities using language more than and fewer than.	To compare numbers. To understand the 'one more than/one less than' relationship between	To use the language of: equal to, more than, less than (fewer), most, least	To compare and order numbers from 0 up to 100; use $<$, $>$ and $=$ signs	To compare and order numbers up to 1 000	To order and compare numbers beyond 1000 <i>compare numbers with the same number of decimal</i>	To read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit (appears also in Reading and Writing Numbers)	To read, write, order and compare numbers up to 10 000 000 and determine the value of each digit (appears also in

	<p>consecutive numbers.</p> <p>To compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as other quantity (ELG).</p>				<p><i>places up to two decimal places</i> (copied from Fractions)</p>		<p>Reading and Writing Numbers)</p>
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IDENTIFYING, REPRESENTING AND ESTIMATING NUMBERS

<p>To subitise (recognise quantities without counting) up to 5.</p>	<p>To subitise (recognise quantities without counting).</p> <p>To link the number symbol (numeral) with its cardinal number value.</p>	<p>To identify and represent numbers using objects and pictorial representations including the number line</p>	<p>To identify, represent and estimate numbers using different representations, including the number line</p>	<p>To identify, represent and estimate numbers using different representations</p>	<p>To identify, represent and estimate numbers using different representations</p>		
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READING AND WRITING NUMBERS (including Roman Numerals)

EYFS	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
To link numerals and amounts for example, showing the right number of objects to match the numeral, up to 5.	To link the number symbol (numeral) with its cardinal number value.	To read and write numbers from 1 to 20 in numerals and words.	To read and write numbers to at least 100 in numerals and in words	To read and write numbers up to 1 000 in numerals and in words		To read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit (appears also in Comparing Numbers)	To read, write, order and compare numbers up to 10 000 000 and determine the value of each digit (appears also in Understanding Place Value)
				<i>To tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks (copied from Measurement)</i>	To 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.	To read Roman numerals to 1 000 (M) and recognise years written in Roman numerals.	
UNDERSTANDING PLACE VALUE							
	To understand the 'one more than/one less than' relationship between consecutive numbers. Explore the composition of numbers to 10.		To recognise the place value of each digit in a two-digit number (tens, ones)	To recognise the place value of each digit in a three-digit number (hundreds, tens, ones)	To recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones)	To read, write, order and compare numbers to at least 1 000 000 and determine	To read, write, order and compare numbers up to 10 000 000 and determine the value of each digit (appears also in

	To have a deep understanding of numbers to 10, including the composition of each number. (ELG)					the value of each digit (appears also in Reading and Writing Numbers)	Reading and Writing Numbers)
		<i>To 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 units, tenths and hundredths (copied from Fractions)</i>				<i>To recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents (copied from Fractions)</i>	<i>To identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places (copied from Fractions)</i>

ROUNDING

EYFS	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
					To round any number to the nearest 10, 100 or 1 000	To round any number up to 1 000 000 to the nearest 10, 100, 1 000, 10 000 and 100 000	To round any whole number to a required degree of accuracy
					<i>To round decimals with one decimal place to the nearest whole number (copied from Fractions)</i>	<i>To round decimals with two decimal places to the nearest whole number and to one decimal place (copied from Fractions)</i>	<i>To solve problems which require answers to be rounded to specified degrees of accuracy (copied from Fractions)</i>

PROBLEM SOLVING

			To use place value and number facts to solve problems	To solve number problems and practical problems involving these ideas.	To solve number and practical problems that involve all of the above and with increasingly large positive numbers	To solve number problems and practical problems that involve all of the above	To solve number and practical problems that involve all of the above
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PROGRESSION IN ADDITION AND SUBTRACTION

NUMBER BONDS

EYFS	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	<p>To automatically recall number bonds for numbers 0-5 and some to 10</p> <p>To automatically recall number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts (ELG)</p>	<p>To represent and use number bonds and related subtraction facts within 20</p>	<p>To recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100</p>				

MENTAL CALCULATION

		<p>To add and subtract one-digit and two-digit numbers to 20, including zero</p>	<p>To add and subtract numbers using concrete objects, pictorial representations, and mentally, including:</p> <ul style="list-style-type: none">* a two-digit number and ones	<p>To add and subtract numbers mentally, including:</p> <ul style="list-style-type: none">* a three-digit number and ones* a three-digit number and tens* a three-digit number and hundreds		<p>To add and subtract numbers mentally with increasingly large numbers</p>	<p>To perform mental calculations, including with mixed operations and large numbers</p>
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			<ul style="list-style-type: none"> * a two-digit number and tens * two two-digit numbers * adding three one-digit numbers 				
		To read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs (appears also in Written Methods)	To show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot				To use their knowledge of the order of operations to carry out calculations involving the four operations

WRITTEN METHODS							
EYFS	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	To subitise. To explore the composition of numbers to 10. To automatically recall number bonds 0-5 and some to 10.	To read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs (appears also in Mental Calculation)		To add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction	To add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate	To add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)	
INVERSE OPERATIONS, ESTIMATING AND CHECKING ANSWERS							
To develop fast recognition of up to 3 objects, without having to count them individually (subitising)	To explore the composition of numbers to 10		To recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.	To estimate the answer to a calculation and use inverse operations to check answers	To estimate and use inverse operations to check answers to a calculation	To use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy	To use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy.

PROBLEM SOLVING							
EYFS	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
To solve real world mathematical problems with numbers up to 5		To solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$	<p>To solve problems with addition and subtraction:</p> <ul style="list-style-type: none"> * using concrete objects and pictorial representations, including those involving numbers, quantities and measures * applying their increasing knowledge of mental and written methods 	To solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction	To solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why	To solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	To solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why
			<i>To solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change (copied from Measurement)</i>				To solve problems involving addition, subtraction, multiplication and division



PROGRESSION IN MULTIPLICATION AND DIVISION

MULTIPLICATION & DIVISION FACTS

EYFS	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	To explore the composition of numbers to 10	<i>To count in multiples of twos, fives and tens</i> (copied from Number and Place Value)	<i>To count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward</i> (copied from Number and Place Value)	<i>To count from 0 in multiples of 4, 8, 50 and 100</i> (copied from Number and Place Value)	<i>To count in multiples of 6, 7, 9, 25 and 1 000</i> (copied from Number and Place Value)	<i>To count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000</i> (copied from Number and Place Value)	
	To explore and represent patterns within numbers up to 10 including evens and odds, double facts and how quantities can be distributed evenly (ELG) Automatically recall (without reference to rhymes, counting or		To recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers	To recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables	To recall multiplication and division facts for multiplication tables up to 12×12		

	other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, Include double facts. (ELG)						
MENTAL CALCULATION							
				To 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 (appears also in Written Methods)	To 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	To multiply and divide numbers mentally drawing upon known facts	To perform mental calculations, including with mixed operations and large numbers
			To show that multiplication of two numbers can be done in any order (commutative) and		To recognise and use factor pairs and commutativity in mental calculations	To multiply and divide whole numbers and those involving decimals by 10, 100 and 1000	<i>To associate a fraction with division and calculate decimal fraction equivalents (e.g.</i>

			division of one number by another cannot		(appears also in Properties of Numbers)		<i>0.375) for a simple fraction (e.g. $\frac{3}{8}$) (copied from Fractions)</i>
WRITTEN CALCULATION							
	EYFS/Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			To calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (\times), division (\div) and equals ($=$) signs	To 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 (appears also in Mental Methods)	To multiply two-digit and three-digit numbers by a one-digit number using formal written layout	To multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers	To multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication
						To divide numbers up to 4 digits by a one-digit number using the formal written method	To divide numbers up to 4-digits by a two-digit whole number using the formal written method of short division where appropriate for the

						of short division and interpret remainders appropriately for the context	context 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
							<i>To use written division methods in cases where the answer has up to two decimal places (copied from Fractions (including decimals))</i>

PROPERTIES OF NUMBERS: MULTIPLES, FACTORS, PRIMES, SQUARE AND CUBE NUMBERS

EYFS	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	To explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed evenly (ELG)				To recognise and use factor pairs and commutativity in mental calculations (repeated)	To identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.	To identify common factors, common multiples and prime numbers <i>To use common factors to simplify fractions; use common multiples</i>

						To know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers	<i>to express fractions in the same denomination</i> (copied from Fractions)
						To establish whether a number up to 100 is prime and recall prime numbers up to 19	
						To recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)	<i>To calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm^3) and cubic metres (m^3), and extending to other units such as mm^3 and km^3</i> (copied from Measures)


ORDER OF OPERATIONS							
EYFS	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
							To use their knowledge of the

							order of operations to carry out calculations involving the four operations
INVERSE OPERATIONS, ESTIMATING AND CHECKING ANSWERS							
				<i>To estimate the answer to a calculation and use inverse operations to check answers (copied from Addition and Subtraction)</i>	<i>To estimate and use inverse operations to check answers to a calculation (copied from Addition and Subtraction)</i>		To use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy

PROBLEM SOLVING

EYFS/	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	To explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed evenly (ELG)	To 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	To solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts	To 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	To 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	To solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes	To solve problems involving addition, subtraction, multiplication and division
						To solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	
						solve problems involving multiplication and division, including scaling by simple fractions and	<i>To solve problems involving similar shapes where the scale factor is known or can be found</i> (copied from Ratio and Proportion)

						problems involving simple rates	
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 PROGRESSION IN FRACTIONS (INCLUDING PERCENTAGES AND DECIMALS)							
COUNTING IN FRACTIONAL STEPS							
EYFS	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			<i>Pupils should count in fractions up to 10, starting from any number and using the $\frac{1}{2}$ and $\frac{2}{4}$ equivalence on the number line (Non Statutory Guidance)</i>	To count up and down in tenths	To count up and down in hundredths		
RECOGNISING FRACTIONS							
		To recognise, find and name a half as one of two equal parts of an object, shape or quantity	To 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	To recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators	To recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten	To recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents (appears also in Equivalence)	

				To recognise that tenths arise from dividing an object into 10 equal parts and in dividing one – digit numbers or quantities by 10.			
		To recognise, find and name a quarter as one of four equal parts of an object, shape or quantity		To recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators			
COMPARING FRACTIONS							
				To compare and order unit fractions, and fractions with the same denominators		To compare and order fractions whose denominators are all multiples of the same number	To compare and order fractions, including fractions >1

COMPARING DECIMALS							
EYFS	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
					To compare numbers with the same number of decimal places up	To read, write, order and compare numbers with up to three decimal places	To identify the value of each digit in numbers given to three decimal places

					to two decimal places		
ROUNDING INCLUDING DECIMALS							
					To round decimals with one decimal place to the nearest whole number	To round decimals with two decimal places to the nearest whole number and to one decimal place	To solve problems which require answers to be rounded to specified degrees of accuracy
EQUIVALENCE (INCLUDING FRACTIONS, DECIMALS AND PERCENTAGES)							
			To write simple fractions e.g. $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$.	To recognise and show, using diagrams, equivalent fractions with small denominators	To recognise and show, using diagrams, families of common equivalent fractions	To identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths	To use common factors to simplify fractions; use common multiples to express fractions in the same denomination
					To recognise and write decimal equivalents of any number of tenths or hundredths	To read and write decimal numbers as fractions (e.g. $0.71 = \frac{71}{100}$)	To associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $\frac{3}{8}$)
						To recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents	
					To recognise and write decimal equivalents to $\frac{1}{4}$; $\frac{1}{2}$; $\frac{3}{4}$	To recognise the per cent symbol (%) and understand that per cent relates to “number of parts per hundred”, and write percentages as a fraction	To recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.

						with denominator 100 as a decimal fraction	
ADDITION AND SUBTRACTION OF FRACTIONS							
EYFS	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
				To add and subtract fractions with the same denominator within one whole (e.g. $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$)	To add and subtract fractions with the same denominator	To add and subtract fractions with the same denominator and multiples of the same number	To add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions
						To recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number (e.g. $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$)	
MULTIPLICATION AND DIVISION OF FRACTIONS							
						To multiply proper fractions and mixed numbers by whole numbers, supported by	To multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$)

						materials and diagrams	To multiply one-digit numbers with up to two decimal places by whole numbers
							To divide proper fractions by whole numbers (e.g. $\frac{1}{3} \div 2 = \frac{1}{6}$)
MULTIPLICATION AND DIVISION OF DECIMALS							
EYFS	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
							To multiply one-digit numbers with up to two decimal places by whole numbers
					To 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		To multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places
							To identify the value of each digit to three decimal

							places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places
							To associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $\frac{3}{8}$)
							To use written division methods in cases where the answer has up to two decimal places
PROBLEM SOLVING							
EYFS	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
				To solve problems that involve all of the above	To solve problems involving increasingly harder fractions to calculate	To solve problems involving numbers up to three decimal places	

					quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number		
					To solve simple measure and money problems involving fractions and decimals to two decimal places.	To 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 with a denominator of a multiple of 10 or 25.	

PROGRESSION IN RATIO AND PROPORTION							
Statements only appear in Year 6 but should be connected to previous learning, particularly fractions and multiplication and division							
EYFS	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
							To solve problems involving the relative sizes of two quantities where missing values can be found by using



							integer multiplication and division facts
							To solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison
							To solve problems involving similar shapes where the scale factor is known or can be found
							To solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.



**PROGRESSION IN MEASUREMENT
COMPARING AND ESTIMATING**

EYFS	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
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To make comparisons between objects relating to size, length, weight and capacity	To compare length, weight and capacity	<p>To compare, describe and solve practical problems for:</p> <ul style="list-style-type: none"> * lengths and heights [e.g. long/short, longer/shorter, tall/short, double/half] * mass/weight [e.g. heavy/light, heavier than, lighter than] * capacity and volume [e.g. full/empty, more than, less than, half, half full, quarter] * time [e.g. quicker, slower, earlier, later] 	To compare and order lengths, mass, volume/capacity and record the results using >, < and =		To estimate, compare and calculate different measures, including money in pounds and pence (also included in Measuring)	<p>To calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm²) and square metres (m²) and estimate the area of irregular shapes (also included in measuring)</p> <p>To estimate volume (e.g. using 1 cm³ blocks to build cubes and cuboids) and capacity (e.g. using water)</p>	To calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm ³) and cubic metres (m ³), and extending to other units such as mm ³ and km ³ .
To begin to describe a sequence of events, real, fictional, using words		To sequence events in chronological order using language [e.g. before and after,	To compare and sequence intervals of time	To compare durations of events, for example to calculate the time			

such as first, then		next, first, today, yesterday, tomorrow, morning, afternoon and evening]		taken by particular events or tasks			
				To estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight (appears also in Telling the Time)			
MEASURING and CALCULATING							
EYFS	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

		<p>To measure and begin to record the following:</p> <ul style="list-style-type: none"> * lengths and heights * mass/weight * capacity and volume * time (hours, minutes, seconds) 	<p>To 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</p>	<p>To measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)</p>	<p>To estimate, compare and calculate different measures, including money in pounds and pence (appears also in Comparing)</p>	<p>To use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling.</p>	<p>To solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate (appears also in Converting)</p>
				<p>To measure the perimeter of simple 2-D shapes</p>	<p>To measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres</p>	<p>To measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres</p>	<p>To recognise that shapes with the same areas can have different perimeters and vice versa</p>

MEASURING and CALCULATING

EYFS	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		To recognise and know the value of different denominations of coins and notes	To recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value	To add and subtract amounts of money to give change, using both £ and p in practical contexts			
			To find different combinations of coins that equal the same amounts of money				
			To solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change				
					To find the area of rectilinear	To calculate and compare the area of squares and	To calculate the area of parallelograms and triangles

					shapes by counting squares	rectangles including using standard units, square centimetres (cm ²) and square metres (m ²) and estimate the area of irregular shapes	To 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 [e.g. mm ³ and km ³].
						<i>To recognise and use square numbers and cube numbers, and the notation for squared (²) and cubed (³)</i> (copied from Multiplication and Division)	To recognise when it is possible to use formulae for area and volume of shapes


TELLING THE TIME

EYFS	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		To tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.	To 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.	To tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks	To read, write and convert time between analogue and digital 12 and 24-hour clocks (appears also in Converting)		

		To recognise and use language relating to dates, including days of the week, weeks, months and years	To know the number of minutes in an hour and the number of hours in a day. (appears also in Converting)	To estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight (appears also in Comparing and Estimating)			
					To solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days (appears also in Converting)	To solve problems involving converting between units of time	

CONVERTING							
EYFS	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			To know the number of minutes in an hour and the number of hours in a day. (appears also in Telling the Time)	To know the number of seconds in a minute and the number of days in each month, year and leap year	To convert between different units of measure (e.g. kilometre to metre; hour to minute)	To convert between different units of metric measure (e.g. kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)	To 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 three decimal places
					To read, write and convert time between analogue and digital 12 and 24-hour clocks (appears also in Converting)	To solve problems involving converting between units of time	To solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate (appears also in Measuring and Calculating)

					To solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days (appears also in Telling the Time)	To understand and use equivalences between metric units and common imperial units such as inches, pounds and pints	To convert between miles and kilometres
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 PROGRESSION IN GEOMETRY							
IDENTIFYING SHAPES AND THEIR PROPERTIES							
EYFS	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
To talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical	To select, rotate and manipulate shapes in order to develop spatial reasoning skills.	To recognise and name common 2-D and 3-D shapes, including: * 2-D shapes [e.g. rectangles (including squares), circles and triangles] * 3-D shapes [e.g. cuboids]	To identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line		To identify lines of symmetry in 2-D shapes presented in different orientations	To identify 3-D shapes, including cubes and other cuboids, from 2-D representations	To recognise, describe and build simple 3-D shapes, including making nets (appears also in Drawing and Constructing)

<p>language: 'sides', 'corners', 'straight', 'flat', 'round'.</p> <p>To select shapes appropriately: flat surfaces for a building, a triangular pattern for a roof, etc.</p> <p>To combine shapes to make new ones – an arch, a bigger triangle, etc</p>		<p>(including cubes), pyramids and spheres].</p>					
			<p>To identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces</p>				<p>To illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius</p>

			To identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]				
DRAWING AND CONSTRUCTING							
				To draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them	To complete a simple symmetric figure with respect to a specific line of symmetry	To draw given angles, and measure them in degrees (°)	To draw 2-D shapes using given dimensions and angles
							To recognise, describe and build simple 3-D shapes, including making nets (appears also in Identifying Shapes and Their Properties)
COMPARING AND CLASSIFYING							
EYFS	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6

	To compose and decompose shapes so that children can recognise a shape can have other shapes within it, just as numbers can.		To compare and sort common 2-D and 3-D shapes and everyday objects		To compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes	To use the properties of rectangles to deduce related facts and find missing lengths and angles	To compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons
						To distinguish between regular and irregular polygons based on reasoning about equal sides and angles	
ANGLES							
				To recognise angles as a property of shape or a description of a turn		know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles	
				To 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	To identify acute and obtuse angles and compare and order angles up to two right angles by size	To identify: <ul style="list-style-type: none"> * angles at a point and one whole turn (total 360°) * angles at a point on a 	To recognise angles where they meet at a point, are on a straight line, or are vertically opposite,

				whether angles are greater than or less than a right angle		straight line and $\frac{1}{2}$ a turn (total 180°) * other multiples of 90°	and find missing angles
				To identify horizontal and vertical lines and pairs of perpendicular and parallel lines			

 PROGRESSION IN POSITION AND DIRECTION							
POSITION, DIRECTION AND MOVEMENT							
EYFS	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>To understand position through words alone – for example, “The bag is under the table,” – with no pointing.</p> <p>To describe a familiar route.</p>	To draw information from a simple map.	To describe position, direction and movement, including half, quarter and three-quarter turns.	To 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		To describe positions on a 2-D grid as coordinates in the first quadrant	To 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	To describe positions on the full coordinate grid (all four quadrants)

To discuss routes and locations, using words like 'in front of' and 'behind'			three-quarter turns (clockwise and anti-clockwise)				
					describe movements between positions as translations of a given unit to the left/right and up/down		draw and translate simple shapes on the coordinate plane, and reflect them in the axes.
					plot specified points and draw sides to complete a given polygon		
PATTERN							
To talk about and identify the patterns around them. For example, stripes on clothes, designs on rugs and wallpaper. To use informal	To continue, copy and create repeating patterns		To order and arrange combinations of mathematical objects in patterns and sequences				

<p>language like 'pointy', 'spotty', 'blobs', etc.</p> <p>To extend and create ABAB patterns – stick, leaf, stick, leaf.</p> <p>To notice and correct an error in a repeating pattern.</p>							
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PROGRESSION IN STATISTICS

INTERPRETING, CONSTRUCTING AND PRESENTING DATA

EYFS/Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
To experiment with their own symbols and marks, as well as numerals.		To interpret and construct simple pictograms, tally charts, block diagrams and simple tables	To interpret and present data using bar charts, pictograms and tables	To interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs	To complete, read and interpret information in tables, including timetables	To interpret and construct pie charts and line graphs and use these to solve problems
		To ask and answer simple questions by counting the number of objects in each				

		category and sorting the categories by quantity				
		To ask and answer questions about totalling and comparing categorical data				
SOLVING PROBLEMS						
			To solve one-step and two-step questions [e.g. 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables.	To solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.	To solve comparison, sum and difference problems using information presented in a line graph	To calculate and interpret the mean as an average

PROGRESSION IN ALGEBRA							
EQUATIONS							
EYFS	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6



		<p>To solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$ (copied from Addition and Subtraction)</p>	<p>To recognise and use the inverse relationship between addition and subtraction and use this to check calculations and missing number problems. (copied from Addition and Subtraction)</p>	<p>To solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction. (copied from Addition and Subtraction)</p>		<p>To use the properties of rectangles to deduce related facts and find missing lengths and angles (copied from Geometry: Properties of Shapes)</p>	<p>To express missing number problems algebraically</p>
				<p>To solve problems, including missing number problems, involving multiplication and division, including integer scaling (copied from Multiplication and Division)</p>			
			<p>To recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 (copied from Addition and Subtraction)</p>				<p>To find pairs of numbers that satisfy number sentences involving two unknowns</p>
		<p>To represent and use number bonds and related subtraction facts within 20</p>					<p>To enumerate all possibilities of</p>

		(copied from Addition and Subtraction)					combinations of two variables
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FORMULAE						
EYFS/Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
				<p><i>To know perimeter can be expressed algebraically as $2(a + b)$ where a and b are the dimensions in the same unit. (Copied from NSG measurement)</i></p>		<p>To use simple formulae</p>
					<p>To recognise when it is possible to use formulae for area and volume of shapes (copied from Measurement)</p>	
SEQUENCES						
	<p><i>To sequence events in chronological order using language such as: before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening (copied from Measurement)</i></p>	<p><i>To compare and sequence intervals of time (copied from Measurement)</i></p>				<p>To generate and describe linear number sequences</p>
		<p><i>To order and arrange combinations of mathematical objects in patterns (copied from Geometry: position and direction)</i></p>				