

## Progression of skills Mathematics

Number: Number and Place Value		Counting			
Preschool 1		Preschool 2		Reception	
Take part in finger rhymes with numbers. Develop counting-like behaviour, such as making sounds, pointing or saying some numbers in sequence. Count in everyday contexts, sometimes skipping number '1-2-3-5'.		Recite numbers past 5. Say one number name 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').		Count objects, actions and sounds. Count beyond ten.	
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number. Count, read and write numbers to 100 in numerals; count in multiples of two's, fives and tens. Given a number, identify one more and one less.	Count in steps of 2, 3 and 5 from 0, and in tens from any number, forwards and backward.	Count from 0 in multiples of 4, 8, 50 and 100; Find 10 or 100 more or less than a given number.	Count backwards through zero to include negative numbers. Count in multiples of 6, 7, 9, 25 and 1000. Find 1000 more or less than a given number.	Interpret negative numbers in context, counting forwards and backwards with positive and negative whole numbers, including through zero. Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000	Use negative numbers in context, and calculate intervals across zero.
Number: Number and Place Value		Comparing numbers			
Preschool 1		Preschool 2		Reception	
Compare amounts, saying 'lots', 'more' or 'same'.		Compare quantities using language: 'more than', 'fewer than'.		Compare numbers. Understand the 'one more than/one less than' relationship between consecutive numbers.	
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Use the language of: equal to, more than, less than (fewer), most, least. Given a number, identify one more and one less.	Compare and order numbers from 0 up to 100; use <, > and = signs.	Compare and order numbers up to 1000.	Order and compare numbers beyond 1000. Compare numbers with the same number of decimal places up to two decimal places (also in fractions).	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).	Read, write, order and compare numbers up to 10 000000 and determine the value of each digit (appears also in Reading and Writing Numbers).
Number: Number and Place Value		Identifying, representing and estimating numbers			
Preschool 1		Preschool 2		Reception	
Combine objects like stacking blocks and cups. Put objects inside others and take them out again. React to changes of amount in a group of up to three items.		Develop fast recognition of up to 3 objects, without having to count them individually ('subitising'). 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. Experiment with their own symbols and marks as well as numerals.		Subitise. Link the number symbol (numeral) with its cardinal number value.	

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Year 1		Year 2		Year 3		Year 4		Year 5		Year 6	
Identify and represent numbers using objects and pictorial representations including the number line.		Identify, represent and estimate numbers using different representations, including the number line.		Identify, represent and estimate numbers using different representations.		Identify, represent and estimate numbers using different representations.					
<b>Number: Number and Place Value</b>						<b>Understanding Place Value</b>					
Preschool 1		Preschool 2		Reception							
				Understand the 'one more than/ one less than' relationship between consecutive numbers. Explore the composition of numbers to 10.							
Year 1		Year 2		Year 3		Year 4		Year 5		Year 6	
		Recognise the place value of each digit in a two-digit number (tens, ones).		Recognise the place value of each digit in a three digit number (hundreds, tens, ones).		Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens and ones).		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	
<b>Number: Number and Place Value</b>						<b>Reading and writing numbers (including Roman Numerals)</b>					
Preschool 1			Preschool 2			Reception					
			Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5. Experiment with their own symbols and marks as well as numerals.			Select a numeral to represent a quantity in a range of fonts. Link the number symbol (numeral) with its cardinal number value.					
Year 1		Year 2		Year 3		Year 4		Year 5		Year 6	
Read and write numbers from 1 to 20 in numerals and in words.		Read and write numbers to at least 100 in numerals and in words.		Read and write numbers up to 1000 in numerals and in words. <i>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>		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.		Read, write, order and compare numbers to at least 1000000 and determine the value of each digit (appears also in comparing numbers). Read Roman numerals to 1000(M) and recognise years written in Roman numerals.		Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit (appears also in Understanding Place Value).	
<b>Number: Number and Place Value</b>						<b>Rounding</b>					
EYFS	Year 1	Year 2	Year 3	Year 4		Year 5		Year 6			
				Round any number to the nearest 10, 100 or 1000.		Round any number to 1000000 to the nearest 10, 100, 1000, 10000 and 100000.		Round any whole number to a required degree of accuracy.			

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				Round decimals with one decimal place to the nearest whole number (also in fractions).	Round decimals with two decimal places to the nearest whole number and to one decimal place (also in fractions).	Solve problems which require answers to be rounded to specified degrees of accuracy (also in fractions).				
<b>Number: Number and Place Value</b>					<b>Problem Solving</b>					
Preschool 1		Preschool 2			Reception					
		Solve real world mathematical problems with numbers up to 5.								
Year 1	Year 2		Year 3	Year 4	Year 5			Year 6		
	Use place value and numbers facts to solve problems.		Solve number problems and practical problems involving these ideas.	Solve number and practical problems that involve all of the above and with increasingly large positive numbers.	Solve number problems and practical problems that involve all of the above.			Solve number and practical problems that involve all of the above.		
<b>Number: Addition and Subtraction</b>					<b>Number Bonds</b>					
Preschool 1	Preschool 2	Reception		Year 1	Year 2		Year 3	Year 4	Year 5	Year 6
		Automatically recall number bonds for numbers 0-5 and some to 10.		Represent and use number bonds and related subtraction facts within 20.	Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100.					
<b>Number: Addition and Subtraction</b>					<b>Mental Calculation</b>					
Preschool 1	Preschool 2	Reception			Year 1					
		Automatically recall number bonds for numbers 0-5 and some to 10.			Automatically recall number bonds 0 – 10. Add and subtract one digit and two-digit numbers to 20, including zero. Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs (appears also in Written Methods).					

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Year 2		Year 3		Year 4		Year 5		Year 6	
Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: <ul style="list-style-type: none"> <li>• a two-digit number and ones</li> <li>• a two-digit number and tens</li> <li>• two two-digit numbers</li> <li>• adding three one-digit numbers.</li> </ul> Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot.		Add and subtract numbers mentally, including: <ul style="list-style-type: none"> <li>• a three-digit number and ones</li> <li>• a three-digit number and tens</li> <li>• a three-digit number and hundreds.</li> </ul>				Add and subtract numbers mentally with increasingly large numbers.		Perform mental calculations, including with mixed operations and large numbers. Use their knowledge of the order of operations to carry out calculations involving the four operations.	
Number: Addition and Subtraction					Written Methods				
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6			
	Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs (appears also in Mental Calculation).		Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction.	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).				
Number: Addition and Subtraction			Inverse operations, estimating and checking answers						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6			
		Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.	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.	Use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy.			
Number: Addition and Subtraction			Problem Solving						
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 $7 = \square - 9$ .	Solve problems with addition and subtraction: <ul style="list-style-type: none"> <li>-using concrete objects and pictorial representations, including those involving numbers, quantities and measures.</li> <li>-applying their increasing knowledge of mental and written methods.</li> </ul> Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change.	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 involving addition, subtraction, multiplication and division.			

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MULTIPLICATION AND DIVISION							Multiplication and division facts						
EYFS		Year 1		Year 2		Year 3		Year 4		Year 5		Year 6	
		Count in multiples of twos, fives and tens.		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 1 000.		Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000.			
		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 multiplications tables up to 12 x 12							
MULTIPLICATION AND DIVISION							Mental calculation						
EYFS	Year 1	Year 2		Year 3		Year 4		Year 5		Year 6			
				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.		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.		Multiply and divide numbers mentally drawing upon known facts.		Perform mental calculations, including with mixed operations and large numbers.			
		Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.				Recognise and use factor pairs and commutativity in mental calculations.		Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.		Associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. 3/8).			
MULTIPLICATION AND DIVISION							Written 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 ( $\times$ ), division ( $\div$ ) 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 method.		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 method, 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.			
								Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for		Divide numbers up to 4-digits by a two-digit whole number using the formal written method of short division where appropriate for the context divide numbers up to 4 digits by a two-digit whole number using the formal			

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						the context.	written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context. Use written division methods in cases where the answer has up to two decimal places.					
<b>MULTIPLICATION AND DIVISION</b>												
<b>Properties of numbers: Multiples, factors, primes, square and cube numbers</b>												
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5		Year 6					
				Recognise and use factor pairs and commutativity in mental calculations.	Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. Know and use the vocabulary of prime numbers, prime factors and composite (nonprime) numbers. Establish whether a number up to 100 is prime and recall prime numbers up to 19.		Identify common factors, common multiples and prime numbers. Use common factors to simplify fractions; use common multiples to express fractions in the same denomination					
					Recognise and use square numbers and cube numbers, and the notation for squared and cubed.		Calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed and cubic metres, and extending to other units.					
<b>MULTIPLICATION AND DIVISION</b>												
<b>Order of operations</b>												
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6						
						Use their knowledge of the order of operations to carry out calculations involving the four operations.						
<b>MULTIPLICATION AND DIVISION</b>												
<b>Inverse operations, estimating and checking answers</b>												
EYFS	Year 1	Year 2	Year 3		Year 4		Year 5	Year 6				
			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 estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy.				
<b>MULTIPLICATION AND DIVISION</b>												
<b>Problem solving</b>												
EYFS	Year 1		Year 2		Year 3		Year 4		Year 5		Year 6	
	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 contexts.		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.		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		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 and a combination of these,		Solve problems involving addition, subtraction, multiplication and division.	

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				problems such as n objects are connected to m objects.	including understanding the meaning of the equals sign.	
					Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.	Solve problems involving similar shapes where the scale factor is known or can be found.

Fractions (including Decimals and Percentages)			Counting in fractional steps			
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		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.	Count up and down in tenths.	Count up and down in hundredths		

Fractions (including Decimals and Percentages)			Recognising fractions			
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 and name a quarter as one of four 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.	Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators. Recognise that tenths arise from dividing an object into 10 equal parts and in dividing one – digit numbers or quantities by 10. Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators.	Recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.	Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.	

Fractions (including Decimals and Percentages)			Comparing fractions			
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			Compare and order unit fractions, and fractions with the same denominators.		Compare and order fractions whose denominators are all multiples of the same number.	Compare and order fractions, including fractions $>1$ .

Fractions (including Decimals and Percentages)			Comparing decimals			
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
				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.	Identify the value of each digit in numbers given to three decimal places.

Fractions (including Decimals and Percentages)			Rounding including decimals			
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.	Solve problems which require answers to be rounded to specified degrees of

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							accuracy.
Fractions (including Decimals and Percentages)				Equivalence (including fractions, decimals & percentages)			
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	
		Write simple fractions e.g. $1/2$ of $6 = 3$ and recognise the equivalence of $2/4$ and $1/2$ .	Recognise and show, using diagrams, equivalent fractions with small denominators.	Recognise and show, using diagrams, families of common equivalent fractions. Recognise and write decimal equivalents of any number of tenths or hundredths.	Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths. Read and write decimal numbers as fractions (e.g. $0.71 = 71/100$ ). Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.	Use common factors to simplify fractions; use common multiples to express fractions in the same denomination. Associate a fraction with division and calculate decimal fraction equivalents (e.g. $0.375$ ) for a simple fraction (e.g. $3/8$ ).	
				Recognise and write decimal equivalents to $1/4$ ; $1/2$ ; $3/4$ .	Recognise the per cent symbol (%) and understand that per cent relates to "number of parts per hundred", and write percentages as a fraction with denominator 100 as a decimal fraction.	Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.	
Fractions (including Decimals and Percentages)				Addition and subtraction of fractions			
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	
			Add and subtract fractions with the same denominator within one whole (e.g. $5/7 + 1/7 = 6/7$ ).	Add and subtract fractions with the same denominator.	Add and subtract fractions with the same denominator and multiples of the same number Recognise mixed numbers fractions and improper fractions and convert from one form to the other and write mathematical statements $> 1$ as a mixed number (e.g. $2/5 + 4/5 = 6/5 = 1 1/5$ ).	Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions.	
Fractions (including Decimals and Percentages)				Multiplication and division of fractions			
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	
					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 (e.g. $1/4 \times 1/2 = 1/8$ ). Multiply one-digit numbers with up to two decimal places by whole numbers.	
						Divide proper fractions by whole numbers (e.g. $1/3 \div 2 = 1/6$ ).	
Fractions (including Decimals and Percentages)				Multiplication and division of decimals			
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	

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					Multiply one-digit numbers with up to two decimal places by whole numbers.
			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.		Multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places.
					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.
					Associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $\frac{3}{8}$ ).
					Use written division methods in cases where the answer has up to two decimal places.

### Fractions (including Decimals and Percentages) Problem Solving

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			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.	Solve problems involving numbers up to three decimal places.	
				Solve simple measure and money problems involving fractions and decimals to two decimal places.	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.	

### MEASUREMENT Comparing and Estimating

Preschool 2	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Make comparisons between objects relating to size, length, weight and capacity.	Order 2 or 3 items by length, height, weight or capacity. Compare length, weight and capacity	Compare, describe and solve practical problems for: <ul style="list-style-type: none"> <li>lengths and heights [e.g. long/short, longer/shorter, tall/short, double/half]</li> <li>mass/weight [e.g. heavy/light, heavier than, lighter than]</li> <li>capacity and volume [e.g. full/empty, more than, less than, half, half full,</li> </ul>	Compare and order lengths, mass, volume/capacity and record the results using $>$ , $<$ and $=$ .		Compare and order lengths, mass, volume/capacity and record the results using $>$ , $<$ and $=$ .	Calculate and compare the area of squares and rectangles including using standard units, square centimetres and square metres and estimate the area of irregular shapes. Estimate volume (e.g. using $1\text{cm}^3$ blocks to build cubes and cuboids) and capacity (e.g. using water).	Calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed and cubic metres, and extending to other units.

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		quarter] * time [e.g. quicker, slower, earlier, later].					
Begin to describe a sequence of events, real or fictional, using words, such as 'first', 'then...'	Order and sequence familiar events.	Sequence events in chronological order using language [e.g. before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening].	Compare and sequence intervals of time.	Compare durations of events, for example to calculate the time taken by particular events or tasks.			
				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.			

<b>MEASUREMENT</b>	<b>Measuring and calculating</b>
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Preschool 1	Preschool 2	Reception			
Compare sizes, weights etc. using gesture and language ; 'bigger/little/smaller', 'high/low', 'tall', 'heavy'.	Make comparisons between objects relating to size, length, weight and capacity.	Compare length, weight and capacity.			
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Measure and begin to record the following: <ul style="list-style-type: none"> <li>lengths and heights</li> <li>mass/weight</li> <li>capacity and volume</li> <li>time (hours, minutes, seconds).</li> </ul>	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.	Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml).	Estimate, compare and calculate different measures, including money in pounds and pence.	Use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling.	Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate.

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		Measure the perimeter of simple 2-D shapes.	Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres.	Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres.	Recognise that shapes with the same areas can have different perimeters and vice versa.
Recognise and know the value of different denominations of coins and notes.	Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value. 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.	Add and subtract amounts of money to give change, using both £ and p in practical contexts.			
			Find the area of rectilinear shapes by counting squares.	Calculate and compare the area of squares and rectangles including using standard units, square centimetres and square metres and estimate the area of irregular shapes recognise and use square numbers and cube numbers, and the notation for squared and cubed.	Calculate the area of parallelograms and triangles. Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres and cubic metres, and extending to other units. Recognise when it is possible to use formulae for area and volume of shapes.

MEASUREMENT							
Telling the time							
Preschool 2	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Begin to describe a sequence of events, real or fictional, using words, such as 'first', 'then...'	Discuss 'o'clock' times at key time e.g. registration, lunchtime, snack time, tidy-up time, etc.	Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.	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.	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		
	Make own timetable for a day – selecting	Recognise and use language relating to dates, including days	Know the number of minutes in an hour	Estimate and read time with increasing accuracy to the nearest			

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	activities and ordering them. Sing songs with time durations.	of the week, weeks, months and years.	and the number of hours in a day.	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.			
					Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.	Solve problems involving converting between units of time.	

### MEASUREMENT Converting

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		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 each month, year and leap year.	Convert between different units of measure (e.g. kilometre to metre; hour to minute).	Convert between different units of metric measure (e.g. kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre).	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.
				Read, write and convert time between analogue and digital 12 and 24-hour clocks.	Solve problems involving converting between units of time.	Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate.
				Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.	Understand and use equivalences between metric units and common imperial units such as inches, pounds and pints.	Convert between miles and kilometres.

### GEOMETRY: PROPERTIES OF SHAPES Identifying shapes and their properties

Preschool 2	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>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'.</p> <p>Select shapes appropriately: flat surfaces for a building, a triangular prism for a roof, etc.</p> <p>Combine shapes to make new ones – an arch, a bigger triangle, etc.</p>	<p>Select, rotate and manipulate shapes in order to develop spatial reasoning skills.</p> <p>Compose and decompose shapes so that they recognise a shape can have other shapes within it, just as numbers can.</p>	<p>Recognise and name common 2-D and 3-D shapes, including:</p> <ul style="list-style-type: none"> <li>2-D shapes [e.g. rectangles (including squares), circles and triangles].</li> <li>3-D shapes [e.g. cuboids (including cubes), pyramids and spheres].</li> </ul>	Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line.		Identify lines of symmetry in 2-D shapes presented in different orientations.	Identify 3-D shapes, including cubes and other cuboids, from 2-D representations.	Recognise, describe and build simple 3-D shapes, including making nets.
			Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces.				Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius.
			Identify 2-D shapes on the the radius surface of 3-D shapes, [for example, a circle on a cylinder and a triangle				

## Progression of skills Mathematics

				on a pyramid].				
GEOMETRY: PROPERTIES OF SHAPES								
Drawing and constructing								
Preschool 1	Preschool 2	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Climb and squeeze themselves into different types of spaces. Build with a range of resources. Complete inset puzzles.	Select and rotate shapes to fit into a given space. Show intentionality in selecting shapes for a purpose, such as cylinders to roll.	Make a range of constructions, including enclosures, and talk about decisions they have made.			Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them.	Complete a simple symmetric figure with respect to a specific line of symmetry.	Draw given angles, and measure them in degrees.	Draw 2-D shapes using given dimensions and angles.  Recognise, describe and build simple 3-D shapes, including making nets.
GEOMETRY: PROPERTIES OF SHAPES								
Comparing and classifying								
Preschool 2	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	
Explore characteristics of everyday objects and shapes.	Begin to use everyday terms to describe shapes. Select a particular named shape. Compose and decompose shapes so that children can recognise a shape can have other shapes within it, just as numbers can. Use mathematical language to describe shapes.		Compare and sort common 2-D and 3-D shapes and everyday objects.		Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.	Use the properties of rectangles to deduce related facts and find missing lengths and angles.  Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.	Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons.	
GEOMETRY: PROPERTIES OF SHAPES								
Angles								
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6		
			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.			

## Progression of skills Mathematics

			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 acute and obtuse angles and compare and order angles up to two right angles by size.	Identify: <ul style="list-style-type: none"> <li>• angles at a point and one whole turn (total 360 degrees)</li> <li>• angles at a point on a straight line and <math>\frac{1}{2}</math> a turn (total 180 degrees)</li> <li>• other multiples of 90</li> </ul>	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.			

### GEOMETRY: POSITION & DIRECTION

#### Position, direction & Movement

Preschool 2	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
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’.		Describe position, direction and movement, including half, quarter and three-quarter turns.	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 three-quarter turns (clockwise and anti-clockwise).		Describe positions on a 2-D grid as coordinates in the first quadrant.	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.	Describe positions on the full coordinate grid (all four quadrants).
					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

Preschool 1	Preschool 2	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Notice patterns and arrange things in patterns.	Talk about and identify the patterns around them. For example, stripes on clothes, designs on rugs and wallpaper. Use informal language like ‘pointy’, ‘spotty’, ‘blobs’, etc. Extend and create ABAB patterns – stick, leaf, stick, leaf. Notice and correct an error in a repeating pattern.	Continue, copy and create repeating patterns.	Order and arrange combinations of mathematical objects in patterns and sequences.					

## Progression of skills Mathematics

ALGEBRA									Equations						
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 $7 = \square - 9$ .		Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and missing number problems.		Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.				Use the properties of rectangles to deduce related facts and find missing lengths and angles.		Express missing number problems algebraically.				
			Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100.								Find pairs of numbers that satisfy number sentences involving two unknowns.				
	Represent and use number bonds and related subtraction facts within 20.										Enumerate all possibilities of combinations of two variables.				
ALGEBRA									Formulae						
EYFS	Year 1	Year 2	Year 3	Year 4			Year 5		Year 6						
				Perimeter can be expressed algebraically as $2(a + b)$ where $a$ and $b$ are the dimensions in the same unit.					Use simple formulae.						
													Recognise when it is possible to use formulae for area and volume of shapes.		
ALGEBRA									Sequences						
Preschool 1	Preschool 2	Reception		Year 1			Year 2	Year 3	Year 4	Year 5	Year 6				
Order a short sequence of events.	Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then..'	Sequence events in chronological order using language such as: before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening.		Compare and sequence intervals of time.							Generate and describe linear number sequences.				
				Order and arrange combinations of mathematical objects in patterns.											
STATISTICS									Present and interpret						
EYFS		Year 1	Year 2		Year 3		Year 4		Year 5		Year 6				

## Progression of skills Mathematics

Experiment with their own symbols and marks, as well as numerals.		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 these to solve problems. Calculate and interpret the mean as an average
<b>STATISTICS</b>						
<b>Solve Problems</b>						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		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.	Solve one-step and two-step questions using information presented in scaled bar charts and 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.	Interpret and construct pie charts and line graphs and use these to solve problems. Calculate and interpret the mean as an average.

## Ratio and Proportion

### 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 [for example, of measures, and such as 15% of 360] 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 using knowledge of fractions and multiples.