



Doing all the good we can

Maths – Curriculum Overview



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Maths – Curriculum Overview

Richmond Methodist Primary and Nursery School Curriculum - Vertical progression – Mathematics – Number & Numerical Patterns - Maths overview

Playing & Exploring - Engagement		Active Learning - Motivation		Creating & Thinking Critically - Thinking							
<ul style="list-style-type: none"> Finding out & exploring Playing with what they know Being willing to 'have a go' 		<ul style="list-style-type: none"> Being involved & concentrating Keep on trying Enjoying achieving what they set out to do 		<ul style="list-style-type: none"> Having their own ideas (creative thinking) Making links (building theories) Working with ideas (critical thinking) 							
ELG											
Number											
<ul style="list-style-type: none"> - Have a deep understanding of number to 10, including the composition of each number - Subitise (recognise quantities without counting) up to 5 - Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts 											
Numerical Patterns											
<ul style="list-style-type: none"> - Verbally count beyond 20, recognising the pattern of the counting system - Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity - Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally 											
Focus	Place Value: Counting	Place Value: Represent	Place Value: Use & compare	Addition & Subtraction: Recall, represent, use	Addition & Subtraction: Calculations	Addition & Subtraction: Solve problems					
Nursery	<ul style="list-style-type: none"> • May enjoy counting verbally as far as they can go • Points or touches (tags) each item, saying one number for each item, using the stable order of 1,2,3,4,5 • Uses some number names and number language within play, and may show fascination with large numbers 	<ul style="list-style-type: none"> • Begin to recognise numerals 0 to 10 • Subitises one, two and three objects (without counting) • Links numerals with amounts up to 5 and maybe beyond 	<ul style="list-style-type: none"> • Compares two small groups of up to five objects, saying when there are the same number of objects in each group, e.g. You've got two, I've got two. Same! 	<ul style="list-style-type: none"> • Counts up to five items, recognising that the last number said represents the total counted so far (cardinal principle) • Explores using a range of their own marks and signs to which they ascribe mathematical meanings 	<ul style="list-style-type: none"> • Through play and exploration, beginning to learn that numbers are made up (composed) of smaller numbers • Beginning to recognise that each counting number is one more than the one before 	<ul style="list-style-type: none"> • Beginning to use understanding of number to solve practical problems in play and meaningful activities • Separates a group of three or four objects in different ways, beginning to recognise that the total is still the same 					
Reception	<ul style="list-style-type: none"> • Enjoys reciting numbers from 0 to 10 (and beyond) and back from 10 to 0 • Counts out up to 10 objects from a larger group 	<ul style="list-style-type: none"> • Engages in subitising numbers to four and maybe five • Increasingly confident at putting numerals in order 0 to 10 (ordinality) • Matches the numeral with a group of items to show how many there are (up to 10) 	<ul style="list-style-type: none"> • Uses number names and symbols when comparing numbers, showing interest in large numbers • Estimates of numbers of things, showing understanding of relative size 	<ul style="list-style-type: none"> • Begins to explore and work out mathematical problems, using signs and strategies of their own choice, including (when appropriate) standard numerals, tallies and + or - • Shows awareness that numbers are made up (composed) of smaller numbers, exploring partitioning in different ways with a wide range of objects 	<ul style="list-style-type: none"> • In practical activities, adds one and subtracts one with numbers to 10 	<ul style="list-style-type: none"> • Begins to conceptually subitise larger numbers by subitising smaller groups within the number, e.g. sees six raisins on a plate as three and three 					

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Playing & Exploring - Engagement		Active Learning - Motivation	Creating & Thinking Critically - Thinking	
<ul style="list-style-type: none"> • Finding out & exploring • Playing with what they know • Being willing to 'have a go' 		<ul style="list-style-type: none"> • Being involved & concentrating • Keep on trying • Enjoying achieving what they set out to do 	<ul style="list-style-type: none"> • Having their own ideas (creative thinking) • Making links (building theories) • Working with ideas (critical thinking) 	
ELG			None	
Focus	Spatial Awareness	Shape	Pattern	
Nursery	<ul style="list-style-type: none"> • Responds to and uses language of position and direction • Predicts, moves and rotates objects to fit the space or create the shape they would like 	<ul style="list-style-type: none"> • Chooses items based on their shape which are appropriate for the child's purpose • Responds to both informal language and common shape names • Shows awareness of shape similarities and differences between objects • Enjoys partitioning and combining shapes to make new shapes with 2D and 3D shapes • Attempts to create arches and enclosures when building, using trial and improvement to select blocks 	<ul style="list-style-type: none"> • Creates their own spatial patterns showing some organisation or regularity • Explores and adds to simple linear patterns of two or three repeating items, e.g. stick, leaf (AB) or stick, leaf, stone (ABC) • Joins in with simple patterns in sounds, objects, games and stories dance and movement, predicting what comes next 	<ul style="list-style-type: none"> • In meaningful contexts, finds the longer or shorter, heavier or lighter and more/less full of two items • Recalls a sequence of events in everyday life and stories
Reception	<ul style="list-style-type: none"> • Uses spatial language, including following and giving directions, using relative terms and describing what they see from different viewpoints • Investigates turning and flipping objects in order to make shapes fit and create models; predicting and visualising how they will look (spatial reasoning) • May enjoy making simple maps of familiar and imaginative environments, with landmarks 	<ul style="list-style-type: none"> • Uses informal language and analogies, (e.g. heart-shaped and hand-shaped leaves), as well as mathematical terms to describe shapes • Enjoys composing and decomposing shapes, learning which shapes combine to make other shapes • Uses own ideas to make models of increasing complexity, selecting blocks needed, solving problems and visualising what they will build 	<ul style="list-style-type: none"> • Spots patterns in the environment, beginning to identify the pattern "rule" • Chooses familiar objects to create and recreate repeating patterns beyond AB patterns and begins to identify the unit of repeat 	<ul style="list-style-type: none"> • Enjoys tackling problems involving prediction and discussion of comparisons of length, weight or capacity, paying attention to fairness and accuracy • Becomes familiar with measuring tools in everyday experiences and play • Is increasingly able to order and sequence events using everyday language related to time • Beginning to experience measuring time with timers and calendars

Note: Each of the seven blocks is positioned in the sequence of learning but, depending on term length, some blocks may overlap into the following term. The curriculum may need adjusting to the needs of different groups but there should always be an intention to stay as close to the stated scheme of work as possible. Some objectives are repeated as they will be explored in greater depth when repeated. *Objectives in italics are additions to the objectives or suggested ways of splitting an objective.*

Year 1	Autumn	Spring	Summer
NUMBER Number and place value	Count to and across 10, forwards and backwards, beginning with 0 or 1, or from any given number	Count to and across 20, forwards and backwards, beginning with 0 or 1, or from any given number	Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number
	Count numbers to 10 in numerals;	Count numbers to 20 in numerals; count in multiples of twos, fives and tens	Count numbers to 100 in numerals;
	Identify and represent numbers (<i>to 10</i>) using objects and pictorial representations	Identify and represent numbers (<i>to 20</i>) using objects and pictorial representations	Count numbers up to 100 in 2s
	Read and write numbers to 10 in numerals	Read and write numbers to 20 in numerals	Count numbers up to 100 in 5s



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	Read and write numbers from 1 to 10 in numerals and words	Read and write numbers from 1 to 20 in numerals and words	Count numbers up to 100 in 10s
		Given a number (to 20), identify one more and one less	Identify and represent numbers using objects and pictorial representations
		Count to and across 50, forwards and backwards, beginning with 0 or 1, or from any given number	Read and write numbers to 100 in numerals
		Count numbers to 50 in numerals;	Given a number, identify one more and one less
		Count numbers up to 50 in 2s	
		Count numbers up to 50 in 5s	
		Count numbers up to 50 in 10s	
		Identify and represent numbers (to 50) using objects and pictorial representations	
		Read and write numbers to 50 in numerals	
		Given a number (to 50), identify one more and one less	
NUMBER Addition and subtraction	Read, write and interpret mathematical statements (within 10) involving addition (+), subtraction (-) and equals (=) signs	Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs	
	Represent and use number bonds and related subtraction facts within 10	Represent and use number bonds and related subtraction facts within 20	
	Add one-digit numbers, including zero	Add one-digit numbers and two-digit numbers to 20, including zero	
	Subtract one-digit numbers, including zero	Subtract one-digit numbers and two-digit numbers to 20, including zero	
	Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $2 = \square - 5$	Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$	
NUMBER Multiplication and division			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
NUMBER Fractions, decimals and percentages			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
MEASUREMENT		Compare, describe and solve practical problems for: - lengths and heights [for example, long/short, longer/shorter, tall/short, double/half] - mass/weight [for example heavy/light, heavier than/lighter than] - capacity and volume [for example, full/empty, more than, less than, half, half full, quarter]	Compare, describe and solve practical problems for: - time [for example, quicker, slower, earlier, later]

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		Measure and begin to record the following: - lengths and heights -mass/weight -capacity and volume	Measure and begin to record the following: - time (hours, minutes, seconds)
			Recognise and know the value of different denominations of coins and notes
			Sequence events in chronological order using language [for example, before and after, next, first today, yesterday, tomorrow, morning, afternoon and evening]
			Recognise and use language relating to dates, including days of the week, weeks, months and years
			Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times
GEOMETRY	Recognise and name common 2-D shapes [for example, rectangles (including squares, circles and triangles)]		Describe position, direction and movement, including whole, half quarter and three quarter turns
	Recognise and name common 3-D shapes [for example cuboids (including cubes), pyramids and spheres]		
STATISTICS			
Year 2	Autumn	Spring	Summer
NUMBER Number and place value	Count in steps of 2, 3 and 5 from 0 , and in tens from any number, forward and backward		
	Read and write numbers to at least 100 in numerals and in words		
	Identify, represent and estimate numbers using different representations, including the number line		
	Recognise the place value of each digit in a two-digit number (tens, ones)		
	Compare and order numbers from 0 up to 100; use <,> and = signs		
	Use place value and number facts to solve problems		
NUMBER Addition and subtraction	Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100		
	Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot		
	Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.		
	Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: - a two-digit number and ones - a two-digit number and tens		



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	<ul style="list-style-type: none">- two two-digit numbers- adding three one-digit numbers <p>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		
NUMBER Multiplication and division		Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers	
		Show that the multiplication of tow numbers can be done in any order (commutative) and division of one number by another cannot	
		Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (÷) and equals (=) signs	
		Solve problems involving multiplication division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts	
NUMBER		Recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shapes, set of objects or quantity	

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Fractions, decimals and percentag- es			Recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$ Write simple fractions for example, $\frac{1}{2}$ of 6 = 3
MEASUREM- ENT		Recognise and use symbols for pound (£) and pence (p); combine amounts to make a particular value	Compare and sequence intervals of time
		Find different combinations of coins that equal the same amounts of money	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
		Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change	Know the number of minutes in an hour and the number of hours in a day
		Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm) to the nearest appropriate unit, using rulers	
		Compare and order lengths and record the results using <,> and =	
		Choose and use appropriate standard units to estimate and measure mass (kg/g); temperature ($^{\circ}\text{C}$); capacity (litres/ml) to the nearest appropriate unit, using scales, thermometers and measuring vessels	
		Compare and order mass, volume/capacity and record the results using <,> and =	
GEOMETRY	Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line		Order and arrange combinations of mathematical objects in patterns and sequence
	Identify 2-D shapes on the surface of 3-D shapes [for example a circle on a cylinder and a triangle on a pyramid]		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)
	Compare and sort common 2-D shapes and everyday objects		
	Recognise and name common 3-D shapes [for example cuboids (including cubes), pyramids and spheres]		
	Compare and sort common 3-D shapes and everyday objects		
STATISTICS			Interpret and construct simple pictograms, tally charts, block diagrams and simple tables
			Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity



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			Ask and answer questions about totally in and comparing categorical data
<p>Note: Each of the seven blocks is split across 2 terms as part of our spiral curriculum. The objectives for the block have been split across those 2 terms but this is only a suggestion – the curriculum will need adjusting to the needs of different groups who may need to revisit topics or to cover the objectives in a different order.</p>			
Year 3	Autumn	Spring	Summer
NUMBER Number and place value	count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number		
	identify, represent and estimate numbers using different representations		
	read and write numbers up to 1000 in numerals and words		
	compare and order numbers up to 1000		
	recognise the place value of each digit in a three-digit number (hundreds, tens, ones)		
	solve number problems and practical problems involving these ideas		
NUMBER Addition and subtraction	estimate the answer to a calculation and use inverse operations to check answers		
	add and subtract numbers mentally, including: - a three-digit number and ones, - a three-digit number and tens - a three-digit number and hundreds		
	add numbers with up to three digits, using formal written methods of columnar addition		
	subtract numbers with up to three digits, using formal written methods of columnar subtraction		
	solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction		
	recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables	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	
NUMBER Multiplicati on and division		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	
		estimate the answer to a calculation and use inverse operations to check answers	
		count up and down in tenths;	recognise and show, using diagrams, equivalent fractions with small denominators

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Fractions, decimals and percentages		recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10	compare and order unit fractions, and fractions with the same denominators
		recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators	Add/subtract fractions with the same denominator within one whole (e.g. $5/7 + 1/7 = 6/7$)
		recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators	Solve problems that involve all of the above
		Solve problems that involve all of the above	
MEASUREMENT		measure, compare, add and subtract: lengths (m/cm/mm);	add and subtract amounts of money to give change, using both £ and p in practical contexts
		measure the perimeter of simple 2-D shapes	tell and write the time from an analogue clock, including Roman numerals from I to XII, and 12-hour and 24-hour clocks
		measure, compare, add and subtract: mass (kg/g); volume/capacity (l/m)	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
			Know the number of seconds in a minute and the number of days in each month, year and leap year
			Compare durations of events [for example to calculate the time taken by particular events or tasks]
GEOMETRY			Recognise angles as a property of a shape or description of a turn
			Identify right angles, recognise that two right angles make a half turn, three make three quarters of a turn and a complete turn; identify whether angles are greater or less than a right angle.
			Identify horizontal and vertical lines and pairs of perpendicular and parallel lines
STATISTICS			interpret and present data using bar charts, pictograms and tables
			solve one-step and two-step questions such as 'How many more?' and 'How many fewer?' using information presented in scaled bar charts and pictograms and tables
Year 4	Autumn	Spring	Summer

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NUMBER Number and place value	find 1000 more or less than a given number		
	Order and compare numbers beyond 1000		
	recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones)		
	round any number to the nearest 10, 100 or 1000		
	solve number and practical problems that involve all of the above and with increasingly large positive numbers		
	count in multiples of 6, 7, 9, 25 and 1000		
	identify, represent and estimate numbers using different representations		
	read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value		
NUMBER Addition and subtraction	Estimate and use inverse operations to check answers to a calculation		
	add numbers with up to 4 digits using the formal written methods of columnar addition where appropriate		
	subtract numbers with up to 4 digits using the formal written methods of columnar subtraction where appropriate		
	solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why		
NUMBER Multiplication and division	recall multiplication and division facts for multiplication tables up to 12×12	recall multiplication and division facts for multiplication tables up to 12×12	recall multiplication and division facts for multiplication tables up to 12×12
	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 two-digit and three-digit numbers by a one-digit number using formal written layout	
	recognise and use factor pairs and commutativity in mental calculations	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	
NUMBER Fractions, decimals		count up and down in hundredths; recognise that hundredths arise when dividing an object by a hundred and dividing tenths by ten	recognise and write decimal equivalents to $\frac{1}{4}$; $\frac{1}{2}$; $\frac{3}{4}$

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and percentages		recognise and show, using diagrams, families of common equivalent fractions	Round decimals with one decimal place to the nearest whole number
		add and subtract fractions with the same denominator	compare numbers with the same number of decimal places up to two decimal places
		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 simple measure and money problems involving fractions and decimals to two decimal places.
		recognise and write decimal equivalents of any number of tenths or hundredths	
		Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answers as ones, tenths and hundredths	
		solve simple measure and money problems involving fractions and decimals to two decimal places.	
MEASUREMENT	Find the area of rectilinear shapes by counting squares	Convert between different units of measure [kilometre to metre]	Convert between different units of measure [hour to minute]
		estimate, compare and calculate different measures,	estimate, compare and calculate different measures, including money in pounds and pence
		measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres	read, write and convert time between analogue and digital 12- and 24-hour clocks
			solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.
GEOMETRY			compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes
			identify lines of symmetry in 2-D shapes presented in different orientations
			identify acute and obtuse angles; compare and order angles up to two right angles by size
			complete a simple symmetric figure with respect to a specific line of symmetry
			describe positions on a 2-D grid as coordinates in the first quadrant
			describe movements between positions as translations of a given unit to the left/right and up/down
			plot specified points and draw sides to complete a given polygon
STATISTICS			interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and line graphs

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			solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs
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Year 5	Autumn	Spring	Summer
NUMBER Number and place value	Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000		Count backwards through zero to include negative numbers
	Count forwards and backwards with positive and negative whole numbers, including through 0		Interpret negative numbers in context
	Read, write (order and compare) numbers to at least 1 000 000 and determine the value of each digit		
	Read Roman numerals to 1000 (M) and recognise years written in Roman numerals		
	(Read, write) order and compare numbers to at least 1 000 000 and determine the value of each digit		
	Round any number up to 1,000,000 to the nearest 10 100 1,000 10,000 and 100,000		
	Solve number problems and practical problems that involve all of the above		
NUMBER Addition and subtraction	Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy		
	Add and subtract numbers mentally with increasingly large numbers		
	Add whole numbers with more than 4 digits, including using formal written methods (columnar addition)		
	Subtract whole numbers with more than 4 digits, including using formal written methods (columnar subtraction)		
	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 and a combination of these, including understanding the meaning of the equals sign		
NUMBER Multiplicati on and division	Identify multiples and factors, including finding all factor pairs of a number, and common factors of 2 numbers	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 and divide (whole numbers and) those involving decimals by 10, 100, 1000
	Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers	Multiply and divide numbers mentally, drawing upon known facts	
	Establish whether a number up to 100 is prime and recall prime numbers up to 19	Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context	



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	Recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)	Multiply and divide whole numbers (and those involving decimals) by 10, 100, 1000	
	Multiply and divide numbers mentally, drawing upon known facts	Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	
NUMBER Fractions, decimals and percentag es	Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths	Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams	Solve problems involving numbers with up to three decimal places
	Recognise mixed numbers and improper fractions and convert from one form to the other. Write mathematical statements >1 as a mixed number	Read and write decimal numbers as fractions (e.g. $0.71 = \frac{71}{100}$)	
	Compare and order fractions whose denominators are all multiples of the same number	Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents	
	Add and subtract fractions with the same denominator and denominators that are multiples of the same number	Round decimals with 2 decimal places to the nearest whole number and to one decimal place	
		Read, write, order and compare numbers with up to three decimal places	
		Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred'	
		Write a percentage as a fraction with denominator 100, and as a decimal	
		Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25	
		measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres	convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)
MEASUREM ENT		calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes	understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints
			Use all four operations to solve problems involving measure [for example, length, mass, volume, Money] using decimal notation, including scaling.

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			solve problems involving converting between units of time
			estimate volume - for example, using 1 cm ³ blocks to build cuboids (including cubes) and capacity (for example, using water)
			(From year 6) Use, read write and convert between standard units, converting measurements of time from a smaller unit of measure to a larger unit and vice versa
GEOMETRY			Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.
			Use the properties of rectangles to deduce related facts and find missing lengths and angles
			Identify 3-D shapes, including cubes and other cuboids, from 2D representations
			Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles
			Draw given angles, and measure them in degrees ($^{\circ}$)
			Identify: - Angles at a point and one whole turn (total 360°) - Angles at a point on a straight line and a half turn (total 180°) - Other multiples of 90°
			identify, describe and represent the position of a shape following a translation, using the appropriate language, and know that the shape has not changed
STATISTICS		complete, read and interpret information in tables, including timetables	
		Solve comparison, sum and difference problems using information presented in a line graph.	
Year 6	Autumn	Spring	Summer
NUMBER Number and place value	Read, write, (order and compare) numbers up to 10 000 000 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		
	Round any whole number to a required degree of accuracy		
	Use negative numbers in context, and calculate intervals across zero		



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	Solve number and practical problems that involve all of the above		
NUMBER Addition and subtraction	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		
	Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why		
NUMBER Multiplicati on and division	Identify common factors, common multiples and prime numbers		
	Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy		
	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 long division, and interpret remainders as whole number remainders, fractions or by rounding, as appropriate for the context		
	Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders according to the context		
	Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context		
	Solve problems involving addition, subtraction, multiplication and division		
	Use their knowledge of the order of operations to carry out calculations involving the four operations		
	Use common factors to simplify fractions; use common multiples to express fractions in the same denomination	Identify the value of each digit in numbers given to three decimal places	
NUMBER Fractions, decimals and percentag es	Compare and order fractions, including fractions >1	Multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places	
	Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions	Multiply one-digit numbers with up to two decimal places by whole numbers	
	Multiply simple pairs of proper fractions, writing the answer in its simplest form, (e.g. $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$)	Use written division methods in cases where the answer has up to two decimal places	
	Divide proper fractions by whole numbers (e.g. $\frac{1}{3} \div 2 = \frac{1}{6}$)	Solve problems which require answers to be rounded to specified degrees of accuracy	



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Maths – Curriculum Overview

		Associate a fraction with division to calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $\frac{3}{8}$)	
		Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts	
		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 (e.g. of measures) 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	
ALGEBRA		Use simple formulae	
		Generate and describe linear number sequences	
		Express missing number problems algebraically	
		Find pairs of numbers that satisfy number sentences with two unknowns	
		Enumerate all possibilities of combinations of two variables	
MEASUREMENT	Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate	Recognise that shapes with the same areas can have different perimeters and vice versa	
	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	Recognise when it is possible to use formulae for area and volume of shapes	
	Convert between miles and kilometres	Calculate the area of parallelograms and triangles	
		Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm^3) and cubic metres (m^3), and extend to other units [for example, mm^3 and km^3]	
GEOMETRY		Draw 2-D shapes using given dimensions and angles	
		Compare and classify geometric shapes based on their properties and sizes	
		Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius	
		Recognise, describe and build simple 3-D shapes, including making nets	



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		Find unknown angles in any triangles, quadrilaterals, and regular polygons
		Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles
		Describe positions on the full coordinate grid (all four quadrants)
		Draw and translate simple shapes on the coordinate plane, and reflect them in the axes
STATISTICS		Interpret and construct pie charts and line graphs and use these to solve problems
		Calculate and interpret the mean as an average