

Year 1

Year 1					
Autumn Term	Number: Place Value	Number: Addition and Subtraction	Geometry: Shape	Number: Place Value	
	<p>Count to ten, forwards and backwards, beginning with 0 or 1, or from any given number.</p> <p>Count, read and write numbers to 10 in numerals and words.</p> <p>Identify and represent numbers using objects and pictorial representations including the number line and use the language of: equal to, more than, less than, most and least.</p> <p>Given a number, identify one more or one less.</p> <p>Count in multiples of twos.</p>	<p>Represent and use number bonds and related subtraction facts within 10.</p> <p>Add and subtract one digit numbers (to 10), including zero.</p> <p>Read, write and interpret mathematical statements involving addition, subtraction and equals signs.</p> <p>Solve one step problems that involve addition and subtraction, using concrete and pictorial representations and missing number problems.</p> <p>RTP - Develop fluency in addition and subtraction facts within 10.</p> <p>Compose numbers to 10 from 2 parts, and partition numbers to 10 into parts, including recognising odd and even numbers.</p> <p>Read, write and interpret equations containing addition (+), subtraction (-) and equals (=) symbols, and relate additive expressions and equations to real-life contexts.</p>	<p>Recognise and name common 2D and 3D shapes, including triangles, rectangles, squares, circles, cuboids, pyramids and spheres.</p> <p>RTP - Recognise common 2D and 3D shapes presented in different orientations, and know that rectangles, triangles, cuboids and pyramids are not always similar to one another.</p> <p>Compose 2D and 3D shapes from smaller shapes to match an example, including manipulating shapes to place them in particular orientations.</p>	<p>Count to twenty, forwards and backwards, beginning with 0 or 1, from any given number.</p> <p>Count, read and write numbers to 20 in numerals and words.</p> <p>Identify and represent numbers using objects and pictorial representations including the number line and use the language of: equal to, more than, less than, most and least,</p> <p>Count in multiples of twos and fives.</p> <p>RTP - Reason about the location of numbers to 20 within the linear number system, including comparing using < > and =.</p>	
Spring Term	Number: Addition and Subtraction	Number: Place Value	Measure: Length and Height	Measure: Weight and Volume	
	<p>Represent and use number bonds and related subtraction facts within 20.</p> <p>Read, write and interpret mathematical statements involving addition and subtraction, using concrete and pictorial representations, and missing number problems such as $7 = ? - 9$</p> <p>RTP - Read, write and interpret equations containing addition (+), subtraction (-) and equals (=) symbols, and relate additive expressions and equations to real-life contexts.</p>	<p>Count to 50 forwards and backwards, beginning at 0 or 1, or from any number.</p> <p>Count, read and write numbers from 1-50 in numerals and words.</p> <p>Identify and represent numbers using objects and pictorial representations.</p> <p>Given a number, identify 1 more or 1 less.</p>	<p>Compare, describe and solve practical problems for lengths and heights, e.g. long/short, tall/short, double/half.</p> <p>Measure and begin to record lengths and heights.</p>	<p>Compare, describe and solve practical problems for mass/weight (e.g. heavy/light, heavier/lighter), capacity and volume (e.g. full/empty, more than/less than, half full).</p> <p>Measure and begin to record mass/weight, capacity and volume.</p>	

Mathematics progress Map

Summer Term	Number: Multiplication and Division	Number: Fractions	Geometry: Position and Direction	Number: Place Value	Measure: Money	Measure: Time
	<p>Count in multiples of twos, fives and tens.</p> <p>Solve one step problems involving multiplication and division by calculating the answer using concrete objects, pictorial representations and arrays with support of the teacher.</p> <p>RTP - Count forwards and backwards in multiples of 2, 5 and 10, up to 10 multiples, beginning with any multiple, and count forwards and backwards through the odd numbers.</p>	<p>Recognise, find and name a half as one of two equal parts of an object, shape or quantity.</p> <p>Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.</p>	<p>Describe position, direction and movement, including whole, half, quarter and three quarter turns.</p>	<p>Count to and across 100, forwards and backwards, beginning from 0 or 1 or from any given number.</p> <p>Count, read and write numbers from 1-100 in numerals and words.</p> <p>Identify and represent numbers using objects and pictorial representations including the number line, and use the language of equal to, more than, less than, most and least.</p> <p>Given a number, identify one more or one less.</p> <p>RTP - Count within 100, forwards and backwards, starting with any number.</p>	<p>Recognise and know the value of different denomination of coins and notes.</p> <p>Solve one step problems that involve addition and subtraction, using concrete objects and pictorial representations and missing number problems.</p>	<p>Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.</p> <p>Recognise and use language relating to dates, including days of the week, weeks, months and years,</p> <p>Compare, describe and solve practical problems for time (e.g. quicker, slower, earlier, later) and measure and begin to record time (hours, minutes and seconds).</p> <p>Sequence events in chronological order using language (e.g. before, after, next, first, today, tomorrow, morning, afternoon and evening).</p>

Year 2

Autumn Term	Number: Place Value	Number: Addition and Subtraction		Measure: Money	
	<p>Count in steps of 2, 3 and 5 from 0 and in tens from any number, forwards and backwards.</p> <p>Recognise the place value of each digit in a two digit number(tens, ones).</p> <p>Identify, represent and estimate numbers to 100 using different representations including the number line.</p> <p>Compare and order numbers from 0 up to 100; use <, > and = signs.</p> <p>Read and write numbers to at least 100 in numerals and words.</p> <p>Use place value and number facts to solve problems.</p> <p>RTP - Recognise the place value of each digit in two-digit numbers, and compose and decompose two-digit numbers using standard and non-standard partitioning.</p> <p>Reason about the location of any two-digit number in the linear number system, including identifying the previous and next multiple of 10.</p>	<p>Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts to 100.</p> <p>Show that the addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot.</p> <p>Add and subtract numbers using concrete objects, pictorial representations, and mentally, including a two digit number and ones; a two digit number and tens; two 2 digit numbers, adding three one digit numbers.</p> <p>Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.</p> <p>Solve problems with addition and subtraction, using concrete objects and pictorial representations, including those involving numbers, quantities and measures, applying their increasing knowledge of mental and written methods.</p> <p>RTP - Secure fluency in addition and subtraction facts within 10, through continued practice.</p> <p>Add and subtract across 10.</p> <p>Recognise the subtraction structure of 'difference' and answer questions of the form, "How many more...?".</p> <p>Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract only ones or only tens to/from a two-digit number.</p> <p>Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract any 2 two-digit numbers.</p>		<p>Recognise and use symbols of pounds (£) and pence (p), combine amounts to make a particular value.</p> <p>Find different combinations of coins that equal the same amounts of money.</p> <p>Solve simple problems in our practical context involving addition and subtraction of money of the same unit, including giving change.</p> <p>RTP - Reason about the location of numbers to 20 within the linear number system, including comparing using < > and =.</p>	
Spring Term	Number: Multiplication and Division	Statistics	Geometry: Shape	Number: Fractions	Measure: Length and Height
	<p>Recall and use multiplication facts for the 2, 5 and 10 times tables, including recognising odd and even numbers.</p> <p>Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division and equals (=) sign.</p> <p>Solve problems involving multiplication and division, using materials, arrays, repeated</p>	<p>Interpret and construct simple pictograms, tally charts, block diagrams and simple tables.</p> <p>Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity.</p>	<p>Identify and describe the properties of 2D shapes, including the number of sides and lines of symmetry in a vertical line.</p> <p>Identify and describe the properties of 3D shapes, including the number of edges, vertices and faces.</p> <p>Identify 2D shapes on the faces of 3D shapes @9e.g. a circle on a cylinder).</p>	<p>Recognise, find, name and write fractions $\frac{1}{2}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity.</p> <p>Write simple fractions for example, $\frac{1}{2}$ of 6 =3.</p> <p>Recognise the equivalence pf $\frac{2}{4}$ and $\frac{1}{2}$.</p>	<p>Choose and use appropriate standard units to estimate and measure length and height in any direction (m/cm) and mass (kg/g) to the nearest appropriate unit, using rulers and scales.</p> <p>Compare and order length and mass and record the results using <, > and =.</p>

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	<p>addition, mental methods and multiplication and division facts, including problems in contexts.</p> <p>Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.</p> <p>RTP - Recognise repeated addition contexts, representing them with multiplication equations and calculating the product, within the 2, 5 and 10 multiplication tables.</p> <p>Relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor, and to division equations (quotative division).</p>	<p>Ask and answer questions about totalling and comparing categorical data.</p>	<p>Compare and sort common 2D and 3D shapes and everyday objects.</p> <p>Order and arrange combinations of mathematical objects in patterns and sequences.</p> <p>RTP - Use precise language to describe the properties of 2D and 3D shapes and compare shapes by reasoning about similarities and differences in properties.</p>			
Summer Term	Geometry: Position and Direction	Measure: Time	Place Value (Consolidation)	Number: Addition and Subtraction (Consolidation)	Number: Multiplication and Division (Consolidation)	Measure: Mass, Capacity and Temperature
	<p>Order and arrange combinations of mathematical objects in patterns and sequences.</p> <p>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).</p>	<p>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.</p> <p>Know the number of minutes in an hour and the number of hours in a day.</p> <p>Compare and sequence intervals of time.</p> <p>RTP - Count within 100, forwards and backwards, starting with any number.</p>	<p>Use place value and number facts to solve problems.</p>	<p>Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.</p> <p>Solve problems with addition and subtraction, using concrete objects and pictorial representations, including those involving numbers, quantities and measures, applying their increasing knowledge of mental and written methods.</p> <p>RTP - Count forwards and backwards in multiples of 2, 5 and 10, up to 10 multiples, beginning with any multiple, and count forwards and backwards through the odd numbers.</p>	<p>Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods and multiplication and division facts, including problems in contexts.</p>	<p>Choose and use appropriate units to estimate standard units to measure capacity (l/ml) and temperature to the nearest appropriate unit, using thermometers and measuring vessels.</p> <p>Compare and order volume/capacity and record the results using <, > and =.</p>

Year 3

Autumn Term	Number: Place Value	Number: Addition and Subtraction	Number: Multiplication and Division		
	<p>Identify, represent and estimate numbers using different representations.</p> <p>Find 10 or 100 more than a given number, recognise the place value of each digit in a three digit number (hundreds, tens and ones).</p> <p>Compare and order numbers up to 1000.</p> <p>Read and write numbers up to 1000 in numerals and words.</p> <p>Solve number problems and practical problem solving involving these ideas.</p> <p>Count from 100 in multiples of 50 and 100.</p> <hr/> <p>RTP - Know that 10 tens are equivalent to 1 hundred, and that 100 is 10 times the size of 10; apply this to identify and work out how many 10s there are in other three-digit multiples of 10.</p> <p>Recognise the place value of each digit in three-digit numbers and compose and decompose three-digit numbers using standard and non-standard partitioning.</p> <p>Reason about the location of any three-digit number in the linear number system, including identifying the previous and next multiple of 100 and 10.</p> <p>Divide 100 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 100 with 2, 4, 5 and 10 equal parts.</p>	<p>Add and subtract numbers mentally, including a three digit number and ones; a three digit number and tens; a three digit number and hundreds.</p> <p>Add and subtract numbers up to three digits, using formal written methods of columnar addition and subtraction.</p> <p>Estimate the answer to a calculation and use inverse operations to check answers.</p> <p>Solve problems including missing number problems, using number facts, place value and more complex addition and subtraction.</p> <hr/> <p>RTP - Secure fluency in addition and subtraction facts that bridge 10, through continued practice.</p> <p>Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10).</p> <p>Calculate complements to 100.</p> <p>Add and subtract up to three-digit numbers using columnar methods.</p> <p>Manipulate the additive relationship: Understand the inverse relationship between addition and subtraction, and how both relate to the part-part-whole structure. Understand and use the commutative property of addition and understand the related property for subtraction.</p>	<p>Recall and use multiplication and division facts for the 3, 4 and 8 times tables.</p> <p>Calculate mathematical statements for multiplications and division within the multiplication tables and write them using the multiplication (x), division and equals (=) signs.</p> <p>Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods and multiplication and division facts, including problems in context.</p> <p>Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.</p> <hr/> <p>RTP - Recall multiplication facts, and corresponding division facts, in the 10, 5, 2, 4 and 8 multiplication tables, and recognise products in these multiplication tables as multiples of the corresponding number.</p> <p>Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10).</p>		
Spring Term	Number: Multiplication and Division	Measure: Money	Statistics	Measure: Length and Perimeter	Number: Fractions
	<p>Recall and use multiplication and division for the facts for the 3, 4 and 8 multiplication tables.</p> <p>Solve problems including missing number problems involving multiplication and division, positive integer scaling problems and correspondence problems in which n objects are connected to m objects.</p> <p>Write and calculate mathematical statements for multiplications and division using the multiplication tables they know, including for two digit numbers times one digit numbers, using mental methods and progressing to formal written methods.</p> <hr/>	<p>Add and subtract amounts of money to give change, using both £ and p in practical contexts</p>	<p>Interpret and present data using bar charts, pictograms and tables.</p> <p>Solve one step and two step questions (for example, "How many more?" and "How many fewer?" using information presented in scaled charts and tables.</p>	<p>Measure, compare, add and subtract lengths (m/cm/mm).</p> <p>Solve problems including missing number problems, using number facts, place value, and more complex addition and subtraction (linked to measure).</p> <p>Measure the perimeter of simple 2D shapes.</p> <p>Continue to measure using appropriate tools and units, progressing to using a wider range of measures, including comparing and using mixed and simple equivalents of mixed units.</p>	<p>Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators.</p> <p>Recognise, find and write fractions of a discrete set of objects: unit and non-unit fractions with small denominators.</p> <p>Count up and down in tenths.</p> <p>Recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10.</p> <hr/>

Mathematics progress Map

	<p>RTP - Apply known multiplication and division facts to solve contextual problems with different structures, including quotative and partitive division.</p>				<p>RTP - Interpret and write proper fractions to represent 1 or several parts of a whole that is divided into equal parts.</p> <p>Find unit fractions of quantities using known division facts (multiplication tables fluency).</p> <p>Reason about the location of any fraction within 1 in the linear number system.</p>
Summer Term	Number: Fractions	Measure: Time	Geometry: Properties of Shape	Measure: Mass and Capacity.	
	<p>Recognise and show, using diagrams, equivalent fractions with small denominators.</p> <p>Add and subtract fractions with the same denominator within one whole.</p> <p>Compare and order unit fractions, and fractions with the same denominators.</p> <p>Solve problems that involve all of the above.</p> <hr/> <p>RTP - Add and subtract fractions with the same denominator, within 1.</p> <p>Reason about the location of any fraction within 1 in the linear number system.</p>	<p>Tell and write the time from an analogue clock, including using Roman numerals, 12 hour clock and 24 hour clock.</p> <p>Estimate and read time with increasing accuracy to the nearest minute.</p> <p>Record and compare time in terms of seconds, minutes and hours.</p> <p>Use vocabulary such as o 'clock', am/pm, morning, afternoon, noon and midnight.</p> <p>Know the number of seconds in a minute and the number of days in each month, year and leap year.</p> <p>Compare durations of events (for examples calculate the time taken for a particular event or task).</p>	<p>Recognise angles as a property of shape or a description of a turn.</p> <p>Identify right angles, recognise that two right angles make a half turn, three makes three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angles.</p> <p>Identify horizontal and vertical lines and pairs of perpendicular and parallel lines.</p> <p>Draw 2D shapes and make 3D shapes using modelling materials.</p> <p>Recognise 3D shapes in different orientations and describe them.</p> <hr/> <p>RTP - Recognise right angles as a property of shape or a description of a turn and identify right angles in 2D shapes presented in different orientations.</p> <p>Draw polygons by joining marked points and identify parallel and perpendicular sides.</p>	<p>Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml).</p> <p>Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction relating to measure.</p> <p>Continue to measure using appropriate tools and units, progressing to using a wider range of measures, including comparing and using mixed units (for example, 1kg and 200g) and simple equivalents of mixed units (for example, 5m = 500cm).</p>	

Year 4

Autumn Term	Number: Place Value	Number: Addition and Subtraction	Measure: Length and Perimeter	
	<p>Count in multiples of 6, 7, 9, 25 and 1000.</p> <p>Find 1000 more or less than a given number.</p> <p>Count backwards through zero to include negative numbers.</p> <p>Recognise the place value of each digit in a four digit number (thousands, hundreds, tens and ones).</p> <p>Order and compare numbers beyond 1000.</p> <p>Identify, represent and estimate numbers using different representations.</p> <p>Round any number to the nearest 10, 100 or 1000.</p> <p>Solve number and practical problems that involve all of the above and with increasingly large positive numbers.</p> <p>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.</p> <hr/> <p>RTP - Know that 10 hundreds are equivalent to 1 thousand, and that 1,000 is 10 times the size of 100; apply this to identify and work out how many 100s there are in other four-digit multiples of 100.</p> <p>Recognise the place value of each digit in four-digit numbers and compose and decompose four-digit numbers using standard and non-standard partitioning.</p> <p>Reason about the location of any four-digit number in the linear number system, including identifying the previous and next multiple of 1,000 and 100, and rounding to the nearest of each.</p> <p>Divide 1,000 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 1,000 with 2, 4, 5 and 10 equal parts.</p>	<p>Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate.</p> <p>Estimate and use inverse operations to check answers to a calculation.</p> <p>Solve addition and subtraction two step problems in contexts, deciding which operations and methods to use and why.</p> <hr/> <p>RTP - Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100).</p>	<p>Convert between different units of measure, e.g. km and m.</p> <p>Measure and calculate the perimeter of a rectilinear figure (including squares) in cm and m.</p> <hr/> <p>RTP - ki</p>	
Spring Term	Number: Multiplication and Division	Measure: Area	Number: Fractions	Number: Decimals
	<p>Recall and use multiplication and division facts for multiplication tables up to 12 x 12.</p> <p>Use place value, known facts and derived facts to multiply and divide mentally, including multiplying by 0 and 1, dividing by 0 and 1 and multiplying together 3 numbers.</p> <p>Multiply two digit and three digit numbers by a one digit number using formal written layout.</p> <p>Solve problems involving multiplying and adding including using the distributive law to multiply two digit numbers by one digit numbers, integer</p>	<p>Find the area of rectilinear shapes by counting squares.</p> <p>Convert between different units of measure (for example, km to m).</p>	<p>Recognise and show, using diagrams, families of common equivalent fractions.</p> <p>Count up and down in hundredths, recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.</p> <p>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.</p> <p>Add and subtract fractions with the same denominator.</p>	<p>Recognise and write decimal equivalents of any number of tenths or hundredths.</p> <p>Find the effect of dividing a one or two digit number by 10 or 100, identifying the value of the digits in the answer as ones, tenths and hundredths.</p>

Mathematics progress Map

	<p>scaling problems and harder correspondence problems such as n objects are connected to m objects.</p> <hr/> <p>RTP - Multiply and divide whole numbers by 10 and 100 (keeping to whole number quotients); understand this as equivalent to making a number 10 or 100 times the size.</p> <p>Manipulate multiplication and division equations and understand and apply the commutative property of multiplication.</p> <p>Understand and apply the distributive property of multiplication.</p> <p>Recall multiplication and division facts up to and recognise products in multiplication tables as multiples of the corresponding number.</p> <p>Solve division problems, with two-digit dividends and one-digit divisors that involve remainders, and interpret remainders appropriately according to the context.</p>		<p>RTP - Reason about the location of mixed numbers in the linear number system.</p> <p>Convert mixed numbers to improper fractions and vice versa.</p> <p>Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers.</p>			
Summer Term	Number: Decimals	Measure: Money	Measure: Time	Statistics	Geometry: Properties of Shape	Geometry: Position and Direction
	<p>Round decimals with one decimal place to the nearest whole number.</p> <p>Compare numbers with the same number of decimal places up to two decimal places.</p> <p>Recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$.</p>	<p>Solve simple measure and money problems involving fractions and decimals to two decimal places.</p> <p>Estimate, compare and calculate different measures, including pounds and pence.</p>	<p>Convert between different units of measure, e.g. hour to minute.</p> <p>Read, write and convert time between analogue and digital 12 and 24 hour clocks.</p> <p>Solve problems involving converting from hours to minutes, minutes to seconds, years to months and weeks to days.</p>	<p>Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.</p> <p>Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.</p>	<p>Identify acute and obtuse angles and compare and order up to two right angles by size.</p> <p>Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.</p> <p>Identify lines of symmetry in 2D shapes presented in different orientations.</p> <p>Complete a simple symmetric figure with respect to a specific line of symmetry.</p> <p>RTP - Draw polygons, specified by coordinates in the first quadrant, and translate within the first quadrant.</p> <p>Identify regular polygons, including equilateral triangles and squares, as those in which the side-lengths are equal, and the angles are equal. Find the perimeter of regular and irregular polygons.</p> <p>Identify line symmetry in 2D shapes presented in different orientations. Reflect shapes in a line of symmetry and complete a symmetric figure or pattern with respect to a specified line of symmetry.</p>	<p>Describe positions on a 2D shape grid as coordinates in the first quadrant.</p> <p>Describe movements between positions as translations of a given unit to the left/right and up/down.</p> <p>Plot specified points and draw sides to complete a given polygon.</p>

Year 5

Autumn Term	Number: Place Value	Number: Addition and Subtraction	Statistics	Measure: Perimeter and Area
	<p>Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit.</p> <p>Count forwards and backwards in steps of powers of 20 for any given number up to 1,000,000.</p> <p>Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers including through zero.</p> <p>Round any number up to 1,000,000 to the nearest 10, 100, 1000, 10000 or 100000.</p> <p>Solve number problems and practical problems that involve all of the above.</p> <p>Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.</p> <hr/> <p>RTP - Know that 10 tenths are equivalent to 1 one, and that 1 is 10 times the size of 0.1. Know that 100 hundredths are equivalent to 1 one, and that 1 is 100 times the size of 0.01. Know that 10 hundredths are equivalent to 1 tenth, and that 0.1 is 10 times the size of 0.01.</p> <p>Recognise the place value of each digit in numbers with up to 2 decimal places and compose and decompose numbers with up to 2 decimal places using standard and non-standard partitioning.</p> <p>Reason about the location of any number with up to 2 decimal places in the linear number system, including identifying the previous and next multiple of 1 and 0.1 and rounding to the nearest of each.</p> <p>Divide 1 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in units of 1 with 2, 4, 5 and 10 equal parts.</p> <p>Convert between units of measure, including using common decimals and fractions.</p>	<p>Add and subtract numbers mentally with increasingly large numbers.</p> <p>Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction).</p> <p>Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.</p> <p>Solve addition and subtraction multi-step problems in context, deciding which operations and methods to use and why.</p> <hr/> <p>RTP – Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth).</p>	<p>Solve comparison, sum and difference problems using information presented in a line graph.</p> <p>Complete, read and interpret information in tables including timetables.</p>	<p>Measure and calculate the perimeter of composite rectilinear shapes in cm and m.</p> <p>Calculate and compare the area of rectangles (including squares), and including using standard units, cm and m squared, estimate the area of irregular shapes.</p> <hr/> <p>RTP - Compare areas and calculate the area of rectangles (including squares) using standard units.</p>
Spring Term	Number: Multiplication and Division	Number: Fractions		Number: Decimals and Percentages
	<p>Multiply and divide numbers mentally drawing upon known facts.</p> <p>Multiply and divide whole numbers by 10, 100, 1000.</p> <p>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.</p> <p>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.</p> <p>Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.</p> <p>Recognise and use square numbers and cube numbers and the notation for squared and cubed.</p> <p>Know and use the vocabulary of prime numbers, prime factors and composite numbers.</p>	<p>Compare and order fractions whose denominators are multiples of the same number.</p> <p>Identify, name and write equivalent fractions of a given fraction, represented visually including tenths and hundredths.</p> <p>Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements greater than 1 as a mixed number.</p> <p>Add and subtract fractions with the same denominator and denominators that are multiples of the same number.</p> <p>Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.</p>		<p>Read, write, order and compare numbers with up to three decimal places.</p> <p>Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.</p> <p>Round decimals with two decimal places to the nearest whole number and to one decimal place.</p> <p>Solve problems involving number up to three decimal places.</p>

	<p>Establish whether a number up to 100 is prime and recall prime numbers up to 19.</p> <p>Solve problems involving multiplication and division including using their knowledge of factors, multiples, squares and cubes.</p> <p>Solve problems involving addition and subtraction, multiplication and division and a combination of these, including understanding the use of the equals sign.</p> <hr/> <p>RTP - Secure fluency in multiplication table facts, and corresponding division facts, through continued practice.</p> <p>Multiply and divide numbers by 10 and 100; understand this as equivalent to making a number 10 or 100 times the size, or 1 tenth or 1 hundredth times the size.</p> <p>Find factors and multiples of positive whole numbers, including common factors and common multiples, and express a given number as a product of 2 or 3 factors.</p> <p>Multiply any whole number with up to 4 digits by any one-digit number using a formal written method.</p> <p>Divide a number with up to 4 digits by a one-digit number using a formal written method and interpret remainders appropriately for the context.</p>	<p>Read and write decimal numbers as fractions (for example, $0.71 = \frac{71}{100}$).</p> <p>Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.</p> <hr/> <p>RTP - Find non-unit fractions of quantities.</p> <p>Find equivalent fractions and understand that they have the same value and the same position in the linear number system.</p> <p>Recall decimal fraction equivalents for $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$ and $\frac{1}{10}$ and for multiples of these proper fractions.</p>	<p>Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per 100' and write percentages as a fractions with denominator 100, and as a decimal.</p> <p>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 and 25.</p>		
<p>Summer Term</p>	<p>Number: Decimals</p> <p>Add and subtract tenths, and one-digit whole numbers and tenths.</p> <p>Practise adding and subtracting decimals, including a mix of whole numbers and decimals, decimals with different numbers of decimal places, and complements of 1 (for example, $0.83 + 0.17 = 1$).</p> <p>Multiply and divide whole numbers and those involving decimals by 10, 100, 1000.</p> <p>Use all four operations to solve problems involving measures using decimal notation, including scaling.</p>	<p>Geometry: Properties of shape</p> <p>Know angles are measured in degrees; estimate and compare acute, obtuse and reflex angles.</p> <p>Draw given angles and measure then in degrees.</p> <p>Identify: angles at a point and one whole turn (total 360), angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180) other multiples of 90.</p> <p>Identify 3D shapes, including cubes and other cuboids, from 2D representations.</p> <p>Use the properties of rectangles to deduce related facts and find missing lengths and angles.</p> <p>Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.</p> <p>RTP - Compare angles, estimate, and measure angles in degrees (°) and draw angles of a given size.</p>	<p>Geometry: Position and Direction</p> <p>Identify, describe and represent the positions of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed.</p>	<p>Measure: Converting Units</p> <p>Convert between different units of metric measure (for example, km and m; cm and m; g and kg; l and ml).</p> <p>Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints.</p> <p>Solve problems involving converting between units of time.</p>	<p>Measure: Volume</p> <p>Estimate volume (for example using 1cm cubed blocks to build cuboids) and capacity (for example using water).</p> <p>Use all four operations to solve problems involving measure.</p>

Year 6

Autumn Term	Number: Place Value	Number: Addition and Subtraction, Multiplication and Division			Geometry: Position and Direction
	<p>Read, write and order and compare numbers up to 10 000 000 and determine the value of each digit.</p> <p>Round any whole number to a required degree of accuracy.</p> <p>Use negative numbers in context, and calculate intervals across zero.</p> <hr/> <p>RTP - Understand the relationship between powers of 10 from 1 hundredth to 10 million, and use this to make a given number 10, 100, 1,000, 1 tenth, 1 hundredth or 1 thousandth times the size (multiply and divide by 10, 100 and 1,000).now</p> <p>Recognise the place value of each digit in numbers up to 10 million, including decimal fractions, and compose and decompose numbers up to 10 million using standard and non-standard partitioning.</p> <p>Reason about the location of any number up to 10 million, including decimal fractions, in the linear number system, and round numbers, as appropriate, including in contexts.</p> <p>Divide powers of 10, from 1 hundredth to 10 million, into 2, 4, 5 and 10 equal parts, and read scales/number lines with labelled intervals divided into 2, 4, 5 and 10 equal parts.</p>	<p>Solve addition and subtraction multi step problems in contexts, deciding which operations and methods to use and why.</p> <p>Multiply multi-digit numbers up to 4 digits by a 2 digit number using the formal written method of long multiplication.</p> <p>Divide numbers up to 4 digits by 2 digit whole number using the formal written method of long division, and interpret remainders as a whole number, fractions or by rounding as appropriate for the context.</p> <p>Divide numbers up to 4 digits by 2 digit number using the formal written method of short division, interpreting remainders according to context.</p> <p>Perform mental calculations, including with mixed operations and large numbers.</p> <p>Identify common factors, common multiples and prime numbers.</p> <p>Use their knowledge of the order of operations to carry out calculations involving four operations.</p> <p>Solve problems involving addition, subtraction, multiplication and division.</p> <hr/> <p>RTP – Understand that 2 numbers can be related additively or multiplicatively and quantify additive and multiplicative relationships (multiplicative relationships restricted to multiplication by a whole number).</p> <p>Use a given additive or multiplicative calculation to derive or complete a related calculation, using arithmetic properties, inverse relationships, and place-value understanding.</p> <p>Solve problems with 2 unknowns.</p>			<p>Describe positions on the full coordinate grid (all four quadrants).</p> <p>Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.</p>

Spring Term	Number: Fractions	Number: Decimals	Number: Percentages	Number: Algebra	Measure: Converting Units Perimeter, Volume and Area	Number: Ratio
	<p>Use common factors to simplify fractions; use common multiples to express fractions in the same denomination.</p> <p>Compare and order fractions, including fractions greater than 1.</p> <p>Generate and describe linear number sequences (with fractions).</p>	<p>Identify the value of each digit in numbers given to three decimal places and multiply numbers by 10, 100 and 1000 giving answers up to 3 decimal places.</p>	<p>Solve problems involving the calculation of percentages (for example, of measures such as 15% of 360) and the use of percentages for comparison.</p>	<p>Use simple formulae.</p> <p>Generate and describe linear number sequences.</p> <p>Express missing number problems algebraically.</p>	<p>Solve problems involving the calculation and conversion of units of measure, using decimal notation up to 3DP where appropriate.</p> <p>Use, read, write and convert between standard units, converting units of measure, length, mass, volume and time from a smaller unit of measure to a larger</p>	<p>Solve problems involving relative sizes of two quantities where missing values can be found by using integer multiplication and division facts.</p>

Mathematics progress Map

	<p>Add and subtract fractions with different denominations and mixed numbers, using the concept of equivalent fractions.</p> <p>Multiply simple pairs of proper fractions, writing the answer in its simplest form (for example, $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$).</p> <p>Divide proper fractions by whole numbers (for example, $\frac{1}{3}$ divided by 2 = $\frac{1}{6}$).</p> <p>Associate a fraction with division and calculate decimal fraction equivalents for a simple fraction.</p> <p>Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.</p> <p>RTP - Recognise when fractions can be simplified and use common factors to simplify fractions.</p> <p>Express fractions in a common denomination and use this to compare fractions that are similar in value.</p> <p>Compare fractions with different denominators, including fractions greater than 1, using reasoning, and choose between reasoning and common denomination as a comparison strategy.</p>	<p>Multiply one digit numbers with up to 2dp by whole numbers.</p> <p>Use written division methods in cases where the answer has up to two decimal places.</p> <p>Solve problems which require answers to be rounded to specified degrees of accuracy.</p>	<p>Recall and use equivalences between FDP including in different contexts.</p>	<p>Enumerate possibilities of combinations of two variables.</p> <p>Find pairs of numbers that satisfy an equation with two numbers.</p> <p>RTP - Solve problems with 2 unknowns.</p>	<p>unit, and vice versa, using decimal notation up to 3dp.</p> <p>Convert between miles and kilometres.</p> <p>Recognise that shapes with the same areas can have different perimeters and vice versa.</p> <p>Recognise when it is possible to use formulae for area and volume of shapes.</p> <p>Calculate the area of parallelograms and triangles.</p> <p>Calculate, estimate and compare volumes of cubes and cuboids using standard units, including cm and m cubed and extending to other units (mm and km cubed).</p>	<p>Solve problems involving similar shapes where the scale factor is known or can be found.</p> <p>Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.</p> <p>RTP - Solve problems involving ratio relationships.</p>
Summer Term	Geometry: Properties of Shape	Problem Solving – four operations	Statistics		Investigations	
	<p>Draw 2D shapes using given dimensions and angles.</p> <p>Recognise, describe and build simple 3-D shapes, including making nets</p> <p>Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals and regular polygons.</p> <p>Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and missing angles.</p> <p>Illustrate and name parts of a circle including radius, diameter and circumference and know that the diameter is twice the radius.</p> <p>RTP - Draw, compose, and decompose shapes according to given properties, including dimensions, angles, and area, and solve related problems.</p>	<p>Solve problems involving addition, subtraction, multiplication and division.</p> <p>Solve problems which require answers to be rounded to specified degrees of accuracy.</p> <p>Solve problems with 2 unknowns.</p>	<p>Interpret and construct pie charts and line graphs and use these to solve problems.</p> <p>Calculate the mean as an average.</p>		<p>Post SATS work working on choosing, using, applying and reasoning about a range of mathematical skills and knowledge in a range of different contexts.</p>	