



Skills & Knowledge Progression: Mathematics

National Curriculum – Aims and purpose	School aims - skills, attitudes and knowledge that we would like all children to develop on their journey through the school
<p>Purpose of study Mathematics is a creative and highly interconnected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject.</p> <p>Aims The national curriculum for mathematics aims to ensure that all pupils:</p> <ul style="list-style-type: none"> • become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately • reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language • can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions. <p>Mathematics is an interconnected subject in which pupils need to be able to move fluently between representations of mathematical ideas. The programmes of study are, by necessity, organised into apparently distinct domains, but pupils should make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. They should also apply their mathematical knowledge to science and other subjects.</p> <p>The expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. However, decisions about when to progress should always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on.</p>	<p>Mathematics is a key subject that covers a huge range of topics and skills. As well as practicing mental and written methods for adding, subtracting, multiplying and dividing, we learn about many other areas of mathematics such as money, measures, time, shape, statistics and co-ordinates etc.</p> <p>At Bayford Primary School, we have chosen to use the Herts Essential Maths scheme of work. This excellent resource was chosen for the following reasons:</p> <ul style="list-style-type: none"> - it is a well-planned and cohesive journey through mathematics for teachers to follow from EYFS to Y6 - it has excellent learning resources - it provides a high-level challenge for the children - There is a great level of adaptability, allowing teachers to tailor learning to their current cohort - it provides quality mixed aged planning <p>Maths Mastery The delivery of our mathematics lessons follows the Maths Mastery approach. According to most dictionary definitions, to master something is to be able to do it very well. The term 'maths mastery' has been defined as: "...mastering maths means acquiring a deep, long-term, secure and adaptable understanding of the subject. At any one point in a pupil's journey through school, achieving mastery is taken to mean acquiring a solid enough understanding of the maths that's been taught to enable him/her to move on to more advanced material." NCETM website 17 October 2018.</p> <p>Through this approach, we have developed a 'maths vision' for our school to support children's understanding: In Maths, we invite children to embrace the wonders of mathematics by welcoming it with open arms and curiosity. We do not want children to just learn. But rather, connect mathematical concepts to the real world around them. By doing so, this will also ensure that they have a greater understanding but also find the beauty of Maths in everyday life.</p> <p>As children explore and understand, we aim to empower them in order that they become fluent problem solvers with the tools to tackle any maths challenge with confidence. Our goal is not only to see children succeed but for them to truly thrive. With a lifelong fascination for mathematics, children will not only be mastering numbers but they will be more equipped to excel in a rapidly changing world.</p> <p>From this, children are encouraged to remember our four key words; embrace, connect, empower and thrive.</p> <p>In delivering maths lessons to achieve mastery, you can typically expect to see the following in maths mastery lessons:</p> <ul style="list-style-type: none"> • Small steps • Teaching whole class together • Ping pong teaching and learning • Carefully chosen representations, questions and tasks • CPA (Concrete, Pictorial, Abstract representations) • Opportunities for pupils to think, reason and problem solve • Articulating using correct maths vocabulary and speaking in full sentences • Secure number facts and fluency <p>Every week pupils are supported, in school, to learn their times tables using Time Table Rockstars. This provides a very clear record of the progress the children have made which motivates them to keep practising.</p>

Links to learning in EYFS:	Links to other subjects / curriculum areas:	Experiences every child should have:
<p>Mathematics can be linked to most subjects. Opportunities for maths in the EYFS can include:</p> <ul style="list-style-type: none"> - role play shop - painting/counting dots on ladybird paintings - creating repeating patterns in art or with construction kit - singing counting songs - learning to write numbers - finding and counting acorns etc. <p>As with the rest of the school, Maths is taught in EYFS using Essential Maths 2.0</p>	<p>Mathematics can be linked to most subjects. Opportunities for maths in the curriculum can include:</p> <ul style="list-style-type: none"> - recording and analysing results of science investigations - hearing and counting the pulse/beat in music - recording scores and times in PE - learning about foreign currency in French - coding in computing - solving worded problems etc. 	<p>Every pupil should be provided with the opportunity to:</p> <ul style="list-style-type: none"> - learn to work with and handle real money - learn from mistakes in a safe and encouraging environment (Growth Mindset – “I can’t do it.....YET!”) - create and solve mathematical investigations - design their own board games - enjoy maths lessons outdoors - use and apply mathematical knowledge to draw scientific conclusions - program and control computers/devices etc.

Skills and Progression: Mathematics

Concept		Class 1 (Years 1&2)	Class 2 (Years 3&4)	Class 3 (Years 5&6)
<p>Knowing and using numbers Understanding the number system and how they are used in a wide variety of mathematical ways.</p>	Counting	<ul style="list-style-type: none"> • 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. • Given a number, identify one more and one less. • Count in steps of 2, 3, 5 and 10 from 0 or 1 and in tens from any number, forward and backward. 	<ul style="list-style-type: none"> • Count in multiples of 2 to 9, 25, 50, 100 and 1000. • Find 1000 more or less than a given number. • Count backwards through zero to include negative numbers. 	<ul style="list-style-type: none"> • Read numbers up to 10 000 000. • Use negative numbers in context and calculate intervals across zero.
	Representing	<ul style="list-style-type: none"> • Identify, represent and estimate numbers using different representations, including the number line. • Read and write numbers initially from 1 to 20 and then to at least 100 in numerals and in words. 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> • Write numbers up to 10 000 000 • Read Roman numerals to 1000 (M) and recognise years written in Roman numerals.
	Comparing	<ul style="list-style-type: none"> • Use the language of: equal to, more than, less than (fewer), most and least. • Compare and order numbers from 0 up to 100; use <, > and = signs. 	<ul style="list-style-type: none"> • Order and compare numbers beyond 1000. 	<ul style="list-style-type: none"> • Order and compare numbers up to 10 000 000.
	Place Value	<ul style="list-style-type: none"> • Recognise the place value of each digit in a two-digit number (tens, ones). 	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • Round any whole number to a required degree of accuracy. • Determine the value of each digit in any number.

	Solving Problems	<ul style="list-style-type: none"> • Use place value and number facts to solve problems. 	<ul style="list-style-type: none"> • Solve number and practical problems with increasingly large positive numbers. 	<ul style="list-style-type: none"> • Solve number and practical problems.
<p style="text-align: center;">Add and subtract Understanding both the concepts and processes of addition and subtraction.</p>	Complexity	<ul style="list-style-type: none"> • Solve one-step problems with addition and subtraction: • Using concrete objects and pictorial representations including those involving numbers, quantities and measures. • Using the addition (+), subtraction (-) and equals (=) signs. • Applying their increasing knowledge of mental and written methods. 	<ul style="list-style-type: none"> • Solve two-step addition and subtraction problems in contexts, deciding which operations and methods to use and why. 	<ul style="list-style-type: none"> • Solve multi-step addition and subtraction problems in contexts, deciding which operations and methods to use and why. • Use knowledge of the order of operations to carry out calculations involving the four operations.
	Methods	<ul style="list-style-type: none"> • Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (x), division (÷) and equals (=) signs. • Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot. • Solve problems involving multiplication and division using mental methods. 	<ul style="list-style-type: none"> • Multiply two-digit and three-digit numbers by a one-digit number using formal written layout. • 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. • Recognise and use factor pairs and commutativity in mental calculations. 	<ul style="list-style-type: none"> • 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 two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context. • Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context. • Perform mental calculations, including with mixed operations and large numbers.
	Checking	<ul style="list-style-type: none"> • Use known multiplication facts to check the accuracy of calculations. 	<ul style="list-style-type: none"> • Recognise and use the inverse relationship between multiplication and division and use this to check calculations and solve missing number problems. 	<ul style="list-style-type: none"> • Estimate and use inverse operations and rounding to check answers to a calculation.
	Using Multiplication and Division Facts	<ul style="list-style-type: none"> • Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables. • Recognise odd and even numbers. 	<ul style="list-style-type: none"> • Recall multiplication and division facts for multiplication tables up to 12×12. 	<ul style="list-style-type: none"> • Identify common factors, common multiples and prime numbers. • Establish whether a number up to 100 is prime and recall prime numbers up to 19.

		<ul style="list-style-type: none"> • Use multiplication and division facts to solve problems. 		<ul style="list-style-type: none"> • Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000. • Recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3). • Solve problems involving multiplication and division including using knowledge of factors and multiples, squares and cubes.
<p style="text-align: center;">Fractions Understanding the concept of part and whole and ways of calculating using it.</p>	Recognising Fractions	<ul style="list-style-type: none"> • 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 $\frac{1}{2}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity. 	<ul style="list-style-type: none"> • Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators. • Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators. • Round decimals with one decimal place to the nearest whole number. • Compare numbers with the same number of decimal places up to two decimal places. • Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10. • Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. • Compare and order unit fractions and fractions with the same denominators. 	<ul style="list-style-type: none"> • Compare and order fractions whose denominators are all multiples of the same number. • Compare and order fractions, including fractions > 1. • Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number. • Round decimals with two decimal places to the nearest whole number and to one decimal place. • 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. • Solve problems involving number up to three decimal places. • Recognise the percent symbol (%) and understand that percent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal.
	Equivalence	<ul style="list-style-type: none"> • Recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$. 	<ul style="list-style-type: none"> • Recognise and show, using diagrams, families of common equivalent fractions. 	<ul style="list-style-type: none"> • Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths

			<ul style="list-style-type: none"> • Recognise and write decimal equivalents of any number of tenths or hundredths. • Recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$. 	<p>and hundredths.</p> <ul style="list-style-type: none"> • Read and write decimal numbers as fractions. • 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. • Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.
	Solving Problems	<ul style="list-style-type: none"> • Write simple fractions for example, $\frac{1}{2}$ of 6 = 3. 	<ul style="list-style-type: none"> • Add and subtract fractions with the same denominator within one whole. • Solve problems involving increasingly harder fractions. • Calculate quantities and fractions to divide quantities (including non-unit fractions where the answer is a whole number). • Add and subtract fractions with the same denominator. • 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. • Solve simple measure and money problems involving fractions and decimals to two decimal places. 	<ul style="list-style-type: none"> • Add and subtract fractions with the same denominator and denominators that are multiples of the same number. • Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions. • 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. • 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. • Divide proper fractions by whole numbers.

				<ul style="list-style-type: none"> • Multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places. <p>Ratio and proportion</p> <ul style="list-style-type: none"> • 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 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.
<p style="text-align: center;">Properties of shapes Recognising the names and properties of geometric shapes and angles.</p>		<ul style="list-style-type: none"> • Recognise and name common 2D and 3D shapes. • Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line. • Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces. • Identify 2-D shapes on the surface of 3-D shapes. • Compare and sort common 2-D and 3-D shapes and everyday objects. 	<ul style="list-style-type: none"> • Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them. • Recognise angles as a property of shape or a description of a turn. • 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 horizontal and vertical lines and pairs of perpendicular and parallel lines. • Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes. • Identify acute and obtuse angles and compare and order angles up to two right angles by size. 	<ul style="list-style-type: none"> • Identify 3-D shapes, including cubes and other cuboids, from 2-D representations. • Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles. • Draw given angles, and measure them in degrees ($^{\circ}$). <p>Identify:</p> <ul style="list-style-type: none"> • Angles at a point and one whole turn (total 360°). • Angles at a point on a straight line and a turn (total 180°). • Other multiples of 90°. • 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.

			<ul style="list-style-type: none"> • Identify lines of symmetry in 2-D shapes presented in different orientations. • Complete a simple symmetric figure with respect to a specific line of symmetry. 	<ul style="list-style-type: none"> • Draw 2-D shapes using given dimensions and angles. • Recognise, describe and build simple 3-D shapes, including making nets. • Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons. • Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius. • Recognise angles where they meet at a point, are on a straight line, or are vertically opposite and find missing angles.
<p>Position, direction and movement Recognising various types of mathematical movements.</p>		<p>Describe position, direction and movement, including whole, half, quarter and three-quarter turns.</p> <ul style="list-style-type: none"> • Order and arrange combinations of mathematical objects in patterns and sequences. • 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 anticlockwise). 	<ul style="list-style-type: none"> • Recognise angles as a property of shape and as an amount of rotation. • Identify right angles, recognise that 2 right angles make a half turn and 4 make a whole turn. • Identify angles that are greater than a right angle. • 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. 	<ul style="list-style-type: none"> • 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) • Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.
<p>Measures Becoming familiar with a range of measures, devices used for measuring and calculations.</p>		<p>Compare, describe and solve practical problems for:</p> <ul style="list-style-type: none"> •lengths and heights •mass/weight •capacity and volume •time. 	<p>Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml).</p> <ul style="list-style-type: none"> • Measure the perimeter of simple 2-D shapes. 	<ul style="list-style-type: none"> • Convert between different units of metric measure. • Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints.

	<p>Measure and begin to record:</p> <ul style="list-style-type: none"> •lengths and heights •mass/weight •capacity and volume •time (hours, minutes, seconds). <ul style="list-style-type: none"> • Recognise and know the value of different denominations of coins and notes. • Sequence events in chronological order using language. • 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. • Use standard units to estimate and measure length/height (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels. • Compare and order lengths, mass, volume/capacity and record the results using >, < and =. • 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. • Compare and sequence intervals of time. • Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock 	<ul style="list-style-type: none"> • Add and subtract amounts of money to give change. (£ and p) • Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks. • Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use appropriate vocabulary. • Know the number of seconds in a minute and the number of days in each month, year and leap year. • Compare durations of events. • Convert between different units of measure. (for example, kilometre to metre; hour to minute) • Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres. • Find the area of rectilinear shapes by counting squares. • Estimate, compare and calculate different measures, including money in pounds and pence. • 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. 	<ul style="list-style-type: none"> • Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres. • Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm²) and square metres (m²) and estimate the area of irregular shapes. • Estimate volume and capacity. • Solve problems involving converting between units of time. • Use all four operations to solve problems involving measure (for example, 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. • 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 up to three decimal places. • Convert between miles and kilometres. • Recognise that shapes with the same areas can have different perimeters and vice versa. • Recognise when it is possible to use formulae for area and volume of shapes. • Calculate the area of parallelograms
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		<p>face to show these times.</p> <ul style="list-style-type: none"> • Know the number of minutes in an hour and the number of hours in a day. 		<p>and triangles.</p> <ul style="list-style-type: none"> • Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm³) and cubic metres (m³), and extending to other units.
<p>Statistics Interpreting, manipulating and presenting data in various ways.</p>		<ul style="list-style-type: none"> • 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. • Ask and answer questions about totalling and comparing categorical data. 	<ul style="list-style-type: none"> • Interpret and present data using bar charts, pictograms and tables. • Solve one-step and two-step questions (for example, 'How many more?' and 'How many fewer?') using information presented in scaled bar charts, pictograms and tables. • Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. • Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs. 	<ul style="list-style-type: none"> • Solve comparison, sum and difference problems using information presented in a line graph. • 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.
<p>Algebra Recognising mathematical properties and relationships using symbolic representations.</p>		<ul style="list-style-type: none"> • Solve addition and subtraction problems involving missing numbers. 	<ul style="list-style-type: none"> • Solve addition and subtraction, multiplication and division problems that involve missing numbers. 	<ul style="list-style-type: none"> • Use simple formulae. • Generate and describe linear number sequences. • Express missing number problems algebraically. • Find pairs of numbers that satisfy an equation with two unknowns. • Enumerate possibilities of combinations of two variables.

Reception:

SEQUENCE	TITLE	FOCUS
RLS1	Subitising (including equivalence, more and less)	Subitising numbers up to 5; recognising the amount without counting. Recognising numbers to 5 and linking names to their values
RLS2	Counting skills (stable order and one to one correspondence)	Counting reliably, using number names in order and one to one correspondence
RLS3	Comparison – measures	Comparing objects by length, thickness and weight/mass, using appropriate language to describe and order them
RLS4	Pattern recognition	Noticing, describing and extending patterns, including thinking about what part is the repeating unit
RLS5	Classification	Classifying (grouping) objects using given criteria and their own ideas and comparing the groups after classification
RLS6	Counting the sort (including cardinality)	Counting a set of items accurately, saying how many are in the set and comparing this to the amount in other sets
RLS7	Using counting to compare	Using counting to compare and finding a precise numerical difference in sets of objects in varied contexts
RLS8	Spatial thinking	Developing spatial thinking and spatial language linked to position and direction, in movements and using symbols

RLS9	Magnitude – ordering and estimating	Knowing the position of numbers 0-10 and the relationship to other numbers, such as 0, 5 or 10
RLS10	Regrouping the whole	Developing a deeper understanding that numbers are made up of other numbers and beginning to rehearse number bonds
RLS11	Regrouping parts to find the total (the whole)	Combining parts to make a whole and using the part, whole model to develop an understanding of addition
RLS12	Finding the whole and missing parts	Explores what to do when something is missing; initially the whole but moving on to working out a missing part. Different types of problems will be used to teach different strategies.
RLS13	Ten and some more	Understanding values to 20 (focusing on the numbers 10 – 20) by creating the unit of 10, for comparison and finding one more and one less than a number
RLS14	Doubling and halving	Exploring doubling and halving, including solving problems involving doubling and halving
RLS15	Odd and even	Understanding that numbers are either odd or even, looking at their 'composition' and whether they share fairly into two groups
RLS16	Counting beyond 20	Counting beyond 20, recognising the pattern of the counting system, exploring the value of tens and ones in numbers

KS1:

Autumn		
Geometry	Week 1 1 week 5 steps	1&2_LS1 – Positional language and sequencing
Number and place value	Week 2 – 5 4 weeks 17 steps	1&2_LS2 – Subitising: leading to more and fewer 1&2_LS3 – Number magnitude, estimation and comparison 1&2_LS4 – Place value: making ten(s) and some more
Measurement	Week 6 1 week 4 steps	1&2_LS5 – Time: estimating, sequencing and comparing
Addition and subtraction	Week 7 – 10 4 weeks 15 steps + time to secure strategies as needed	1&2_additional_LS_addition_subtraction <ul style="list-style-type: none"> • Year 1 – rehearse, secure, and deepen learning up to this point • Year 2 – six additional strategy teaching guides designed to revisit Year 1 addition and subtraction
		1&2_LS6 – Additive reasoning: the understanding and language of operations 1&2_LS7 – Part whole
Number and place value	Week 11 – 12 2 weeks 8 steps	1&2_LS8 – Equality and comparison
Measurement	Week 13 1 week 5 steps	1&2_LS9 – Measures: length, height, and mass
Assessment to inform spring term planning	2 days	Paper 1 – arithmetic Paper 2 – reasoning

Spring		
Geometry	Week 1 1 week 4 steps	1&2_LS10 – Geometry 1
Addition and subtraction	Week 2 – 6 5 weeks 20 steps	1&2_LS11 – Regrouping to add and subtract 1&2_LS12 – Strategy choices for addition and subtraction 1&2_LS13 – Problem solving with addition and subtraction
Multiplication and division	Week 7 – 11 5 weeks 24 steps	1&2_LS14 – Doubling and halving 1&2_LS15 – Multiplication: counting, multiples and repeated addition 1&2_LS16 – Multiplication: number of groups, group size and product 1&2_LS17 – Division: sharing and grouping 1&2_LS18 – Problem solving with multiplication and division
Assessment to inform summer term planning	2 days	Diagnostic assessment paper 1: arithmetic Diagnostic assessment paper 2: reasoning
Summer		
Measurement	Week 1 1 week 4 steps	1&2_LS19 – Money
Fractions	Week 2 – 4 3 weeks 14 steps	1&2_LS20 – Fractions
All four operations including fractions	Week 5 1 week 4 steps	1&2_LS21 – Problem solving : all four operations <ul style="list-style-type: none"> ● Year 1 – steps 3, 5 and 7: optional steps ● Year 2 – all steps rehearse and deepen previously taught content (select steps as appropriate)
Measurement	Week 6 – 8 3 weeks 12 steps	1&2_LS22 – Time: turns and telling the time 1&2_LS23 – Time: drawing the hands on a clock and intervals of time 1&2_LS24 – Measures and reading scales
Statistics	Week 9 1 week 5 steps	1&2_LS25 – Statistics
Geometry	Week 10 1 week 5 steps	1&2_LS26 – Geometry 2
Number and place value	Week 11 1 week 5 steps	1&2_LS27 – Place value with larger numbers (Year 2 steps 1 and 2 optional steps)
Addition, subtraction, multiplication, and division	Week 12 1 week 5 steps	1&2_LS28 – Calculation review
Assessment to inform transition / autumn term planning	2 days	Diagnostic assessment paper 1: arithmetic Diagnostic assessment paper 2: reasoning

LKS2:

Autumn		
Number and place value	Week 1 – 2 2 weeks 9 steps	3&4_LS1 – Number and place value reasoning 1
Addition and subtraction	Week 3 – 7 5 weeks 15 steps	3&4_LS2 – Additive reasoning 1: mental addition 3&4_LS3 – Additive reasoning 2: mental subtraction
Multiplication, division, and fractions	Week 8 – 12 5 weeks 25 steps	3&4_LS4 – Multiplicative reasoning 1: building fact recall 3&4_LS5 – Proportional reasoning 1: scaling, comparison, and fractions (step 12: optional step)
Geometry	Week 13 1 week 6 steps	3&4_LS6 – Geometric reasoning 1: angles and lines
	4 steps	
Geometry	Week 2 1 week 5 steps	3&4_LS8 – Geometric reasoning 2: properties of 2-D shapes
Addition and subtraction	Week 3 – 5 3 weeks 12 steps	3&4_LS9 – Additive reasoning 3: formal written addition and subtraction
Measurement	Week 6 1 week 5 steps	3&4_LS10 – Spatial reasoning (step 6: optional step)
Multiplication and division	Week 7 - 11 5 weeks 21 steps	3&4_LS11 – Statistical reasoning 1: scaling 3&4_LS12 – Multiplicative reasoning 2: multiplicative laws and area 3&4_LS13 – Multiplicative reasoning 3: formal written multiplication and division

Summer		
Number and place value and fractions (including decimals)	Weeks 1 - 3 3 weeks 11 steps	3&4_LS14 – Number and place value reasoning 2: decimals
Measurement and statistics	Weeks 4 - 6 3 weeks 16 steps	3&4_LS15 – Measurement reasoning 1: comparing, estimating and calculating with measures (step 7: optional step) 3&4_LS16 – Measurement and statistical reasoning 2: time, timetables and time graphs
All four operations including fractions	Week 7 - 10 4 weeks 19 steps	3&4_LS17 – Operational reasoning: understanding and applying the four operations 3&4_LS18 – Proportional reasoning 3: finding fractions of continuous quantities
Rolling topics Teach a set of sequences to Year 3 and Year 4 together on a two-year rolling basis	Week 11 - 12 2 weeks First rotation: 9 steps Or Second rotation: 9 steps	3&4_LS19 – Rolling topics First year rotation 4LS28 – Roman numerals 3LS39 – 3-D shape: building and identifying properties 4LS32 – Geometry: coordinates in the first quadrant and translations Second year rotation 4LS15 – Symmetry 4LS29 – Negative numbers: counting through zero and calculating in context 4LS33 – Geometry: position and direction incorporating points of a shape

UKS2:

Autumn

Number and place value	Week 1 – 2 2 weeks 10 steps	5&6_LS1 – Number and place value reasoning
Multiplication and division	Week 3 1 week 5 steps	5&6_LS2 – Multiplicative reasoning 1 (multiply and divide powers of 10) (amalgamate step 5 and 6)
Addition and subtraction	Week 4 – 5 2 weeks 6 steps + time to secure strategies as needed	5&6_LS3 – Additive reasoning 1 (plus 4 additional strategy teaching guides)
Multiplication and division	Week 6 – 8 3 weeks 15 steps	5&6_LS4 – Number properties reasoning (amalgamate step 1 and 2) 5&6_LS5 – Multiplicative reasoning 2 (multiplication)
Fractions	Week 9 - 10 2 weeks 10 steps	5&6_LS6 – Fraction reasoning 1 (step 6 optional step)
Multiplication and division	Week 11 1 week 5 steps	5&6_LS7 – Multiplicative reasoning 3 (division)
Algebra	Week 12 – 13 2 weeks 7 steps	5&6_LS8 – Algebraic reasoning (step 6 optional step)

Spring

Geometry	Week 1 1 week 6 steps	5&6_LS9 – Geometric reasoning 1 (amalgamate step 1 and 2) + (step 7: optional step)
Fractions (including decimals and percentages)	Week 2 – 3 2 weeks 9 steps	5&6_LS10 – Proportional reasoning 1 (percentages)
Multiplication, division and measurement	Week 4 – 5 2 weeks 10 steps	5&6_LS11 – Multiplicative reasoning 4 (division) 5&6_LS12 – Area and perimeter (step 6: optional step)
Fractions	Week 6 1 week 6 steps	5&6_LS13 – Fraction reasoning 2 (multiplying and dividing with fractions)
Measurement	Week 7 1 week 4 steps	5&6_LS14 – Volume
Ratio and proportion	Week 8 1 week 5 steps	5&6_LS15 – Proportional reasoning 2 (ratio and scaling)
Geometry	Week 9 – 10 2 weeks 10 steps	5&6_LS16 – Positional reasoning (angles and translation)

Summer

Statistics	Week 1 1 week 5 steps	5&6_LS17 – Statistical reasoning 1
Number, measurement and revision	Week 2 – 3 2 weeks 7 steps	5&6_LS18 – Roman Numerals, time and revision
Fractions (including decimals and percentages)		6LS23 – <i>Fractions, decimals, and percentages problem-solving (optional learning sequence – further rehearsal of previously taught content)</i>
		Any remaining time before SATs should be used to consolidate key learning.
Fractions (including decimals and percentages) and statistics	1 Week 4 Steps	5&6_LS19 – Proportional reasoning 3
Statistics	1 Week 4 Steps	5&6_LS20 – Statistical reasoning 2
Measurement and algebra	1 Week 5 Steps	5&6_LS21 – Measures and describing patterns
Multiplication and division	1 Week 5 Steps	5&6LS22 – Transition and high-value learning
Addition, subtraction, multiplication and division	1 Week 4 Steps	5LS35 – Solving problems involving the four operations Year 5 focus but appropriate for Year 5 & Year 6
All domains	1 Week 7 Steps	6LS35 – Financial maths and enterprise Year 6 focus but appropriate for Year 5 & Year 6