The Ribblesdale Federation of Schools

Maths Curriculum Handbook

(Updated for 2023 -2024 Curriculum)

Maths

Intent

We want pupils to:

-use and understand a wide range of appropriate mathematical language to discuss, explain and justify their mathematical thinking and reasoning.

-explore and deepen their mathematical understanding through a C-P-A approach, allowing exploration, acquisition of fluency skills and application of skills to a range of problems and lines of enquiry.

-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.

-move fluently between different representations of mathematical ideas.

-reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.

-make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems.

-apply mathematical knowledge across the curriculum in science and other subjects relating mathematical knowledge and skills to real life situations.

-access challenges of rich and sophisticated problems when they grasp fluency concepts rapidly rather than progressing to new content.

-consolidate learning and concepts through repetition and intervention to acquire sound foundations for fluency of mathematics.

-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.

Pupils with SEND

Teachers will set high expectation for every pupil (including those with SEND) to teach them a full curriculum whatever their prior attainment. Teachers will use a range of strategies and resources to address the various needs in their classes. Children will have free access to resources to support their maths learning. All children should be encouraged to use concrete resources as well as exposure to a range of pictorial strategies to help embed concepts. In addition, pupils will have access to different prompts including place value charts, number lines, 100 squares and multiplication facts that will support their learning. Teaching assistants may be used to support pupils with additional needs. They will support pupils using a range of strategies and encourage pupils to use equipment independently. Mathematical vocabulary will be a key focus and pupils will be encouraged to use this language confidently through the use of sentence stems. Adults will support pupils in discussing mathematical errors/misconceptions to prevent pupils becoming inhibited by fear of making mistakes.

Implementation

At the Ribblesdale Federation of schools, we use the mastery scheme ‘White Rose Maths’. Lessons and activities are designed to be a mixture of fluency practice and problem solving and reasoning to encourage pupils higher level thinking. The focus is on working the pupils’ core competencies, building on what they know to develop their relational understanding. Tasks and activities are designed to be easy for the pupils to enter while still containing challenging parts (low threshold high ceiling). The questions and examples are carefully varied by experts to encourage pupils to think about the maths. Rather than provide mechanical repetition, the examples are designed to deepen pupils’ understanding and reveal misconceptions. Children are challenged through enrichment not acceleration and teachers use a range of suitable additional resources to support the teaching of mastery maths.

In addition, EYFS, Year 1 and Year 2 take part in daily programme called ‘Mastering number’. This project aims to secure firm foundations in the development of good number sense for all children from Reception through to Year 1 and Year 2. The aim over time is that children will leave KS1 with fluency in calculation and a confidence and flexibility with number. Attention will be given to key knowledge and understanding needed in Reception classes, and progression through KS1 to support success in the future.

To support with the learning of key facts in Key Stage 2, we follow a programme called “Times tables with Claire Christie”. This daily programme supports children with the learning of multiplication and division facts that will be essential knowledge as they move through the KS2 curriculum and beyond. Fluency in number arithmetic is developed consistently across the schools by all teachers and is an effective strategy in facilitating achievement for all.

Impact

The impact of our mathematics curriculum is that children understand the relevance and importance of what they are learning in relation to real world concepts. Children know that maths is a vital life skill that they will rely on in many areas of their daily life. Children have a positive view of maths due to learning in an environment where maths is promoted as being an exciting and enjoyable subject in which they can investigate and ask questions; they know that it is reasonable to make mistakes because this can strengthen their learning through the journey to finding an answer. Children are confident to ‘have a go’ and choose the equipment they need to help them to learn along with the strategies they think are best suited to each problem. Our children have a good understanding of their strengths and targets for development in maths and what they need to do to improve. Our maths books evidence work of a high standard of which children clearly take pride; the components of the teaching sequences demonstrate good coverage of fluency, reasoning and problem solving. Our feedback and interventions support children to strive to be the best mathematicians they can be, ensuring a high proportion of children are on track or above. All teachers use a range of assessment to ensure children are making progress and swiftly identify when they are not. This includes ongoing teacher assessment, end of unit assessment using the White Rose Materials and termly NFER test. All pupils including Pupil premium and children with SEND are tracked through regular and robust Pupils Progress meetings. This is an opportunity for teachers and senior leaders to discuss how children’s needs are being met or suggestions for next steps to support pupils. Our school standards are high, we moderate our books both internally and externally and children are achieving well.

Contents

Math's Long-term plan 2023-2024 (Based on White Rose Maths Units)

YEAR GROUP	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
Reception	.Match, sort, compare (WRM) Talk about pattern (WRM)	Circles and Triangles (WRM) Shapes with four sides (WRM)	Mass and Capacity (WRM) Length, Height and time (WRM)	Exploring 3D Shapes (WRM)	Manipulate compose and decompose (WRM)	Visualise, build and map (WRM)
Year 1	Place Value within 10	Addition and Subtraction Shape	Place Value within 20 Addition and subtraction	Place value within 50 Length and Height Mass and Volume	Multiplication and Division Fractions Position and direction	Place value within 100 Measurement (Money) Measurement (Time) Consolidation
Year 2	Place Value Addition and Subtraction	Addition and Subtraction Shape	Money Multiplication and division	Height and length Mass, Capacity and temperature.	Fractions Time Statistics	Position and direction Consolidation

YEAR GROUP	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
Year 3	Place Value Addition and Subtraction	Addition and Subtraction Multiplication and division A	Multiplication and division B Length and Perimeter	Fractions A Mass and Capacity	Fractions B Time Statistics	Money Shape
Year 4	Place Value Addition and Subtraction	Area Multiplication and division A	Multiplication and Division B Length and Perimeter	Fractions Decimals A	Decimals B Money Time	Shape Statistics Position and direction
Year 5	Place Value Addition and Subtraction	Multiplication and Division A Fractions	Multiplication and division B Fractions B	Decimals and percentages Area and Perimeter Statistics	Shape Position and direction Decimals	Negative numbers Converting units Volume
Year 6	Place Value Four operations	Four operations Fractions A and B Converting units	Ratio Algebra Decimals	Fractions Decimals and Percentages Area, Perimeter Volume Statistics	Shape Position and Direction Consolidation	Consolidation Preparation for secondary school.

Reception- Spatial awareness

3 and 4 year olds	Reception
Compare quantities using language: ‘more than’, ‘fewer than’, • Understand position through words alone – for example, “The bag is under the table,” – with no pointing. • Describe a familiar route. • Discuss routes and locations, using words like ‘in front of’ and ‘behind’.	Select, rotate and manipulate shapes in order to develop spatial reasoning skills.
Autumn 1, Autumn 2 Spring 1 Summer 2	

Reception- Shape

3 and 4 year olds	Reception
Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language: ‘sides’, ‘corners’, ‘straight’, ‘flat’, ‘round’. • Select shapes appropriately: flat surfaces for building, a triangular prisms for a roof, etc. • Combine shapes to make new ones – an arch, a bigger triangle, etc.	Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can.
Autumn 2, Autumn 2 Spring 2	

Reception- Pattern

3 and 4 year olds	Reception
Talk about and identify the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. Use informal language like ‘pointy’, ‘spotty’, ‘blobs’, etc. • Extend and create ABAB patterns – stick, leaf, stick, leaf. • Notice and correct an error in a repeating pattern.	Continue, copy and create repeating patterns.
Autumn 2 Spring 6	

Reception- Measures

3 and 4 year olds	Reception
Make comparisons between objects relating to size, length, weight and capacity. • Begin to describe a sequence of events, real or fictional, using words such as ‘first’, ‘then…’	• Compare length, weight and capacity.
Autumn 2 Spring 2, Spring 4 Summer 5	

Place Value: Count

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number • Count numbers to 100 in numerals; count in multiples of twos, fives and tens	• count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward	count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number	• count in multiples of 6, 7, 9, 25 and 1000 • count backwards through zero to include negative numbers	count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 • count forwards and backwards with positive and negative whole numbers, including through zero	Consolidation of previous year groups.
Autumn 1 Spring 1 Spring 3 Summer 4	Autumn 1	Autumn 1 Autumn 3	Autumn 1 Autumn 4	Autumn 1 Summer 4	

Place Value: Represent

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
• identify and represent numbers using objects and pictorial representations • read and write numbers to 100 in numerals ➢ • read and write numbers from 1 to 20 in numerals and words	➢ 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	• identify, represent and estimate numbers using different representations ➢ read and write numbers up to 1000 in numerals and in words	➢ 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	➢ 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 Ro	➢ read, write, (order and compare) numbers up to 10 000 000 and determine the value of each digit
Autumn 1 Spring 1 Spring 3 Summer 4	Autumn 1	Autumn 1	Autumn 1	Autumn 1	Autumn 1

Place Value: Use and Compare

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
➢ given a number, identify one more and one less	➢ 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	➢ • recognise the place value of each digit in a three-digit number (hundreds, tens, ones) ➢ compare and order numbers up to 1000	➢ find 1000 more or less than a given number • recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) ➢ order and compare numbers beyond 1000	➢ (read, write) order and compare numbers to at least 1 000 000 and determine the value of each digit	➢ (read, write), order and compare numbers up to 10 000 000 and determine the value of each digit
Autumn 1 Spring 1 Spring 3 Summer 4	Autumn 1	Autumn 1	Autumn 1	Autumn 1	Autumn 1

Place Value: Problems/Rounding

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
➢	➢ use place value and number facts to solve problems	➢ • solve number problems and practical problems involving these ideas	➢ • 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	➢ interpret negative numbers in context • ➢ round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000 ➢ solve number problems and practical problems that involve all of the above	➢ round any whole number to a required degree of accuracy ➢ use negative numbers in context, and calculate intervals across zero ➢ solve number and practical problems that involve all of the above
	Autumn 1	Autumn 1	Autumn 1	Autumn 1	Autumn 1

Addition and Subtraction: Calculations

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
➢ add and subtract one-digit and two digit numbers to 20, including zero	➢ add and subtract numbers using concrete objects, pictorial representations, and mentally, including: ➢ a two-digit number and ones ➢ a two-digit number and tens Ø two two-digit numbers ➢ adding three one digit numbers	➢ add and subtract numbers mentally, including: ➢ a three-digit number and ones ➢ a three-digit number and tens ➢ a thee-digit number and hundreds • add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction	➢ • add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate	➢ add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) ➢ add and subtract numbers mentally with increasingly large numbers	➢ perform mental calculations, including with mixed operations and large numbers ➢ use their knowledge of the order of operations to carry out calculations involving the four operations

	Autumn 2	Autumn 2	Autumn 2	Autumn 2	Autumn 2

Addition and Subtraction: Calculations

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
➢ add and subtract one-digit and two digit numbers to 20, including zero	➢ 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 two-digit numbers ➢ adding three one digit numbers	➢ add and subtract numbers mentally, including: ➢ a three-digit number and ones ➢ a three-digit number and tens ➢ a thee-digit number and hundreds • add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction	➢ • add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate	➢ add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) ➢ add and subtract numbers mentally with increasingly large numbers	➢ perform mental calculations, including with mixed operations and large numbers ➢ use their knowledge of the order of operations to carry out calculations involving the four operations
	Autumn 2	Autumn 2	Autumn 2	Autumn 2	Autumn 2

Addition and Subtraction: Problems

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
• solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = c – 9	• 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	• solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction	• solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why	• solve addition and subtraction multistep 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	• solve addition and subtraction multistep problems in contexts, deciding which operations and methods to use and why
Autumn 2 Spring 2	Autumn 2	Autumn 2	Autumn 2	Autumn 2	Autumn 2

Addition and Subtraction: Number facts

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
• Develop fluency in addition and subtraction facts within 10	Secure fluency in addition and subtraction facts within 10, through continued practice.	• Secure fluency in addition and subtraction facts that bridge 10, through continued practice	• Consolidation through scheme	• Consolidation through scheme	• Consolidation through scheme
Autumn 2 Spring 2	Autumn Block 2	Autumn Block 2			

Multiplication & Division: Recall/ Use

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
•	• recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers • show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot	• recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables	• 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 • recognise and use factor pairs and commutativity in mental calculations	• identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers • know and use the vocabulary of prime numbers, prime factors and composite (nonprime) numbers • establish whether a number up to 100 is prime and recall prime numbers up to 19	• identify common factors, common multiples and prime numbers • use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy

				• recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3	
	Spring 2	Autumn 3 Spring 1	Autumn 4 Spring 1	Autumn 3	Autumn 2

Multiplication and Division: Calculations

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
•	calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs	• write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two digit numbers times one-digit numbers, using mental and progressing to formal written methods	• multiply two-digit and three-digit numbers by a one digit number using formal written layout	• multiply numbers up to 4 digits by a one- or two digit number using a formal written method, including long multiplication for two-digit numbers • multiply and divide numbers mentally drawing upon known facts • divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders	• 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

				appropriately for the context • multiply and divide whole numbers and those involving decimals by 10, 100 and 1000	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
	Spring 2	Autumn 2 Spring 1	Spring 1	Autumn 2 Spring 1	Autumn 2

Multiplication and Division: Problems

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
• solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher	• solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts	• solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects	• solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects	• solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes • solve problems involving multiplication and division, including scaling by simple fractions and problems involve	• solve problems involving addition, subtraction, multiplication and division
Summer 1	Spring 2	Spring 1	Spring 1	Autumn 2 Spring 1	Autumn 2

Multiplication and Division: Combined

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
•		•	•	• solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign	• use their knowledge of the order of operations to carry out calculations involving the four operations
				Spring 1	Autumn 2

Fractions: Recognise and Write

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
• recognise, find and name a half as one of two equal parts of an object, shape or quantity • recognise, find and name a quarter as one of four equal parts of an object, shape or quantity	recognise, find, name and write fractions 1/3, ¼, 2/4, 3/4 and of a length, shape, set of objects or quantity	• 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 • 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	count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten	identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, 2/5 + 4/5 = 6/5 = 1 1/5	Consolidation

		fractions with small denominators			
Summer 2	Summer 1	Spring 2	Spring 2 Summer 1	Autumn	Autumn 2

Fractions: Compare

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
•	Recognise the equivalence of 2/4 and 1/2	recognise and show, using diagrams, equivalent fractions with small denominators • compare and order unit fractions, and fractions with the same denominators	• recognise and show, using diagrams, families of common equivalent fractions	• compare and order fractions whose denominators are all multiples of the same number	• use common factors to simplify fractions; use common multiples to express fractions in the same denomination • compare and order fractions, including fractions > 1
	Summer 1	Spring 2	Spring 2	Autumn 2	Autumn 2

Fractions: Calculations

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
•	write simple fractions for example, 1/2 of 6 = 3	add and subtract fractions with the same denominator within one whole [for example, 5/7 + 1/7 = 6/7	• add and subtract fractions with the same denominator	• add and subtract fractions with the same denominator and denominators that are multiples of the same number • multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams	add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions • multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, ¼ x ½ = 1/8] • divide proper fractions by whole numbers [for example 1/3 /2= 1/6]
	Summer 1	Summer 1	Spring 3	Autumn 4 Spring 2	Autumn 2

Fractions: Solve Problems

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
•		• solve problems that involve all of the above	• solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number	•	
		Spring 2 Summer 1	Spring 2		

Decimals: Recognise, write, compare

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
•			recognise and write decimal equivalents of any number of tenths or hundredths • recognise and write decimal equivalents ¼, ½, 3/4 • 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	• read and write decimal numbers as fractions [for example, 0.71 = 71/100 • recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents • 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

			Spring 4 Summer 1	Spring 3 Summer 3	Spring 3

Fractions, decimals and percentages

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
•			solve simple measure and money problems involving fractions and decimals to two decimal places	recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal • solve problems which require knowing percentage and decimal equivalents of ½, ¼, 1/5, 2/5, 4/5 and those fractions with a denominator of a multiple of 10 or 25	associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, 3/8] • recall and use equivalences between simple fractions, decimals and percentages, including in different contexts
			Spring 3 Spring 4 Summer 1	Spring 3	Spring 3 Spring 4

Ratio and proportion

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
•					solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts • solve problems involving the calculation/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
					Spring 1

Algebra

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
• solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = c – 9	recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems				• 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
					Spring 2

Using measures

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
• compare, describe and solve practical problems for: ➢ lengths and heights ➢ mass/weight ➢ capacity and volume time •measure and begin to record the following: ➢ lengths and heights ➢ mass/weight ➢ capacity and volume ➢ time (hours, minutes, seconds)	choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels • compare and order lengths, mass, volume/capacity and record the results using >, < and =	measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)	Convert between different units of measure [for example, kilometre to metre; hour to minute] • estimate, compare and calculate different measures	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 • 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 3 d.p. 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 to up to 3 d.p. • convert between miles and kilometres
Spring 4 Spring 5 Summer 6	Spring 3 Spring 4	Spring 2 Spring 4		Spring 4 Summer 5 Summer 6	Autumn 5

Money

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
• recognise and know the value of different denominations of coins and notes	recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value • find different combinations of coins that equal the same amounts of money • solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change	add and subtract amounts of money to give change, using both £ and p in practical contexts	• estimate, compare and calculate different measures, including money in pounds and pence	use all four operations to solve problems involving measure [for example, money]	
Summer 5	Spring 1	Summer 2	Summer 2	Summer 3	

Money

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
• recognise and know the value of different denominations of coins and notes	recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value • find different combinations of coins that equal the same amounts of money • solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change	add and subtract amounts of money to give change, using both £ and p in practical contexts	• estimate, compare and calculate different measures, including money in pounds and pence	use all four operations to solve problems involving measure [for example, money]	
Summer 5	Spring 1	Summer 2	Summer 2	Summer 3	

Time

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
• 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	• 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 face to show these times • know the number of minutes in an hour and the number of hours in a day	• 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 vocabulary such as o'clock, 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]	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	• solve problems involving converting between units of time	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

Summer 6	Summer 2	Summer 3	Summer 3	Summer 5	Autumn 5

Perimeter, area, volume

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		• measure the perimeter of simple 2-D shapes	measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres • find the area of rectilinear shapes by counting squares	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 [for example, using blocks to build cuboids] and capacity [for example, using water]	• 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 and triangles • 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
		Spring 2	Autumn 3 Spring 2	Spring 4 Summer 6	Spring 5

2-D Shapes

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
recognise and name common 2-D shapes [for example, rectangles (including squares), circles and triangles]	identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line • identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid] • compare and sort common 2-D shapes and everyday objects	• draw 2-D shapes	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	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	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
Autumn 3	Autumn 3	Summer 4	Summer 4	Summer 1	Summer 1

3D- Shapes

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
• recognise and name common 3-D shapes [for example, cuboids (including cubes), pyramids and spheres	• 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	make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them		• identify 3-D shapes, including cubes and other cuboids, from 2-D representations	recognise, describe and build simple 3-D shapes, including making nets
Autumn 3	Autumn 3	Summer 4		Summer 1	Summer 1

Angles and lines

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		recognise angles as a property of shape or a description of a turn • 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	• identify acute and obtuse angles and compare and order angles up to two right angles by size • 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	• know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles • draw given angles, and measure them in degrees • identify: ➢ angles at a point and one whole turn (total 360°) ➢ angles at a point on a straight line and 1/2 a turn (total 180°) ➢ other multiples of 90°	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
		Summer 4	Summer 4	Summer 1	Summer 1

Position and direction

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
• describe position, direction and movement, including whole, half, quarter and three-quarter turns	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)		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	• 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
Summer 3	Summer 4		Summer 6	Summer 2	Summer 2

Present and interpret data

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	interpret and construct simple pictograms, tally charts, block diagrams and simple tables	interpret and present data using bar charts, pictograms and tables	interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs	complete, read and interpret information in tables, including timetables	interpret and construct pie charts and line graphs and use these to solve problems
	Summer 3	Summer 5	Summer 5	Spring 5	Spring 6

Solve statistical data

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity • ask and answer questions about totalling and comparing categorical data	solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables	• solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs	solve comparison, sum and difference problems using information presented in a line graph	calculate and interpret the mean as an average
	Summer 3	Summer 5	Summer 5	Spring 5	Spring 6

Reception Mastering number

Term 1	Term 2	Term 3
Pupils will build on previous experiences of number from their home and nursery environments, and further develop their subitising and counting skills. They will explore the composition of numbers within 5. They will begin to compare sets of objects and use the language of comparison. **Pupils will:** • identify when a set can be subitised and when counting is needed • subitise different arrangements, both unstructured and structured, including using the Hungarian number frame • make different arrangements of numbers within 5 and talk about what they can see, to develop their conceptual subitising skills • spot smaller numbers 'hiding' inside larger numbers connect quantities and numbers to finger patterns and explore different ways of representing numbers on their fingers • hear and join in with the counting sequence, and connect this to the 'staircase' pattern of the counting numbers, seeing that each number is made of one more than the previous number • develop counting skills and knowledge, including: that the last number in the count tells us 'how many' (cardinality); to be accurate in counting, each thing must be counted once and once only and in any order; the need for 1:1 correspondence;	Pupils will continue to develop their subitising and counting skills and explore the composition of numbers within and beyond 5. They will begin to identify when two sets are equal or unequal and connect two equal groups to doubles. They will begin to connect quantities to numerals. **Pupils will:** • continue to develop their subitising skills for numbers within and beyond 5, and increasingly connect quantities to numerals • begin to identify missing parts for numbers within 5 • explore the structure of the numbers 6 and 7 as '5 and a bit' and connect this to finger patterns and the Hungarian number frame • focus on equal and unequal groups when comparing numbers understand that two equal groups can be called a 'double' and connect this to finger patterns • sort odd and even numbers according to their 'shape' • continue to develop their understanding of the counting sequence and link cardinality and ordinality through the 'staircase' pattern • order numbers and play track games	Pupils will consolidate their counting skills, counting to larger numbers and developing a wider range of counting strategies. They will secure knowledge of number facts through varied practice. **Pupils will:** • continue to develop their counting skills, counting larger sets as well as counting actions and sounds • explore a range of representations of numbers, including the 10-frame, and see how doubles can be arranged in a 10-frame • compare quantities and numbers, including sets of objects which have different attributes • continue to develop a sense of magnitude, e.g. knowing that 8 is quite a lot more than 2, but 4 is only a little bit more than 2 begin to generalise about 'one more than' and 'one less than' numbers within 10 • continue to identify when sets can be subitised and when counting is necessary • develop conceptual subitising skills including when using a rekenrek

understanding that anything can be counted, including actions and sounds • compare sets of objects by matching • begin to develop the language of ‘whole’ when talking about objects which have parts	• join in with verbal counts beyond 20, hearing the repeated pattern within the counting numbers	

Year 1 Mastering number

Term 1	Term 2	Term 3
Pupils will have an opportunity to consolidate the Early Learning Goals and continue to explore the composition of numbers within 10, and the position of these numbers in the linear number system. **Pupils will:** • subitise within 5, including when using a rekenrek, and re-cap the composition of 5 • develop their understanding of the numbers 6 to 9 using the '5 and a bit' structure • compare numbers within 10 and use precise mathematical language when doing so • re-cap the order of numbers within 10 and connect this to '1 more' and '1 less' than a given number • explore the structure of even numbers (including that even numbers can be composed by doubling any number, and can be composed of 2s) • explore the structure of the odd numbers as being composed of 2s and 1 more • explore the composition of each of the numbers 6, 8, and 10 • explore number tracks and number lines and iden	Pupils will continue to explore the composition of numbers within 10 and explore addition and subtraction structures and the related language (without the use of symbols). **Pupils will:** • explore the composition of each of the numbers 7 and 9 • explore the composition of odd and even numbers, seeing that even numbers can be made of two odd or two even parts, and that odd numbers can be composed of one odd part and one even part • identify the number that is two more or two less than a given odd or even number, identifying that two more/ less than an odd number is the next/ previous odd number, and two more/ less than an even number is the next/ previous even number • explore the aggregation and partitioning structures of addition and subtraction through systematically partitioning and re-combining numbers within 10 and connecting this to the part-part-whole diagram, including using the language of parts and wholes • explore the augmentation and reduction structures of addition and reduction using number stories, including introducing the 'first, then, now' language structure	Pupils will explore the composition of numbers within 20 and their position in the linear number system. They will connect addition and subtraction expressions and equations to 'number stories'). **Pupils will**: • explore the composition of the numbers 11 to 19 as '10 and a bit' and compare numbers within 20 • connect the composition of the numbers 11 to 19 to their position in the linear number system, including identifying the midpoints of 5, 10 and 15 • compare numbers within 20 • understand how addition and subtraction equations can represent previously explored structures of addition and subtraction (aggregation/ partitioning/ augmentation/ reduction) • practise retrieving previously taught facts and reason about these

Year 2 Mastering number

Term 1	Term 2	Term 3
Pupils will have an opportunity to consolidate their understanding and recall of number bonds within 10; they will re-cap the composition of the numbers 11 to 20 and reason about their position within the linear number system. **Pupils will:** • review the composition of the numbers 6 to 9 as '5 and a bit' • compare numbers using the language of comparison and use the symbols < > = • review the structure of even numbers (including exploring how even numbers can be composed of two odd parts or two even parts) and the composition of each of 6, 8 and 10 • review the structure of odd numbers (including exploring how odd numbers can be composed of one odd part and one even part) and the composition of each of 7 and 9 •consolidate their understanding of the numbers 10 and 20 as '10 and a bit' • consolidate their understanding of the linear number system to 20 and reason about midpoints	Pupils will have an opportunity to use their knowledge of the composition of numbers within 10 to calculate within 20; they will explore the links between the numbers in the linear number system within 10 to numbers within 100, focusing on multiples of 10 and the midpoint of 50. **Pupils will:** • explore how the numbers 6 to 9 can be doubled using the '5 and a bit' and '10 and a bit' structure • use doubles to calculate near doubles • use bonds of 10 to reason about bonds of 20, in which the given addend is greater than 10 • use known number bonds within 10 to calculate within 20, working within the 10-boundary •use their knowledge of bonds of 10 to find three addends that sum to 10 • use their knowledge of the composition of numbers within 20 to add and subtract across the 10-boundary • use their understanding of the linear number system to 10 to position multiples of 10 on a 0 - 100 number line and reason about midpoints	Pupils will have further opportunities to use their knowledge of the composition of numbers within 10 to calculate within 20 and to reason about equations and inequalities. **Pupils will:** • continue to explore a range of strategies to subtract across the 10-boundary • review bonds of 20 in which the given addend is greater than 10, and reason about bonds of 20, in which the given addend is less than 10 • practise previously explored strategies to support their reasoning about inequalities and equations • review doubles and near doubles and transform additions in which two addends are adjacent odd/ even numbers into doubles • consolidate previously taught facts and strategies through continued, varied practice

Times tables programme overview 2023/24 and onwards Year 3

2023-24	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7
Term 1	Use appropriate numberblocks videos Consolidate addition and subtraction facts	Use appropriate numberblocks videos Consolidate addition and subtraction facts	Use appropriate numberblocks videos Consolidate addition and subtraction facts	Use appropriate numberblocks videos Consolidate addition and subtraction facts	Use appropriate numberblocks videos Consolidate addition and subtraction facts	Use appropriate numberblocks videos Consolidate addition and subtraction facts	Use appropriate numberblocks videos Consolidate addition and subtraction facts
Term 2	Double 1 - double 5, & double 10	Add in double 6	Add in double 7	Add in double 8	Add in double 9	Double 1-double 10	Intro lesson: x2 S5 Two times shoe shop 2 times table (multiplier first)
Term 3	Intro lesson: commutative 2 times table (multiplier first or second)	Intro lesson: division S4 Terrible Twosday 2 times table (division facts added in)	2 times table	2 times table	2 times table		
Term 4	2 times table	Intro lesson: x5 S5 Sky high fives 5 times table (2x5	5 times table (2x5 to 6x5)	5 times table (7x5 to 9x5)	5 times table (7x5 to 9x5)	5 times table all	

		to 6x5)					
Term 5	5 times table all	5 times table & 2 times table	5 times table & 2 times table	5 times table & 2 times table	5 times table & 2 times table	5 times table & 2 times table	
Term 6	Intro lesson: squares S4 We're going on a square hunt S5 Square on the moon Squares (1x1 to 6x6)	Squares (7x7 to 10x10)	Squares all, 5 times table and 2 times table	Squares all, 5 times table and 2 times table	Squares all, 5 times table and 2 times table	Squares all, 5 times table and 2 times table	Squares all, 5 times table and 2 times table

Times tables programme overview 2023/24 and onwards Year 4

2023-24	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7
Term 1	Recap Year 3	Recap Year 3	Recap Year 3	Intro lesson: x3 3 times table	S4 Divide and drive 3 times table	3 times table	3 times table plus previously learnt
Term 2	3 times table plus previously learnt	3 times table plus previously learnt	Intro lesson: x4 4 times table	4 times table	4 times table	4 times table plus previously learnt	4 times table plus previously learnt
Term 3	Intro lesson: x6 6 times table	6 times table	6 times table plus previously learnt	6 times table plus previously learnt	Intro lesson: x7 7 times table		
Term 4	7 times table plus previously learnt	7 times table plus previously learnt	Intro lesson: x8/9 8 and 9 times table	8 and 9 times table	All facts to 9x9	All facts to 9x9	
Term 5	9x9 practice for some All in MTC for some	9x9 practice for some All in MTC for some	9x9 practice for some All in MTC for some	9x9 practice for some All in MTC for some	9x9 practice for some All in MTC for some	9x9 practice for some All in MTC for some	

Term 6	All in MTC	All in MTC	All in MTC	All in MTC	All in MTC	All in MTC	All in MTC

Times tables programme overview 2023/24 and onwards Year 5/6

2023-24	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7
Term 1	Re-cap on all tables.	Re-cap on all tables.	Re-cap on all tables.	Re-cap on all tables.	Re-cap on all tables.	Re-cap on all tables.	Re-cap on all tables.
Term 2	Multiply and dividing whole numbers by 10, 100, 1000	Multiply and dividing whole numbers by 10, 100, 1000	Multiply and dividing whole numbers by 10, 100, 1000	Multiply and dividing decimal numbers 10,100,1000	Multiply and dividing decimal numbers 10,100,1000	Multiply and dividing decimal numbers 10,100,1000	Multiply and dividing decimal numbers 10,100,1000
Term 3	Revision of all x tables; mixed up, using related multiples of 10/100/1000 Eg. 20x4 4x600 70x50	Revision of all x tables; mixed up, using related multiples of 10/100/1000 Eg. 20x4 4x600 70x50	Revision of all x tables; mixed up, using related multiples of 10/100/1000 Eg. 20x4 4x600 70x50	Revision of all x tables; mixed up, using related multiples of 10/100/1000 Eg. 20x4 4x600 70x50	Revision of all x tables; mixed up, using related multiples of 10/100/1000 Eg. 20x4 4x600 70x50		
Term 4	Revision of all tables using whole and decimal numbers.	Revision of all tables using whole and decimal numbers.	Revision of all tables using whole and decimal numbers.	Revision of all tables using whole and decimal numbers.	Revision of all tables using whole and decimal numbers.	Revision of all tables using whole and decimal numbers.	

Term 5	Revision of arithmetic	Revision of arithmetic	Revision of arithmetic	Revision of arithmetic	Revision of arithmetic	Revision of arithmetic	
Term 6	Revision of arithmetic	Revision of arithmetic	Revision of arithmetic	Revision of arithmetic	Revision of arithmetic	Revision of arithmetic	Revision of arithmetic