Knypersley First School

Progressive Mathematics curriculum

Mathematics

0-3 year olds (Pre –Nursery)

Typically 0-12 months	Typically 1 to 2 years	Typically 2-3 years
- Combine objects like stacking blocks and cups. - Put objects inside others and take them out again. - Climb and squeezing selves into different types of spaces. - Build with a range of resources	- React to changes of amount in agroup of up to three items • Counting-like behaviour, such as making sounds, pointing or saying some numbers in sequence. • Complete inset puzzles.	- Take part in finger rhymes with numbers - Compare amounts, saying 'lots', 'more' or 'same'. - Count in everyday contexts, sometimes skipping numbers - '1-2-3-5.' - Notice patterns and arrange things in patterns.

Mathematics		
3- 4 year olds (Nursery)		
Autumn –	**Spring –**	**Summer –**
• Show 'finger numbers' up to 5. • Talk about and identifies the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. Use informal language like 'pointy', 'spotty', 'blobs' etc • Understand position through words alone – for example, "The bag is under the table," – with no pointing. • Select shapes appropriately: flat surfaces for building, a triangular prism for a roof etc. • Name and recognise some 2D shapes (added to support Spring term not an official statement). •	• say one number for each item in order: 1,2,3,4,5. • Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5 • Experiment with their own symbols and marks as well as numerals. • Discuss routes and locations, using words like 'in front of' and 'behind'. • Talk about and explore 2D using informal and mathematical language: 'sides', 'corners'; 'straight', 'flat', 'round'. • • Extend and create ABAB patterns – stick, leaf, stick, leaf. • Recite numbers past 5	• Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle'). • Combine shapes to make new ones – an arch, a bigger triangle etc. • Talk about and explore 3D using informal and using informal and mathematical language: 'sides', 'corners'; 'straight', 'flat', 'round'. • Notice and correct an error in a repeating pattern • Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then'. • Solve real world mathematical problems with numbers up to 5. • Compare quantities using language: 'more than', 'fewer than' • Describe a familiar route • Fast recognition of up to 3 objects, without having to count them individually ('subitising'). • Make comparisons between objects relating to size, length, weight and capacity

Mathematics		
Reception Year *Taken from NCETM Mastering Number		
Autumn -	**Spring -**	**Summer –**
- Counts objects, actions and sounds (up to 5). - Link numeral with its cardinal number value. - Subitise (up to 5). - Understand the 'one more than relationship between consecutive numbers - Explore composition (within 5) - Compare sets of objects by matching. - Select, rotate and manipulate shapes in order to develop spatial reasoning skills - Compare lengths, weight and capacity - Continue, copy and compare patterns	- Count beyond ten - Verbally count beyond 20, recognising the pattern of the counting system. - Subitise (within and beyond 5). - Understand the 'one more than/ one less than' relationship between consecutive numbers - Explore composition of numbers to 10 - Compare numbers - Atomically recall number bonds for numbers 0-5. - Understand that two equal groups can be called a double and connect this to finder patterns. - Sort odd and even numbers according to their shape. - Compose and decompose shapes so that children recognise a shape canhave other shapes within it, just as numbers can.	- Counts objects, actions and sounds - Compare quantities up to 10 in different contexts, recognising one quantity is greater than, less than orthe same as another. (ELG) - Have a deep understanding of numbers to 10, including the composition of each number (ELG) - Atomically recall number bonds for numbers 0-5 and some to 10. - Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds up to 10, including double facts (ELG) - Explore and represent patterns within numbers up to 10, including evens, odds, double facts and how quantities can be distributed equally. (ELG)

Number ELG	Numerical Patterns ELG
Have a deep understanding of number to 10, including the composition of each number. Subitise (recognise quantities without counting) up to 5. Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts.	Verbally count beyond 20, recognising the pattern of the counting system. Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity. Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.

Place value

Place value: Count

Year 1	Year 2	Year 3	Year 4
• 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
Autumn 1 Spring 1 Spring 3 Summer 4	Autumn 1	Autumn 1 Autumn 3	Autumn 1 Autumn 4

Note – In the WRM schemes, negative numbers are introduced in Year 5

Place value: Represent

Year 1	Year 2	Year 3	Year 4
• 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
Autumn 1 Spring 1 Spring 3 Summer 4	Autumn 1	Autumn 1	Autumn 1

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Place value: Use and compare

Year 1	Year 2	Year 3	Year 4
• 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
Autumn 1 Spring 1 Spring 3 Summer 4	Autumn 1	Autumn 1	Autumn 1

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Place value: Problems/Rounding

Year 1	Year 2	Year 3	Year 4
	• 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
	Autumn 1	Autumn 1	Autumn 1

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Year 1 RTP Place value

Ready to progress criteria	Block	Steps
1NPV-1 Count within 100, forwards and backwards, starting with any number.	Autumn 1	6 – Count on from any number 8 – Count backwards within 10
	Spring 1	1 – Count within 20
	Spring 3	1 – Count from 20 to 50 3 – Count by making groups of tens
	Summer 4	1 – Count from 50 to 100
1NPV-2 Reason about the location of numbers to 20 within the linear number system, including comparing using < > and =	Autumn 1	11 – Fewer, more, same 12 – Less than, greater than, equal to 13 – Compare numbers 14 – Order objects and numbers 15 – The number line
	Spring 1	8 – The number line to 20 9 – Use a number line to 20 11 – Compare numbers to 20 12 – Order numbers to 20
	Spring 3	6 – The number line to 50

Year 2 RTP Place value

Ready to progress criteria	Block	Steps
2NPV-1 Recognise the place value of each digit in two-digit numbers, and compose and decompose two-digit numbers using standard and non-standard partitioning.	Autumn 1	3 – Recognise tens and ones 4 – Use a place value chart 5 – Partition numbers to 100 7 – Flexibly partition numbers to 100 8 – Write numbers in expanded form
2NPV-2 Reason about the location of any two-digit number in the linear number system, including identifying the previous and next multiple of 10	Autumn 1	9 – 10s on the number line to 100 10 – 10s and 1s on the number line to 100 11 – Estimate numbers on the number line

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Year 3 RTP Place value

Ready to progress criteria	Block	Steps
3NPV-1 Know that 10 tens are equivalent to 1 hundred, and that 100 is 10 times the size of 10; apply this to identify and work out how many 10s there are in other three-digit multiples of 10	Autumn 1	4 – Hundreds
	Autumn 2	10 – Make connections
	Autumn 3	4 – Multiples of 5 and 10
	Spring 2	5 – Equivalent lengths (metres and centimetres) 6 – Equivalent lengths (centimetres and millimetres)
3NPV-2 Recognise the place value of each digit in three-digit numbers, and compose and decompose three-digit numbers using standard and non-standard partitioning.	Autumn 1	5 – Represent numbers to 1,000 6 – Partition numbers to 1,000 7 – Flexible partitioning of numbers to 1,000 8 – Hundreds, tens and ones
3NPV-3 Reason about the location of any three-digit number in the linear number system, including identifying the previous and next multiple of 100 and 10	Autumn 1	9 – Find 1, 10 or 100 more or less 10 – Number line to 1,000 11 – Estimate on a number line to 1,000 12 – Compare numbers to 1,000 13 – Order numbers to 1,000
3NPV-4 Divide 100 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 100 with 2, 4, 5 and 10 equal parts.	Autumn 1	10 – Number line to 1,000 11 – Estimate on a number line to 1,000 14 – Count in 50s
	Spring 2	1 – Measure in metres and centimetres 2 – Measure in millimetres 3 – Measure in centimetres and millimetres

Year 4 RTP Place value

Ready to progress criteria	Block	Steps
4NPV-1 Know that 10 hundreds are equivalent to 1 thousand, and that 1,000 is 10 times the size of 100; apply this to identify and work out how many 100s there are in other four-digit multiples of 100	Autumn 1	4 - Thousands
	Spring 1	3 – Multiply by 10 4 – Multiply by 100 5 – Divide by 10 6 – Divide by 100
4NPV-2 Recognise the place value of each digit in four-digit numbers, and compose and decompose four-digit numbers using standard and non-standard partitioning.	Autumn 1	5 – Represent numbers to 10,000 6 – Partition numbers to 10,000 7 – Flexible partitioning of numbers to 10,000
4NPV-3 Reason about the location of any four-digit number in the linear number system, including identifying the previous and next multiple of 1,000 and 100, and rounding to the nearest of each.	Autumn 1	8 – Find 1, 10, 100, 1,000 more or less 9 – Number line to 10,000 10 – Estimate on a number line to 10,000 11 – Compare numbers to 10,000 12 – Order numbers to 10,000 14 – Round to the nearest 10 15 – Round to the nearest 100 16 – Round to the nearest 1,000 17 – Round to the nearest 10,000
4NPV-4 Divide 1,000 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 1,000 with 2, 4, 5 and 10 equal parts.	Autumn 1	9 – Number line to 10,000 10 – Estimate on a number line to 10,000

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Addition and subtraction

Addition & subtraction: Calculations

Year 1	Year 2	Year 3	Year 4
• 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 three-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
Autumn 2 Spring 2	Autumn 2	Autumn 2	Autumn 2

Addition & subtraction: Problems

Year 1	Year 2	Year 3	Year 4
• solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = ☐ – 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
Autumn 2 Spring 2	Autumn 2	Autumn 2	Autumn 2

Year 1 RTP Number facts

Ready to progress criteria	Block	Steps
1NF-1 Develop fluency in addition and subtraction facts within 10	Autumn 2	5 – Number bonds within 10 6 – Systematic number bonds within 10 7 – Number bonds to 10
	Spring 2	2 – Add ones using number bonds 6 – Subtract ones using number bonds
1NF-2 Count forwards and backwards in multiples of 2, 5 and 10, up to 10 multiples, beginning with any multiple, and count forwards and backwards through the odd numbers.	See under Multiplication & division	

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Year 2 RTP Number facts

Ready to progress criteria	Block	Steps
2NF-1 Secure fluency in addition and subtraction facts within 10, through continued practice.	Autumn Block 2	1 – Bonds to 10 6 – Add by making 10 8 – Add to the next 10 11 – Subtract from a 10

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Year 3 RTP Number facts

Ready to progress criteria	Block	Steps
3NF-1 Secure fluency in addition and subtraction facts that bridge 10, through continued practice.	Autumn Block 2	6 – Add 1s across a 10 7 – Add 10s across a 100 8 – Subtract 1s across a 10 9 – Subtract 1s across a 100 13 – Add two numbers (across a 10) 14 – Add two numbers (across a 100) 15 – Subtract two numbers (across a 10) 16 – Subtract two numbers (across a 100)
3NF-2 Recall multiplication facts, and corresponding division facts, in the 10, 5, 2, 4 and 8 multiplication tables, and recognise products in these multiplication tables as multiples of the corresponding number.		See under Multiplication & division
3NF-3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10).		See under Multiplication & division

Year 1 RTP Addition & subtraction

Ready to progress criteria	Block	Steps
1AS-1 Compose numbers to 10 from 2 parts, and partition numbers to 10 into parts, including recognising odd and even numbers.	Autumn Block 2	5 – Number bonds within 10 6 – Systematic number bonds within 10 7 – Number bonds to 10
1AS-2 Read, write and interpret equations containing addition (+), subtraction (–) and equals (=) symbols, and relate additive expressions and equations to real-life contexts.	Autumn Block 2	4 – Fact families – addition facts 8 – Addition – add together 9 – Addition – add more 10 – Addition problems 11 – Find a part 12 – Subtraction – find a part 13 – Fact families – the eight facts 14 – Subtraction – take away/cross out (How many left?) 15 – Subtraction – take away (How many left?) 16 – Subtraction on a number line
	Spring Block 2	1 – Add by counting on within 20 6 – Subtract ones using number bonds 7 – Subtraction – counting back 8 – Subtraction – finding the difference 10 Missing number problems

Note – In the WRM schemes, odd and even numbers are explored both in Reception and Y2 but there is no explicit step in Y1

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Year 2 RTP Addition & subtraction

Ready to progress criteria	Block	Steps
2AS-1 Add and subtract across 10	Autumn 2	9 – Add across a 10 10 – Subtract across a 10 11 – Subtract from a 10 12 – Subtract 1-digit number from a 2-digit number (across a 10)
2AS-2 Recognise the subtraction structure of 'difference' and answer questions of the form, "How many more…?".	Spring 1	9 – Find change
2AS-3 Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract only ones or only tens to/from a two-digit number.	Autumn 2	9 – Add across a 10 10 – Subtract across a 10 11 – Subtract from a 10 12 – Subtract 1-digit number from a 2-digit number (across a 10) 13 – 10 more, 10 less 14 – Add and subtract 10s
2AS-4 Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract any 2 two-digit numbers.	Autumn 2	15 – Add two 2-digit numbers (not across a 10) 16 – Add two 2-digit numbers (across a 10) 17 – Subtract two 2-digit numbers (not across a 10) 18 – Subtract two 2-digit numbers (across a 10) 19 – Mixed addition and subtraction
	Spring 1	8 – Make a pound 9 – Find change
	Spring 3	5 – Four operations with lengths and heights

Year 3 RTP Addition & subtraction

Ready to progress criteria	Block	Steps
3AS-1 Calculate complements to 100	Autumn Block 2	19 – Complements to 100
	Summer 2	4 – Subtract money 5 – Find change
3AS-2 Add and subtract up to three-digit numbers using columnar methods.	Autumn Block 2	11 – Add two numbers (no exchange) 12 – Subtract two numbers (no exchange) 13 – Add two numbers (across a 10) 14 – Add two numbers (across a 100) 15 – Subtract two numbers (across a 10) 16 – Subtract two numbers (across a 100) 17 – Add 2-digit and 3-digit numbers 18 – Subtract a 2-digit number from a 3-digit number
3AS-3 Manipulate the additive relationship: Understand the inverse relationship between addition and subtraction, and how both relate to the part–part–whole structure. Understand and use the commutative property of addition, and understand the related property for subtraction.	Autumn Block 2	21 – Inverse operations 22 – Make decisions
	Summer 2	3 – Add money 4 – Subtract money 5 – Find change

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Multiplication and division

Multiplication & division: Recall/Use

Year 1	Year 2	Year 3	Year 4
	• 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
	Spring 2	Autumn 3 Spring 1	Autumn 4 Spring 1

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Multiplication & division: Calculations

Year 1	Year 2	Year 3	Year 4
	• 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
	Spring 2	Autumn 3 Spring 1	Spring 1

Multiplication & division: Problems

Year 1	Year 2	Year 3	Year 4
• 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
Summer 1	Spring 2	Spring 1	Spring 1

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Multiplication & 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

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Year 1 RTP Number facts

Ready to progress criteria	Block	Steps
1NF-1 Develop fluency in addition and subtraction facts within 10	See under Addition & subtraction	
1NF-2 Count forwards and backwards in multiples of 2, 5 and 10, up to 10 multiples, beginning with any multiple, and count forwards and backwards through the odd numbers.	Summer 1	1 – Count in 2s 2 – Count in 10s 3 – Count in 5s
	Summer 4	2 – Tens to 100
	Summer 5	4 – Count in coins

Year 3 RTP Number facts

Ready to progress criteria	Block	Steps
3NF-1 Secure fluency in addition and subtraction facts that bridge 10, through continued practice.	See under Addition & subtraction	
3NF-2 Recall multiplication facts, and corresponding division facts, in the 10, 5, 2, 4 and 8 multiplication tables, and recognise products in these multiplication tables as multiples of the corresponding number.	Autumn Block 3	3 – Multiples of 2 4 – Multiples of 5 and 10 5 – Sharing and grouping 9 – Multiply by 4 10 – Divide by 4 11 – The 4 times-table
3NF-3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 10).	Spring 1	1 – Multiples of 10 2 – Related calculations 10 – Scaling
	Spring 3	6 – Fractions and scales 9 – Equivalent fractions on a number line 10 – Equivalent fractions as bar models

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Year 4 RTP Number facts

Ready to progress criteria	Block	Steps
4NF-1 Recall multiplication and division facts up to 12 × 12 and recognise products in multiplication tables as multiples of the corresponding number.	Autumn 4	All 13 steps in this block relate to this criterion
	Spring 1	1 – Factor pairs 2 – Use factor pairs 7 – Related facts – multiplication and division 8 – Informal written methods for multiplication 9 – Multiply a 2-digit number by a 1-digit number 10 – Multiply a 3-digit number by a 1-digit number
4NF-2 Solve division problems, with two-digit dividends and one-digit divisors, that involve remainders, and interpret remainders appropriately according to the context.	Autumn 4	All 13 steps in this block relate to this criterion
	Spring 1	11 – Divide a 2-digit number by a 1-digit number (1) 12 – Divide a 2-digit number by a 1-digit number (2) 13 – Divide a 3-digit number by a 1-digit number
4NF-3 Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 100).	Spring 1	4 – Multiply by 100 6 – Divide by 100
	Spring 4	10 – Divide a 1- or 2-digit number by 100

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Year 2 RTP Multiplication & division

Ready to progress criteria	Block	Steps
2MD-1 Recognise repeated addition contexts, representing them with multiplication equations and calculating the product, within the 2, 5 and 10 multiplication tables.	Spring 2	4 – Introduce the multiplication symbol 5 – Multiplication sentences 9 – The 2 times-table 13 – The 10 times-table 15 – The 5 times-table 17 – The 5 and 10 times-tables
	Spring 4	8 – Four operations with volume and capacity
	Summer 2	5 – Tell the time to 5 minutes 6 – Minutes in an hour
2MD-2 Relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor, and to division equations (quotitive division).	Spring 2	2 – Make equal groups 7 – Make equal groups – grouping 8 – Make equal groups – sharing 10 – Divide by 2 14 – Divide by 10 16 – Divide by 5

Year 3 RTP Multiplication & division

Ready to progress criteria	Block	Steps
3MD-1 Apply known multiplication and division facts to solve contextual problems with different structures, including quotitive and partitive division.	Autumn 3	All 15 steps in this block relate to this criterion
	Spring 1	All 11 steps in this block relate to this criterion

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Year 4 RTP Multiplication & division

Ready to progress criteria	Block	Steps
4MD-1 Multiply and divide whole numbers by 10 and 100 (keeping to whole number quotients); understand this as equivalent to making a number 10 or 100 times the size.	Spring 1	3 – Multiply by 10 4 – Multiply by 100 5 – Divide by 10 6 – Divide by 100
4MD-2 Manipulate multiplication and division equations, and understand and apply the commutative property of multiplication.	Autumn 4	All 13 steps in this block relate to this criterion
4MD-3 Understand and apply the distributive property of multiplication.	Spring 1	8 – Informal written methods for multiplication 9 – Multiply a 2-digit number by a 1-digit number 10 – Multiply a 3-digit number by a 1-digit number

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Fractions: Recognise and write

Year 1	Year 2	Year 3	Year 4
• recognise, find and name a half as one of two equal parts of an object, shape or quantity • recognise, find and name a quarter as one of four equal parts of an object, shape or quantity	• recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity	• 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 fractions with small denominators	• count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.
Summer 2	Summer 1	Spring 3	Spring 4 Summer 1

Fractions: Compare

Year 1	Year 2	Year 3	Year 4
	• Recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$	• 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
	Summer 1	Spring 3	Spring 3

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Fractions: Calculations

Year 1	Year 2	Year 3	Year 4
	• write simple fractions for example, $\frac{1}{2}$ of 6 = 3	• add and subtract fractions with the same denominator within one whole [for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$]	• add and subtract fractions with the same denominator
	Summer 1	Summer 1	Spring 3

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Fractions: Solve problems

Year 1	Year 2	Year 3	Year 4
		• 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 3 Summer 1	Spring 3

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Decimals: Recognise, write, compare

Year 1	Year 2	Year 3	Year 4
			• recognise and write decimal equivalents of any number of tenths or hundredths • recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ • 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
			Spring 4 Summer 1

Fractions, decimals and percentages

Year 1	Year 2	Year 3	Year 4
			• solve simple measure and money problems involving fractions and decimals to two decimal places
			Spring 3 Spring 4 Summer 1

Year 3 RTP Fractions

Ready to progress criteria	Block	Steps
3F-1 Interpret and write proper fractions to represent 1 or several parts of a whole that is divided into equal parts.	Spring 3	1 – Understand the denominators of unit fractions 3 – Understand the numerators of non-unit fractions 4 – Understand the whole
3F-2 Find unit fractions of quantities using known division facts (multiplication tables fluency).	Summer 1	4 – Unit fractions of a set of objects
3F-3 Reason about the location of any fraction within 1 in the linear number system.	Spring 3	2 – Compare and order unit fractions 5 – Compare and order non-unit fractions 7 – Fractions on a number line 8 – Count in fractions on a number line
3F-4 Add and subtract fractions with the same denominator, within 1	Summer 1	1 – Add fractions 2 – Subtract fractions

Year 4 RTP Fractions

Ready to progress criteria	Block	Steps
4F-1 Reason about the location of mixed numbers in the linear number system.	Spring 3	4 – Number lines with mixed numbers 5 – Compare and order mixed numbers
4F-2 Convert mixed numbers to improper fractions and vice versa.	Spring 3	7 – Convert mixed numbers to improper fractions 8 – Convert improper fractions to mixed numbers
4F-3 Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers.	Spring 3	12 – Add fractions and mixed numbers 14 – Subtract from whole amounts 15 – Subtract from mixed numbers

Ratio and proportion, algebra

Algebra

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

Note – although formal algebraic notation is not introduced until Y6, algebraic thinking starts much earlier as exemplified by the 'missing number' objectives from Y1/2/3

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Measurement

Using measures

Year 1	Year 2	Year 3	Year 4
• 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 (℃); 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
Spring 4 Spring 5 Summer 6	Spring 3 Spring 4	Spring 2 Spring 4	Spring 2 Summer 3

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Money

Year 1	Year 2	Year 3	Year 4
• 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
Summer 5	Spring 1	Summer 2	Summer 2

Time

Year 1	Year 2	Year 3	Year 4
• 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
Summer 6	Summer 2	Summer 3	Summer 3

White Rose Maths

Perimeter, area, volume

Year 1	Year 2	Year 3	Year 4
		• 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
		Spring 2	Autumn 3 Spring 2

White Rose Maths

Geometry

2-D shapes

Year 1	Year 2	Year 3	Year 4
• 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
Autumn 3	Autumn 3	Summer 4	Summer 4

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3-D shapes

Year 1	Year 2	Year 3	Year 4
• 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	
Autumn 3	Autumn 3	Summer 4	

White Rose Maths

Angles and lines

Year 1	Year 2	Year 3	Year 4
		• 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
		Summer 4	Summer 4

Position and direction

Year 1	Year 2	Year 3	Year 4
• 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 anti-clockwise)		• 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
Summer 3	Summer 4		Summer 6

Year 1 RTP Geometry

Ready to progress criteria	Block	Steps
1G-1 Recognise common 2D and 3D shapes presented in different orientations, and know that rectangles, triangles, cuboids and pyramids are not always similar to one another.	Autumn 3	1 – Recognise and name 3-D shapes 2 – Sort 3-D shapes 3 – Recognise and name 2-D shapes 4 – Sort 2-D shapes 5 – Patterns with 2-D and 3-D shapes
1G-2 Compose 2D and 3D shapes from smaller shapes to match an example, including manipulating shapes to place them in particular orientations.	Autumn 3	1 – Recognise and name 3-D shapes 2 – Sort 3-D shapes 3 – Recognise and name 2-D shapes 4 – Sort 2-D shapes 5 – Patterns with 2-D and 3-D shapes

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Year 2 RTP Geometry

Ready to progress criteria	Block	Steps
2G-1 Recognise common 2D and 3D shapes presented in different orientations, and know that rectangles, triangles, cuboids and pyramids are not always similar to one another.	Autumn 3	1 – Recognise 2-D and 3-D shapes 2 – Count sides on 2-D shapes 3 – Count vertices on 2-D shapes 7 – Sort 2-D shapes 8 – Count faces on 3-D shapes 9 – Count edges on 3-D shapes 10 – Count vertices on 3-D shapes 11 – Sort 3-D shapes

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Year 3 RTP Geometry

Ready to progress criteria	Block	Steps
3G-1 Recognise right angles as a property of shape or a description of a turn, and identify right angles in 2D shapes presented in different orientations.	Summer 4	2 – Right angles
3G-2 Draw polygons by joining marked points, and identify parallel and perpendicular sides.	Summer 4	6 – Parallel and perpendicular 8 – Draw polygons

Year 4 RTP Geometry

Ready to progress criteria	Block	Steps
4G-1 Draw polygons, specified by coordinates in the first quadrant, and translate within the first quadrant.	Summer 6	3 – Draw 2-D shapes on a grid 4 – Translate on a grid
4G-2 Identify regular polygons, including equilateral triangles and squares, as those in which the side-lengths are equal and the angles are equal. Find the perimeter of regular and irregular polygons.	Spring 2	8 – Perimeter of regular polygons 9 – Perimeter of polygons
	Summer 4	4 – Triangles 5 – Quadrilaterals 6 – Polygons
4G-3 Identify line symmetry in 2D shapes presented in different orientations. Reflect shapes in a line of symmetry and complete a symmetric figure or pattern with respect to a specified line of symmetry.	Summer 4	7 – Lines of symmetry 8 – Complete a symmetric figure

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Statistics

Present and interpret data

Year 1	Year 2	Year 3	Year 4	
	• 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	
	Summer 3	Summer 5	Summer 5	

Solve statistical problems

Year 1	Year 2	Year 3	Year 4
	• 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
	Summer 3	Summer 5	Summer 5

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