

Maths Curriculum Map

Year	Autumn	Spring	Summer
<p>Nursery</p>	<p>Concepts of early number and spatial reasoning outlined in Development Matters are introduced and developed through carpet sessions. These include exploring the composition of a new number each week up to 5 and activities to introduce shape, space and measure. Understanding is then reinforced and deepened at each child's appropriate stage of development through the continuous provision so that children develop positive attitudes to maths and a 'have a go' attitude without fear of making mistakes.</p>		
	<p>Term 1</p> <ul style="list-style-type: none"> ● Begin to describe a sequence of events, real or fictional, using words such as first, then ● Count <u>objects</u>, actions and sounds ● recite numbers to 5 and beyond ● say one number for each item in order: 1,2,3,4,5. ● Make comparisons between objects relating to <u>size</u>, length, weight and capacity. ● Show 'finger numbers' up to 5 ● Experiment with their own <u>symbols and marks to</u> represent number e.g tallying what pets we have/ animals we like ● Develop fast recognition of up to 3 objects without having to count them individually (subitise) <p>Term 2</p> <ul style="list-style-type: none"> ● Talk about and explore <u>2D</u> and 3D shapes (for example circles, rectangles, triangles and cuboids) using informal and mathematical language: 'sides', 	<p>Term 3</p> <ul style="list-style-type: none"> ● Solve real world mathematical problems with numbers up to 5 ● Make comparisons between objects relating to <u>size</u>, length, weight and <u>capacity</u>. ● Show 'finger numbers' up to 5 ● Develop fast recognition of up to 3 objects without having to count them individually (subitise) ● say one number for each item in order: 1,2,3,4,5 ● Experiment with their own <u>symbols and marks to</u> as well as numerals where appropriate ● Talk about and identify the patterns around them. Use informal language like pointy, spotty, blobs etc ● Talk about and explore <u>2D</u> and 3D shapes (for example circles, rectangles, triangles and cuboids) using informal and mathematical language: 'sides', 'corners'; 'straight', 'flat', 'round' <p>Term 4</p>	<p>Term 5</p> <ul style="list-style-type: none"> ● Begin to explore the composition of numbers up to 5 ● Make comparisons between objects relating to <u>size, length, weight</u> and capacity ● Extend and create ABAB patterns – stick, leaf, stick, leaf ● Notice and correct an error in a repeating pattern. ● 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. ● Develop fast recognition of up to 3 objects without having to count them individually (subitise) <p>Term 6</p> <ul style="list-style-type: none"> ● Describe a familiar route ● Discuss routes and locations ● Understand position through words alone ● Solve real world mathematical

	<p>‘corners’, ‘straight’, ‘flat’, ‘round’- through collage, construction and playing with shape kits</p> <ul style="list-style-type: none"> • Know that the last number reached when counting a small set of objects tells you how many there are in total (‘cardinal principle’) • Make comparisons between objects relating to <u>size, length, weight</u> and capacity. • Begin to describe a sequence of events, real or fictional, using words such as first, then • Count <u>objects, actions and sounds</u> • Show ‘finger numbers’ up to 5. • Develop fast recognition of up to 3 objects without having to count them individually (subitise) • Talk about and identify the patterns around them. For example: stripes on clothes and zebras, spots on clothes. Use informal language like pointy, spotty, blobs etc • say one number for each item in order: 1,2,3,4,5 	<ul style="list-style-type: none"> • Make comparisons between objects relating to size, length, <u>weight and capacity</u>. • Talk about and explore 2D and <u>3D</u> shapes • Solve real world mathematical problems with numbers up to 5. • Know that the last number reached when counting a small set of objects tells you how many there are in total (‘cardinal principle’) • Begin to describe a sequence of events using words such as ‘first’, ‘then...’ • Understand position through words alone • Experiment with their own symbols and marks as well as numerals. • Link numerals and amounts: for example showing the right number of objects to match the numeral, up to 5 	<p>problems with numbers up to 5</p> <ul style="list-style-type: none"> • Experiment with their own <u>symbols and marks to</u> represent number e.g tallying what pets we have/ animals we like • Begin to explore the composition of numbers up to 5 • Develop fast recognition of up to 3 objects without having to count them individually (subitise) • Notice and correct an error in a repeating pattern. • Link numerals and amounts: for example showing the right number of objects to match the numeral, up to 5 • Select shapes appropriately: flat surfaces for building, triangular prism for a roof • Combine shapes to make new ones, an arch, a bigger triangle etc
<p>Reception</p>	<p>Mastering Number Overview: Autumn term 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.</p> <p>White Rose Shape, Space and Measure: Talk about Measure and Pattern Circles and Triangles Shapes with 4 sides</p>	<p>Mastering Number Overview: Spring term 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.</p> <p>White Rose Shape, Space and Measure: Mass and Capacity Length, Height and Time Explore 3D shapes</p>	<p>Mastering Number Overview: Summer term 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.</p> <p>White Rose Shape, Space and Measure: Visualise, Build and Map</p>

Year 1	Weeks 1-5 Number - Place Value (within 10) Weeks 6-10 Number - Addition and Subtraction Week 11- Geometry- Shape	Weeks 1-3 Number - Place Value (within 20) Weeks 4-6 Number - Addition and Subtraction (within 20) Week 7-8 Number - Place Value (within 50) Weeks 9-10 Measurement - Length and Height Weeks 11-12 Measurement - Mass and Volume	Weeks 1-3 Number - Multiplication and Division Weeks 4-5 Number - Fractions Week 6 Geometry - Position and direction Weeks 7-8 Number - Place Value (within 100) Weeks 10-11 Measurement - Time
Year 2	Weeks 1-4 Number - Place Value Weeks 5-9 Number - Addition and Subtraction Weeks 10-12 Geometry - Shape	Weeks 1-2 Measurement- Money Weeks 3-7 Number - Multiplication and Division Weeks 8-9 Measurement - Length and Height Weeks 10-12 Measurement - Mass, Capacity and Temperature	Weeks 1-3 Number - Fractions Weeks 4-6 Measurement - Time Weeks 7-8 Statistics Weeks 9-10 Geometry - Position and Direction
Year 3	Weeks 1-3 Number - Place Value Weeks 4-8 Number - Addition and Subtraction Weeks 9-12 Number - Multiplication and Division	Weeks 1-3 Number - Multiplication and Division Weeks 4-6 Measurement - Length and Perimeter Weeks 7-9 Number - Fractions Weeks 10-12 Measurement - Mass and Capacity	Weeks 1-2 Number - Fractions Weeks 3-4 Measurement - Money Weeks 5-7 Measurement - Time Weeks 8-9 Geometry - Shape Weeks 10-11 Statistics
Year 4	Weeks 1-4 Number - Place Value Weeks 5-7 Number - Addition and Subtraction Week 8-Measurement - Area Weeks 9-11 Number - Multiplication and Division	Weeks 1-3 Number - Multiplication and Division Weeks 4-5 Measurement - Length and Perimeter Weeks 6-9 Number - Fractions Weeks 10-12 Number - Decimals	Weeks 1-2 Number - Decimals Weeks 3-4 Measurement - Money Weeks 5-6 Measurement - Time Week 7 Consolidation Weeks 8-9 Geometry - Shape Week 10 Statistics Weeks 11-12 Geometry - Position and Direction
Year 5	Weeks 1-3 Number - Place Value Weeks 4-5 Number - Addition and Subtraction Weeks 6-8 Number - Multiplication and Division Weeks 9-12 Number - Fractions	Weeks 1-3 Number - Multiplication and Division Weeks 4-5 Number - Fractions Weeks 6-8 Number - Decimals and Percentages Weeks 9-10 Measurement - Perimeter and Area Weeks 11-12 Statistics	Weeks 1-3 Geometry - Shape Weeks 4-5 Geometry - Position and Direction Weeks 6-8 Number - Decimals Week 9 Number - Negative Numbers Weeks 10-11 Measurement - Converting Units Week 12 Measurement - volume
	Weeks 1-2 Number - Place Value	Weeks 1-2 Number - Algebra	Weeks 1-4 Consolidation (various strands)

Year 6	Weeks 3-6 Number - Addition, Subtraction, Multiplication, Division Weeks 7-9 Number - Fractions Weeks 10 Measurement - Converting Units Weeks 11-12 Number - Ratio	Weeks 3-4 Number - Decimals Weeks 5-6 Number - Fractions, Decimals and Percentages Weeks 7-8 Measurement - Area, Perimeter, Volume Weeks 9 Statistics Week 10 Geometry - Shape Week 11 Geometry - Position and direction Week 12 - Consolidation	Week 5 SATS Weeks 6-12 Themed projects, consolidation and problem solving
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Progression of skills in Maths

	EYFS (Reception):	Key Stage 1:	Key Stage 2:
Statutory Framework Objectives	<p>ELG: Number Children at the expected level of development will:</p> <ul style="list-style-type: none"> - Have a deep understanding of number to 10, including the composition of each number - Subitise (recognise quantities without counting) up to 5 - Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts. <p>ELG: Numerical Patterns Children at the expected level of development will:</p> <ul style="list-style-type: none"> - Verbally count beyond 20, recognising the pattern of the counting system; - Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity; - Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally. <p>Development matters</p> <p>Mastering Number: Reception Overview Term by term strands</p>	<p>Mastering Number: Year 1 overview Year 2 overview</p> <p>Mathematics Programmes of Study: KS1 and KS2</p>	<p>Mathematics Programmes of Study: KS1 and KS2</p>

Year	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>Strand: Number - Place value</p> <p>(including negative numbers strand)</p>	<ul style="list-style-type: none"> • Develop fast recognition of up to 3 objects, without having to count them individually ('subitising'). • Recite numbers past 5. Say one number for each item in order: 1,2,3,4,5. • Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle'). • Show 'finger numbers' up to 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. • Solve real world mathematical problems with numbers up to 5. • Compare quantities using language: 'more than', 'fewer than'. • Point to small groups of two or three objects: "Look, there are two!" Occasionally ask children how many there are in a small set of two or three. • Regularly say the counting sequence, in a variety of playful contexts, inside and outdoors, forwards 	<p>Mastering Number Autumn</p> <ul style="list-style-type: none"> • 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 	<p>Count count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number</p> <p>Count numbers to 100 in numerals; count in multiples of twos, fives and tens</p> <p>Represent identify and represent numbers using objects and pictorial representations</p> <ul style="list-style-type: none"> • read and write numbers to 100 in numerals • read and write numbers from 1 to 20 in numerals and words <p>Use and compare given a number, identify one more and one less</p> <p>Small steps sequence Autumn</p> <p>Step 1: Sort objects</p> <p>Step 2: Count objects</p> <p>Step 3: Count objects from a larger group</p> <p>Step 4: Represent objects</p> <p>Step 5: Recognise numbers as words</p> <p>Step 6: Count on from any number</p> <p>Step 7: Understand 1 more</p> <p>Step 8: Count backwards within 10</p> <p>Step 9: Understand 1 less</p> <p>Step 10: Compare groups by matching</p> <p>Step 11: Understand fewer, more, same</p>	<p>Count count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward</p> <p>Represent read and write numbers to at least 100 in numerals and in words</p> <ul style="list-style-type: none"> • identify, represent and estimate numbers using different representations, including the number line <p>Use and compare recognise the place value of each digit in a two-digit number (tens, ones)</p> <ul style="list-style-type: none"> • compare and order numbers from 0 up to 100; use $<$, $>$ and $=$ signs <p>Problems and Rounding use place value and number facts to solve problems</p> <p>Small steps sequence Autumn</p> <p>Step 1: Understand numbers to 20</p> <p>Step 2: Count objects to 100 by making 10s</p> <p>Step 3: Recognise tens and ones</p> <p>Step 4: Use a place value chart</p> <p>Step 5: Partition numbers to 100</p> <p>Step 6: Write numbers to 100 in words</p> <p>Step 7: Flexibly partition numbers to</p>	<p>Count count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number</p> <p>Represent identify, represent and estimate numbers using different representations</p> <ul style="list-style-type: none"> • read and write numbers up to 1000 in numerals and in words <p>Use and compare recognise the place value of each digit in a three-digit number (hundreds, tens, ones)</p> <ul style="list-style-type: none"> • compare and order numbers up to 1000 <p>Problems and Rounding solve number problems and practical problems involving these ideas</p> <p>Small steps sequence Autumn</p> <p>Step 1: Represent numbers to 100</p> <p>Step 2: Partition numbers to 100</p> <p>Step 3: Understand and use a number line to 100</p> <p>Step 4: Understand hundreds</p> <p>Step 5: Represent numbers to 1,000</p> <p>Step 6: Partition numbers to 1,000</p> <p>Step 7: Flexibly partition numbers to 1,000</p>	<p>Count count in multiples of 6, 7, 9, 25 and 1000</p> <ul style="list-style-type: none"> • count backwards through zero to include negative numbers <p>Represent identify, represent and estimate numbers using different representations</p> <ul style="list-style-type: none"> • read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value <p>Use and compare Find 1000 more or less than a given number</p> <ul style="list-style-type: none"> • recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) • order and compare numbers beyond 1000 <p>Problems and Rounding • round any number to the nearest 10, 100 or 1000</p> <ul style="list-style-type: none"> • solve number and practical problems that involve all of the above and with increasingly large positive numbers <p>Small steps sequence Autumn</p>	<p>Count count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000</p> <ul style="list-style-type: none"> • count forwards and backwards with positive and negative whole numbers, including through zero <p>Represent read, write, (order and compare) numbers to at least 1 000 000 and determine the value of each digit</p> <ul style="list-style-type: none"> • read Roman numerals to 1000 (M) and recognise years written in Roman numerals <p>Use and compare (read, write) order and compare numbers to at least 1 000 000 and determine the value of each digit</p> <p>Problems and Rounding • interpret negative numbers in context</p> <ul style="list-style-type: none"> • 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 <p>Small steps sequence Autumn</p> <p>Step 1: Understand and identify Roman</p>	<p>Represent • read, write, (order and compare) numbers up to 10 000 000 and determine the value of each digit</p> <p>Use and compare (read, write), order and compare numbers up to 10 000 000 and determine the value of each digit</p> <p>Problems and Rounding • round any whole number to a required degree of accuracy</p> <ul style="list-style-type: none"> • use negative numbers in context, and calculate intervals across zero • solve number and practical problems that involve all of the above <p>Small steps sequence Autumn</p> <p>Step 1: Understand numbers to 1,000,000</p> <p>Step 2: Understand numbers to 10,000,000</p> <p>Step 3: Read and write numbers to 10,000,000</p> <p>Step 4: Understand powers of 10</p> <p>Step 5: Understand and use a number line to 10,000,000</p> <p>Step 6: Compare and order any integers</p> <p>Step 7: Round any integer</p> <p>Step 8: Understand negative numbers</p>

	<p>and backwards, sometimes going to high numbers.</p> <ul style="list-style-type: none"> Count things and then repeat the last number. For example: "1, 2, 3 – 3 cars". Point out the number of things whenever possible; so, rather than just 'chairs', 'apples' or 'children', say 'two chairs', 'three apples', 'four children'. Ask children to get you several things and emphasise the total number in your conversation with the child. Use small numbers to manage the learning environment. Draw children's attention to these throughout the session and especially at tidy-up time: "How many pencils should be in this pot?" or "How many have we got?" etc. Encourage children in their own ways of recording (for example) how many balls they managed to throw through the hoop. Provide numerals nearby for reference. Discuss mathematical ideas throughout the day, inside and outdoors. 	<p>correspondence; understanding that anything can be counted, including actions and sounds</p> <ul style="list-style-type: none"> compare sets of objects by matching begin to develop the language of 'whole' when talking about objects which have parts <p>Mastering Number Spring</p> <ul style="list-style-type: none"> 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' develop their understanding of the counting sequence and link cardinality and ordinality through the 'staircase' pattern order numbers and play track games join in with verbal counts beyond 20, hearing the repeated 	<p>Step 12: Understand less than, greater than, equal to</p> <p>Step 13: Compare numbers</p> <p>Step 14: Order objects and numbers</p> <p>Step 15: Understand the number line</p> <p>Small steps sequence Spring (place value within 20):</p> <p>Step 1: Count within 20</p> <p>Step 2: Understand 10</p> <p>Step 3: Understand 11, 12 and 13</p> <p>Step 4: Understand 14, 15 and 16</p> <p>Step 5: Understand 17, 18 and 19</p> <p>Step 6: Understand 20</p> <p>Step 7: Understand 1 more and 1 less</p> <p>Step 8: Understand the number line to 20</p> <p>Step 9: Use a number line to 20</p> <p>Step 10: Estimate on a number line to 20</p> <p>Step 11: Compare numbers to 20</p> <p>Step 12: Order numbers to 20</p> <p>Small steps sequence Spring (place value within 50):</p> <p>Step 1: Count from 20 to 50</p> <p>Step 2: Develop understanding of multiples of 10 (20, 30, 40 and 50)</p> <p>Step 3: Count by making groups of tens</p> <p>Step 4: Consolidate understanding of groups of tens and ones</p> <p>Step 5: Partition into</p>	<p>100</p> <p>Step 8: Write numbers to 100 in expanded form</p> <p>Step 9: Count in 10s on the number line to 100</p> <p>Step 10: Count in 10s and 1s on the number line to 100</p> <p>Step 11: Estimate numbers on a number line</p> <p>Step 12: Compare objects</p> <p>Step 13: Compare numbers</p> <p>Step 14: Order objects and numbers</p> <p>Step 15: Count in 2s, 5s and 10s</p> <p>Step 16: Count in 3s</p>	<p>Step 8: Understand hundreds, tens and ones</p> <p>Step 9: Find 1, 10 or 100 more or less</p> <p>Step 10: Understand a number line to 1,000</p> <p>Step 11: Estimate on a number line to 1,000</p> <p>Step 12: Compare numbers to 1,000</p> <p>Step 13: Order numbers to 1,000</p> <p>Step 14: Count in 50s</p>	<p>Step 1: Represent numbers to 1,000</p> <p>Step 2: Partition numbers to 1,000</p> <p>Step 3: Use a number line to 1,000</p> <p>Step 4: Understand thousands</p> <p>Step 5: Represent numbers to 10,000</p> <p>Step 6: Partition numbers to 10,000</p> <p>Step 7: Understand flexible partitioning of numbers to 10,000</p> <p>Step 8: Find 1, 10, 100, 1,000 more or less</p> <p>Step 9: Use a number line to 10,000</p> <p>Step 10: Estimate on a number line to 10,000</p> <p>Step 11: Compare numbers to 10,000</p> <p>Step 12: Order numbers to 10,000</p> <p>Step 13: Understand and identify roman numerals</p> <p>Step 14: Round to the nearest 10</p> <p>Step 15: Round to the nearest 100</p> <p>Step 16: Round to the nearest 1,000</p> <p>Step 17: Round to the nearest 10, 100 or 1,000</p>	<p>numerals to 1,000</p> <p>Step 2: Understand numbers to 10,000</p> <p>Step 3: Understand numbers to 100,000</p> <p>Step 4: Understand numbers to 1,000,000</p> <p>Step 5: Read and write numbers to 1,000,000</p> <p>Step 6: Understand powers of 10</p> <p>Step 7: Find numbers 10/100/1,000/10,000 /100,000 more or less than a given number</p> <p>Step 8: Partition numbers to 1,000,000</p> <p>Step 9: Understand the number line to 1,000,000</p> <p>Step 10: Compare and order numbers to 100,000</p> <p>Step 11: Compare and order numbers to 1,000,000</p> <p>Step 12: Round to the nearest 10, 100 or 1,000</p> <p>Step 13: Round within 100,000</p> <p>Step 14: Round within 1,000,000</p> <p>Small steps sequence Summer</p> <p>Step 1: Understand negative numbers</p> <p>Step 2: Count through zero in 1s</p> <p>Step 3: Count through zero in multiples</p> <p>Step 4: Compare and order negative numbers</p> <p>Step 5: Find the difference</p>	
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		<p>pattern within the counting numbers</p> <p>Mastering Number Summer</p> <ul style="list-style-type: none"> 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 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 identify when sets can be subitised and when counting is necessary develop conceptual subitising skills including when using a rekenrek 	<p>tens and ones</p> <p>Step 6: Understand the number line to 50</p> <p>Step 7: Estimate on a number line to 50</p> <p>Step 8: Understand 1 more, 1 less</p> <p>Small steps sequence Summer (<i>place value within 100</i>):</p> <p>Step 1: Count from 50 to 100</p> <p>Step 2: Understand multiples of tens to 100</p> <p>Step 3: Partition into tens and ones</p> <p>Step 4: Use a number line to 100</p> <p>Step 5: Understand 1 more, 1 less</p> <p>Step 6: Compare numbers with the same number of tens</p> <p>Step 7: Compare any two numbers</p>					
Strand: Number - Addition and subtraction			<p>Calculations add and subtract one-digit and two digit numbers to 20, including zero read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs represent and use number bonds and</p>	<p>Calculations 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</p>	<p>Calculations 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</p>	<p>Calculations add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate</p> <p>Problems solve addition and subtraction two-step problems</p>	<p>Calculations 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</p>	<p>Calculations • 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</p>

		<p>related subtraction facts within 20</p> <p>Problems solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = c - 9$</p> <p>Small steps sequence Autumn (within 10) Step 1: Explore parts and wholes Step 2: Understand and use Part-whole model Step 3: Write number sentences Step 4: Understand fact families - addition facts Step 5: Identify number bonds within 10 Step 6: Understand systematic number bonds within 10 Step 7: Understand and use number bonds to 10 Step 8: Add together Step 9: Add more Step 10: Solve addition problems Step 11: Find a part (subtraction) Step 12: Explore subtraction - find a part Step 13: Understand fact families - the eight facts Step 14: Subtract by taking away/crossing out (<i>How many left?</i>) Step 15: Subtract by taking away (<i>How</i></p>	<p>digit numbers</p> <p>Problems solve problems with addition and subtraction: • using concrete objects and pictorial representations, including those involving numbers, quantities and measures • applying their increasing knowledge of mental and written methods</p> <p>Small steps sequence Autumn Step 1: Understand bonds to 10 Step 2: Understand fact families - addition and subtraction bonds within 20 Step 3: Understand related facts Step 4: Understand bonds to 100 (tens) Step 5: Add and subtract 1s Step 6: Add by making 10 Step 7: Add three 1-digit numbers Step 8: Add to the next 10 Step 9: Add across a 10 Step 10: Subtract across 10 Step 11: Subtract from a 10 Step 12: Subtract a 1-digit number from a 2-digit number (across a 10) Step 13: Understand 10 more, 10 less Step 14: Add and subtract 10s Step 15: Add two 2-digit numbers (not</p>	<p>methods of columnar addition and subtraction</p> <p>Problems solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction</p> <p>Small steps sequence Autumn Step 1: Apply number bonds within 10 Step 2: Add and subtract 1s Step 3: Add and subtract 10s Step 4: Add and subtract 100s Step 5: Spot patterns when adding and subtracting 1s, 10s or 100s Step 6: Add 1s across a 10 Step 7: Add 10s across a 100 Step 8: Subtract 1s across a 10 Step 9: Subtract 10s across a 100 Step 10: Make connections between calculations Step 11: Add two numbers (no exchange) Step 12: Subtract two numbers (no exchange) Step 13: Add two numbers (across a 10) Step 14: Add two numbers (across a 100) Step 15: Subtract two numbers (across a 10) Step 16: Subtract two numbers (across</p>	<p>in contexts, deciding which operations and methods to use and why</p> <p>Small steps sequence Autumn Step 1: Add and subtract 1s, 10s, 100s and 1,000s Step 2: Add up to two 4-digit numbers (no exchange) Step 3: Add two 4-digit numbers - (one exchange) Step 4: Add two 4-digit numbers - (more than one exchange) Step 5: Subtract two 4-digit numbers - (no exchange) Step 6: Subtract two 4-digit numbers - (one exchange) Step 7: Subtract two 4-digit numbers - (more than one exchange) Step 8: Identify efficient subtraction methods Step 9: Estimate answers Step 10: Use inverse and estimation strategies to check calculations</p>	<p>Problems solve addition and subtraction multi step problems in contexts, deciding which operations and methods to use and why • solve problems involving addition, multiplication and division and a combination of these, including understanding the meaning of the equals sign</p> <p>Small steps sequence Autumn Step 1: Add and subtract numbers mentally (use mental strategies) Step 2: Add whole numbers with more than four digits Step 3: Subtract whole numbers with more than four digits Step 4: Round to check answers Step 5: Use inverse operations (addition and subtraction) Step 6: Solve multi-step addition and subtraction problems Step 7: Compare calculations Step 8: Find missing numbers</p>	<p>Problems solve addition and subtraction multi step problems in contexts, deciding which operations and methods to use and why</p> <p>Small steps sequence Autumn (addition, subtraction multiplication and division) Step 1: Add and subtract integers Step 2: Identify common factors Step 3: Identify common multiples Step 4: Understand the rules of divisibility Step 5: Identify primes to 100 Step 6: Square and cube numbers Step 7: Multiply up to a 4-digit number by a 2-digit number Step 8: Solve problems with multiplication Step 9: Use short division Step 10: Divide using factors Step 11: Use long division Step 12: Use long division with remainders Step 13: Solve problems with division Step 14: Solve multi-step problems Step 15: Understand the order of priority for operations Step 16: Use mental calculations and estimation Step 17: Reason from known facts</p>
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			<p>many left?)</p> <p>Step 16: Subtract on a number line</p> <p>Step 17: Add or subtract 1 or 2</p> <p>Small steps sequence Spring (within 20)</p> <p>Step 1: Add by counting on within 20</p> <p>Step 2: Add ones using number bonds</p> <p>Step 3: Find and make number bonds to 20</p> <p>Step 4: Understand doubles</p> <p>Step 5: Use near doubles</p> <p>Step 6: Subtract ones using number bonds</p> <p>Step 7: Subtract – counting back</p> <p>Step 8: Subtract – finding the difference</p> <p>Step 9: Know related facts</p> <p>Step 10: Solve missing number problems</p>	<p>across a 10)</p> <p>Step 16: Add two 2-digit numbers (across a 10)</p> <p>Step 17: Subtract two 2-digit numbers (not across a 10)</p> <p>Step 18: Subtract two 2-digit numbers (across a 10)</p> <p>Step 19: Solve mixed addition and subtraction</p> <p>Step 20: Compare number sentences</p> <p>Step 21: Solve missing number problems</p>	<p>a 100)</p> <p>Step 17: Add 2-digit and 3-digit numbers</p> <p>Step 18: Subtract a 2-digit number from a 3-digit number</p> <p>Step 19: Find complements to 100</p> <p>Step 20: Estimate answers</p> <p>Step 21: Use inverse operations</p> <p>Step 22: Select the most appropriate method to solve a problem (make decisions)</p>			
Strand: Number - Multiplication and division			<p>Problems 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</p> <p>Small steps sequence Summer</p> <p>Step 1: Count in 2s</p> <p>Step 2: Count in 10s</p> <p>Step 3: Count in 5s</p> <p>Step 4: Recognise equal groups</p> <p>Step 5: Add equal groups</p> <p>Step 6: Make arrays</p>	<p>Recall/Use recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers</p> <ul style="list-style-type: none"> • show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot <p>Calculations calculate mathematical statements for multiplication and</p>	<p>Recall/Use recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables</p> <p>Calculations 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</p>	<p>Recall/Use recall multiplication and division facts for multiplication tables up to 12×12</p> <ul style="list-style-type: none"> • 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 <p>Calculations multiply two-digit and three-digit numbers by a one-</p>	<p>Recall/Use identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers</p> <ul style="list-style-type: none"> • know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers • establish whether a number up to 100 is prime and recall prime numbers up to 19 • recognise and use square numbers and cube numbers, and the notation for squared (2) and 	<p>Recall/Use identify common factors, common multiples and prime numbers</p> <ul style="list-style-type: none"> • use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy <p>Calculations multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication</p> <ul style="list-style-type: none"> • divide numbers up

			<p>Step 7: Make doubles Step 8: Make equal groups – grouping Step 9: Make equal groups – sharing</p>	<p>division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs</p> <p>Problems solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts</p> <p>Small steps sequence Spring Step 1: Recognise equal groups Step 2: Make equal groups Step 3: Add equal groups Step 4: Understand the multiplication symbol Step 5: Solve multiplication sentences Step 6: Use arrays Step 7: Make equal groups – grouping Step 8: Make equal groups – sharing Step 9: Recall and use the 2 times-table Step 10: Divide by 2 Step 11: Double and halve numbers Step 12: Identify odd and even numbers Step 13: Recall and use the 10 times-table Step 14: Divide by 10 Step 15: Recall and use the 5 times-table Step 16: Divide by 5 Step 17: Recall and</p>	<p>Problems 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</p> <p>Small steps sequence Autumn (multiplication and division A) Step 1: Multiply using equal groups Step 2: Use arrays Step 3: Identify multiples of 2 Step 4: Identify multiples of 5 and 10 Step 5: Share and group Step 6: Multiply by 3 Step 7: Divide by 3 Step 8: Recall and use the 3 times-table Step 9: Multiply by 4 Step 10: Divide by 4 Step 11: Understand the 4 times-table Step 12: Multiply by 8 Step 13: Divide by 8 Step 14: Recall and use the 8 times-table Step 15: Recall and use the 2, 4 and 8 times-tables</p> <p>Small steps sequence Spring (multiplication and division B) Step 1: Understand multiples of 10 Step 2: Explore related calculations Step 3: Reason about multiplication</p>	<p>digit number using formal written layout</p> <p>Problems 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</p> <p>Small steps sequence Autumn (multiplication and division A) Step 1: Identify multiples of 3 Step 2: Multiply and divide by 6 Step 3: Recall and use the 6 times-table and related division facts Step 4: Multiply and divide by 9 Step 5: Recall and use the 9 times-table and related division facts Step 6: Recall and use the 3, 6 and 9 times-tables Step 7: Multiply and divide by 7 Step 8: Recall and use the 7 times-table and related division facts Step 9: Recall and use the 11 times-table and related division facts Step 10: Recall and</p>	<p>cubed (3)</p> <p>Calculations multiply numbers up to 4 digits by a one- or two- digit number using a formal written method, including long multiplication for two-digit numbers</p> <ul style="list-style-type: none"> • 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 appropriately for the context • multiply and divide whole numbers and those involving decimals by 10, 100 and 1000 <p>Problems solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes</p> <ul style="list-style-type: none"> • solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates <p>Combined solve problems involving addition, subtraction,</p>	<p>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</p> <ul style="list-style-type: none"> • divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context • perform mental calculations, including with mixed operations and large numbers <p>Problems solve problems involving addition, subtraction, multiplication and division</p> <p>Combined use their knowledge of the order of operations to carry out calculations involving the four operations</p> <p>Small steps sequence Autumn (addition, subtraction multiplication and division) Step 1: Add and subtract integers Step 2: Identify common factors Step 3: Identify</p>
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				<p>use the 5 and 10 times-tables</p>	<p>Step 4: Multiply a 2-digit number by a 1-digit number – no exchange Step 5: Multiply a 2-digit number by a 1-digit number – with exchange Step 6: Link multiplication and division Step 7: Divide a 2-digit number by a 1-digit number – no exchange Step 8: Divide a 2-digit number by a 1-digit number – use flexible partitioning Step 9: Divide a 2-digit number by a 1-digit number – with remainders Step 10: Understand scaling Step 11: Explore different combinations (How many ways?)</p>	<p>use the 12 times-table and related division facts Step 11: Multiply by 1 and 0 Step 12: Divide a number by 1 and itself Step 13: Multiply three numbers</p> <p>Small steps sequence Spring (multiplication and division B) Step 1: Understand factor pairs Step 2: Use factor pairs Step 3: Multiply by 10 Step 4: Multiply by 100 Step 5: Divide by 10 Step 6: Divide by 100 Step 7: Recall and use related facts – multiplication and division Step 8: Understand informal written methods for multiplication Step 9: Multiply a 2-digit number by a 1-digit number Step 10: Multiply a 3-digit number by a 1-digit number Step 11: Divide a 2-digit number by a 1-digit number (1) Step 12: Divide a 2-digit number by a 1-digit number (2) Step 13: Divide a 3-digit number by a 1-digit number Step 14: Solve correspondence problems Step 15: Use efficient multiplication methods</p>	<p>multiplication and division and a combination of these, including understanding the meaning of the equals sign</p> <p>Small steps sequence Autumn (multiplication and division A) Step 1: Identify multiples Step 2: Find common multiples Step 3: Identify factors Step 4: Find common factors Step 5: Identify prime numbers Step 6: Recognise and use square numbers Step 7: Recognise and use cube numbers Step 8: Multiply by 10, 100 and 1,000 Step 9: Divide by 10, 100 and 1,000 Step 10: Multiply and divide by multiples of 10, 100 and 1,000</p> <p>Small steps sequence Spring (multiplication and division B) Step 1: Multiply up to a 4-digit number by a 1-digit number Step 2: Multiply a 2-digit number by a 2-digit number (area model) Step 3: Multiply a 2-digit number by a 2-digit number Step 4: Multiply a 3-digit number by a 2-digit number Step 5: Multiply a 4-digit number by a</p>	<p>common multiples Step 4: Understand the rules of divisibility Step 5: Identify primes to 100 Step 6: Square and cube numbers Step 7: Multiply up to a 4-digit number by a 2-digit number Step 8: Solve problems with multiplication Step 9: Use short division Step 10: Divide using factors Step 11: Use long division Step 12: Use long division with remainders Step 13: Solve problems with division Step 14: Solve multi-step problems Step 15: Understand the order of priority for operations Step 16: Use mental calculations and estimation Step 17: Reason from known facts</p>
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							<p>2-digit number</p> <p>Step 6: Solve problems with multiplication</p> <p>Step 7: Use short division</p> <p>Step 8: Divide a 4-digit number by a 1-digit number</p> <p>Step 9: Divide with remainders</p> <p>Step 10: Use efficient division methods</p> <p>Step 11: Solve problems with multiplication and division</p>	
Strand: Number - Fractions			<p>Recognise and Write 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</p> <p>Small steps sequence Summer Step 1: Recognise a half of an object or a shape Step 2: Find a half of an object or a shape Step 3: Recognise a half of a quantity Step 4: Find a half of a quantity Step 5: Recognise a quarter of an object or a shape Step 6: Find a quarter of an object or a shape Step 7: Recognise a quarter of a quantity Step 8: Find a quarter of a quantity</p>	<p>Recognise and Write recognise, find, name and write fractions of a length, shape, set of objects or quantity</p> <p>Compare • Recognise the equivalence of 2 quarters and 1 half</p> <p>Calculations write simple fractions for example, $\frac{1}{2}$ of 6 = 3</p> <p>Small steps sequence Summer Step 1: Understand parts and a whole Step 2: Identify equal and unequal parts Step 3: Recognise a half Step 4: Find a half Step 5: Recognise a quarter Step 6: Find a quarter Step 7: Recognise a third Step 8: Find a third Step 9: Find the whole Step 10: Understand</p>	<p>Recognise and Write 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</p> <p>• recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators</p> <p>• recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators</p> <p>Compare • recognise and show, using diagrams, equivalent fractions with small denominators</p> <p>• compare and order unit fractions, and fractions with the same</p>	<p>Recognise and Write count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.</p> <p>Compare recognise and show, using diagrams, families of common equivalent fractions</p> <p>Calculations add and subtract fractions with the same denominator</p> <p>solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number</p> <p>solve simple</p>	<p>Recognise and Write • identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths</p> <p>• recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number</p> <p>Compare compare and order fractions whose denominators are all multiples of the same number</p> <p>Calculations add and subtract fractions with the same denominator and denominators that are multiples of the same number</p> <p>• multiply proper fractions and mixed numbers by whole numbers, supported</p>	<p>Compare use common factors to simplify fractions; use common multiples to express fractions in the same denomination</p> <p>• compare and order fractions, including fractions > 1</p> <p>Calculations add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions</p> <p>• multiply simple pairs of proper fractions, writing the answer in its simplest form</p> <p>• divide proper fractions by whole numbers</p> <p>Small steps sequence Autumn (fractions A) Step 1: Understand and use equivalent fractions to simplify</p> <p>Step 2: Use and find</p>

				<p>unit fractions Step 11: Understand non-unit fractions Step 12: Recognise the equivalence of a half and two-quarters Step 13: Recognise three-quarters Step 14: Find three-quarters Step 15: Count in fractions up to a whole</p>	<p>denominators</p> <p>Calculations add and subtract fractions with the same denominator within one whole</p> <p>solve problems that involve all of the above</p> <p>Small steps sequence Spring Step 1: Understand the denominators of unit fractions Step 2: Compare and order unit fractions Step 3: Understand the numerators of non-unit fractions Step 4: Understand the whole Step 5: Compare and order non-unit fractions Step 6: Interpret scales using fractions Step 7: Understand how fractions can be shown on a number line Step 8: Count in fractions on a number line Step 9: Find equivalent fractions on a number line Step 10: Find equivalent fractions using bar models</p> <p>Small steps sequence Summer (fractions B) Step 1: Add fractions Step 2: Subtract fractions Step 3: Partition the whole Step 4: Find unit fractions of a set of objects Step 5: Find non-unit fractions of a set of</p>	<p>measure and money problems involving fractions</p> <p>Small steps sequence Spring Step 1: Understand the whole Step 2: Count beyond 1 Step 3: Partition a mixed number Step 4: Understand number lines with mixed numbers Step 5: Compare and order mixed numbers Step 6: Understand improper fractions Step 7: Convert mixed numbers to improper fractions Step 8: Convert improper fractions to mixed numbers Step 9: Explore equivalent fractions on a number line Step 10: Explore equivalent fraction families Step 11: Add two or more fractions Step 12: Add fractions and mixed numbers Step 13: Subtract two fractions Step 14: Subtract from whole amounts Step 15: Subtract from mixed numbers</p>	<p>by materials and diagrams</p> <p>Small steps sequence Autumn (fractions A) Step 1: Find fractions equivalent to a unit fraction Step 2: Find fractions equivalent to a non-unit fraction Step 3: Recognise equivalent fractions Step 4: Convert improper fractions to mixed numbers Step 5: Convert mixed numbers to improper fractions Step 6: Compare fractions less than 1 Step 7: Order fractions less than 1 Step 8: Compare and order fractions greater than 1 Step 9: Add and subtract fractions with the same denominator Step 10: Add fractions within 1 Step 11: Add fractions with total greater than 1 Step 12: Add to a mixed number Step 13: Add two mixed numbers Step 14: Subtract fractions Step 15: Subtract from a mixed number Step 16: Subtract from a mixed number – breaking the whole Step 17: Subtract two mixed numbers</p> <p>Small steps sequence Spring (fractions B) Step 1: Multiply a unit fraction by an</p>	<p>equivalent fractions on a number line Step 3: Compare and order fractions with the same denominator Step 4: Compare and order fractions with the same numerator Step 5: Add and subtract simple fractions Step 6: Add and subtract any two fractions Step 7: Add mixed numbers Step 8: Subtract mixed numbers Step 9: Solve multi-step problems</p> <p>Small steps sequence Autumn (fractions B) Step 1: Multiply fractions by integers Step 2: Multiply fractions by fractions Step 3: Divide a fraction by an integer Step 4: Divide any fraction by an integer Step 5: Solve mixed questions with fractions (and identify the operation to use.) Step 6: Find fractions of an amount Step 7: Find the whole from a fraction of an amount</p> <p>Small steps sequence Spring (fractions, decimals and percentages) Step 1: Understand decimal and fraction equivalents Step 2: Understand fractions as division Step 3: Calculate percentages Step 4: Convert</p>
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					objects Step 6: Reason with fractions of an amount		integer Step 2: Multiply a non-unit fraction by an integer Step 3: Multiply a mixed number by an integer Step 4: Calculate a fraction of a quantity Step 5: Find a fraction of an amount Step 6: Find the whole Step 7: Use fractions as operators	fractions to percentages Step 5: Calculate equivalent fractions, decimals and percentages Step 6: Order fractions, decimals and percentages Step 7: Calculate a percentage of an amount (one step) Step 8: Calculate a percentage of an amount (multi-step) Step 9: Calculate the whole number from a given percentage (missing values).
Strand: Number - Decimals						Recognise, Write and Compare (FDP) 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 solve simple measure and money problems involving fractions and decimals to two decimal places Small steps sequence Spring (decimals A) Step 1: Explore tenths as fractions Step 2: Explore	Recognise, Write and Compare (FDP) read and write decimal numbers as fractions • 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 Small steps sequence Spring (decimals and percentages) Step 1: Understand decimals up to 2 decimal places Step 2: Understand equivalent fractions and decimals (tenths) Step 3: Understand equivalent fractions	Recognise, Write and Compare (FDP) identify the value of each digit in numbers given to three decimal places Small steps sequence Spring Step 1: Understand place value within 1 Step 2: Understand place value (integers and decimals) Step 3: Round decimals Step 4: Add and subtract decimals Step 5: Multiply by 10, 100 and 1,000 Step 6: Divide by 10, 100 and 1,000 Step 7: Multiply decimals by integers Step 8: Divide decimals by integers Step 9: Multiply and divide decimals in context Small steps sequence Spring (fractions, decimals and percentages)

						<p>tenths as decimals Step 3: Explore tenths on a place value chart Step 4: Explore tenths on a number line Step 5: Divide a 1-digit number by 10 Step 6: Divide a 2-digit number by 10 Step 7: Explore hundredths as fractions Step 8: Explore hundredths as decimals Step 9: Explore hundredths on a place value chart Step 10: Divide a 1- or 2-digit number by 100</p> <p>Small steps sequence Summer (decimals B) Step 1: Make a whole with tenths Step 2: Make a whole with hundredths Step 3: Partition decimals Step 4: Flexibly partition decimals Step 5: Compare decimals Step 6: Order decimals Step 7: Round to the nearest whole number Step 8: Find halves and quarters as decimals</p>	<p>and decimals (hundredths) Step 4: Calculate equivalent fractions and decimals Step 5: Understand thousandths as fractions Step 6: Understand thousandths as decimals Step 7: Understand thousandths on a place value chart Step 8: Order and compare decimals (same number of decimal places) Step 9: Order and compare any decimals with up to 3 decimal places Step 10: Round to the nearest whole number Step 11: Round to 1 decimal place Step 12: Understand percentages Step 13: Calculate percentages as fractions Step 14: Calculate percentages as decimals Step 15: Calculate equivalent fractions, decimals and percentages</p> <p>Small steps sequence Summer (decimals) Step 1: Use known facts to add and subtract decimals within 1 Step 2: Find complements to 1 Step 3: Add and subtract decimals across 1 Step 4: Add decimals with the same number of decimal places</p>	<p>Step 1: Understand decimal and fraction equivalents Step 2: Understand fractions as division Step 3: Calculate percentages Step 4: Convert fractions to percentage equivalents Step 5: Calculate equivalent fractions, decimals and percentages Step 6: Order fractions, decimals and percentages Step 7: Calculate a percentage of an amount (one step) Step 8: Calculate a percentage of an amount (multi-step) Step 9: Calculate the whole number from a given percentage</p>
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							<p>Step 5: Subtract decimals with the same number of decimal places</p> <p>Step 6: Add decimals with different numbers of decimal places</p> <p>Step 7: Subtract decimals with different numbers of decimal places</p> <p>Step 8: Apply efficient strategies for adding and subtracting decimals</p> <p>Step 9: Understand decimal sequences</p> <p>Step 10: Multiply by 10, 100 and 1,000</p> <p>Step 11: Divide by 10, 100 and 1,000</p> <p>Step 12: Multiply and divide decimals (missing values)</p>	
Strand: Number-Percentages							<p>Fractions, Decimals and Percentages recognise the percent 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</p> <ul style="list-style-type: none"> • solve problems which require knowing percentage and decimal equivalents <p>Small steps sequence Spring (decimals and percentages)</p> <p>Step 1: Understand decimals up to 2 decimal places</p> <p>Step 2: Understand equivalent fractions and decimals (tenths)</p>	<p>Fractions, Decimals and Percentages associate a fraction with division and calculate decimal fraction equivalents for a simple fraction</p> <ul style="list-style-type: none"> • recall and use equivalences between simple fractions, decimals and percentages, including in different contexts <p>Small steps sequence Spring (fractions, decimals and percentages)</p> <p>Step 1: Understand decimal and fraction equivalents</p> <p>Step 2: Understand fractions as division</p> <p>Step 3: Calculate percentages</p> <p>Step 4: Convert fractions to</p>

							<p>Step 3: Understand equivalent fractions and decimals (hundredths)</p> <p>Step 4: Calculate equivalent fractions and decimals</p> <p>Step 5: Understand thousandths as fractions</p> <p>Step 6: Understand thousandths as decimals</p> <p>Step 7: Understand thousandths on a place value chart</p> <p>Step 8: Order and compare decimals (same number of decimal places)</p> <p>Step 9: Order and compare any decimals with up to 3 decimal places</p> <p>Step 10: Round to the nearest whole number</p> <p>Step 11: Round to 1 decimal place</p> <p>Step 12: Understand percentages</p> <p>Step 13: Calculate percentages as fractions</p> <p>Step 14: Calculate percentages as decimals</p> <p>Step 15: Calculate equivalent fractions, decimals and percentages</p>	<p>percentages equivalent</p> <p>Step 5: Calculate equivalent fractions, decimals and percentages</p> <p>Step 6: Order fractions, decimals and percentages</p> <p>Step 7: Calculate a percentage of an amount (one step)</p> <p>Step 8: Calculate a percentage of an amount (multi-step)</p> <p>Step 9: Calculate percentages (missing values)</p>
Strand: Number-Ratio							<p>Ratio and Proportion solve problems involving the relative sizes of two quantities where missing values can be found by using integer</p>	

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

Small steps sequence Spring

Step 1: Understand additive and multiplicative relationships (*Add or multiply?*)

Step 2: Understand and use ratio language

Step 3: Recognise and use the ratio symbol

Step 4: Understand the relationship between ratios and fractions

Step 5: Use ratio to scale a drawing/diagram

Step 6: Understand the relationship between scale factors and ratio

Step 7: Understand similar shapes and use ratio to work out a missing side

Step 8: Solve ratio problems

Step 9: Apply strategies for solving proportion problems

Step 10: Adjust recipes using

								proportion
Strand: Number-Algebra								<p>Algebra use simple formulae</p> <ul style="list-style-type: none"> • 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 <p>Small steps sequence Spring</p> <p>Step 1: Explore 1-step function machines</p> <p>Step 2: Explore 2-step function machines</p> <p>Step 3: Form expressions</p> <p>Step 4: Explore and understand substitution</p> <p>Step 5: Explore and understand formulae</p> <p>Step 6: Form equations</p> <p>Step 7: Solve 1-step equations</p> <p>Step 8: Solve 2-step equations</p> <p>Step 9: Find pairs of values</p> <p>Step 10: Solve problems with two unknowns</p>
Strand: Geometry - Shape	<ul style="list-style-type: none"> • Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical 	<ul style="list-style-type: none"> • Select, rotate and manipulate shapes to develop spatial reasoning skills. • Compose and decompose shapes so that children recognise a shape can have other 	<p>2-D Shape recognise and name common 2-D shapes [for example, rectangles (including squares), circles and triangles]</p>	<p>2-D Shape identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line</p> <ul style="list-style-type: none"> • identify 2-D 	<p>2-D Shape • draw 2-D shapes</p> <p>3-D Shape make 3-D shapes using modelling materials; recognise 3-D shapes in different</p>	<p>2-D Shape compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes</p> <ul style="list-style-type: none"> • identify lines of 	<p>2-D Shape • distinguish between regular and irregular polygons based on reasoning about equal sides and angles.</p> <ul style="list-style-type: none"> • use the properties 	<p>2-D Shape draw 2-D shapes using given dimensions and angles</p> <ul style="list-style-type: none"> • compare and classify geometric shapes based on their

<p>language: 'sides', 'corners'; 'straight', 'flat', 'round'.</p> <ul style="list-style-type: none"> • Select shapes appropriately: flat surfaces for building, a triangular prism for a roof, etc. • Combine shapes to make new ones – an arch, a bigger triangle, etc. • 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. <p>• Encourage children to play freely with blocks, shapes, shape puzzles and shape-sorters.</p> <ul style="list-style-type: none"> • Sensitive support and discuss questions like: "What is the same and what is different?" • Encourage children to talk informally about shape properties using words like 'sharp corner', 'pointy' or 'curvy'. • Talk about shapes as you play with them: "We need a piece with a straight edge." • Provide a variety of construction materials like blocks and interlocking bricks. • Provide den-making materials. Allow children to play freely with these materials, 	<p>shapes within it, just as numbers can.</p> <ul style="list-style-type: none"> • Continue, copy and create repeating patterns. <p>Small steps sequence Autumn: (circles and triangles)</p> <p>Step 1 Identify and name circles and triangles</p> <p>Step 2 Compare circles and triangles</p> <p>Step 3 Identify shapes in the environment</p> <p>Step 4 Describe position</p> <p>Small steps sequence Autumn: (shapes with 4 sides)</p> <p>Step 1 Identify and name shapes with 4 sides</p> <p>Step 2 Combine shapes with 4 sides</p> <p>Step 3 Identify shapes in the environment</p> <p>Small steps sequence Spring: (explore 3D shapes)</p> <p>Step 1 Recognise and name 3D shape</p> <p>Step 2 Find 2D shapes within 3D shapes</p> <p>Step 3 Use 3D shapes for tasks</p> <p>Step 4 Identify 3D shapes in the environment</p> <p>Step 5 Identify more complex patterns</p> <p>Step 6 Copy and continue patterns</p> <p>Step 7 Identify patterns in the environment</p>	<p>3-D Shape recognise and name common 3-D shapes [for example, cuboids (including cubes), pyramids and spheres]</p> <p>Small steps sequence Autumn:</p> <p>Step 1: Recognise and name 3-D shapes</p> <p>Step 2: Sort 3-D shapes</p> <p>Step 3: Recognise and name 2-D shapes</p> <p>Step 4: Sort 2-D shapes</p> <p>Step 5: Identify patterns with 2-D and 3-D shapes</p>	<p>shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]</p> <ul style="list-style-type: none"> • compare and sort common 2-D shapes and everyday objects <p>3-D Shape recognise and name common 3-D shapes [for example, cuboids (including cubes), pyramids and spheres]</p> <ul style="list-style-type: none"> • compare and sort common 3-D shapes and everyday objects <p>Small steps sequence Autumn</p> <p>Step 1: Recognise 2-D and 3-D shapes</p> <p>Step 2: Count sides on 2-D shapes</p> <p>Step 3: Count vertices on 2-D shapes</p> <p>Step 4: Draw 2-D shapes</p> <p>Step 5: Identify lines of symmetry on shapes</p> <p>Step 6: Use lines of symmetry to complete shapes</p> <p>Step 7: Sort 2-D shapes</p> <p>Step 8: Count faces on 3-D shapes</p> <p>Step 9: Count edges on 3-D shapes</p> <p>Step 10: Count vertices on 3-D shapes</p> <p>Step 11: Sort 3-D shapes</p> <p>Step 12: Make patterns with 2-D and 3-D shapes</p>	<p>orientations and describe them</p> <p>Angles and lines recognise angles as a property of shape or a description of a turn</p> <ul style="list-style-type: none"> • identify right angles, recognise that two right angles make a half-turn, 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 <p>Small steps sequence Summer</p> <p>Step 1: Understand the relationship between turns and angles</p> <p>Step 2: Identify right angles</p> <p>Step 3: Compare angles</p> <p>Step 4: Measure and draw straight lines accurately</p> <p>Step 5: Recognise and draw horizontal and vertical lines</p> <p>Step 6: Find and identify parallel and perpendicular lines</p> <p>Step 7: Recognise and describe 2-D shapes</p> <p>Step 8: Draw polygons</p> <p>Step 9: Recognise and describe 3-D shapes</p> <p>Step 10: Make 3-D shapes</p>	<p>symmetry in 2-D shapes presented in different orientations</p> <p>Angles and lines identify acute and obtuse angles and compare and order angles up to two right angles by size</p> <ul style="list-style-type: none"> • identify lines of symmetry in 2-D shapes presented in different orientations • complete a simple symmetric figure with respect to a specific line of symmetry <p>Small steps sequence Summer</p> <p>Step 1: Understand angles as turns</p> <p>Step 2: Identify angles</p> <p>Step 3: Compare and order angles</p> <p>Step 4: Name and identify properties of different triangles</p> <p>Step 5: Name and identify properties of different quadrilaterals</p> <p>Step 6: Name and identify properties of polygons</p> <p>Step 7: Identify lines of symmetry</p> <p>Step 8: Complete a symmetric figure</p>	<p>of rectangles to deduce related facts and find missing lengths and angles</p> <p>3-D Shape identify 3-D shapes, including cubes and other cuboids, from 2-D representations</p> <p>Angles and lines know angles are measured in degrees: estimate obtuse and reflex angles</p> <ul style="list-style-type: none"> • draw given angles, and measure them in degrees • identify: <ul style="list-style-type: none"> • angles at a point and one whole turn (total 360°) • angles at a point on a straight line and a turn (total 180°) • other multiples of 90° <p>Small steps sequence Summer</p> <p>Step 1: Understand and use degrees</p> <p>Step 2: Classify angles</p> <p>Step 3: Estimate angles</p> <p>Step 4: Measure angles up to 180°</p> <p>Step 5: Draw lines and angles accurately</p> <p>Step 6: Calculate angles around a point</p> <p>Step 7: Calculate angles on a straight line</p> <p>Step 8: Calculate lengths and angles in</p>	<p>properties and sizes</p> <ul style="list-style-type: none"> • illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius <p>3-D Shape recognise, describe and build simple 3-D shapes, including making nets</p> <p>Angles and lines find unknown angles in any triangles, quadrilaterals, and regular polygons</p> <ul style="list-style-type: none"> • recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles <p>Small steps sequence Summer</p> <p>Step 1: Measure and classify angles</p> <p>Step 2: Calculate angles</p> <p>Step 3: Calculate vertically opposite angles</p> <p>Step 4: Calculate angles in a triangle</p> <p>Step 5: Calculate angles in a triangle – (special cases)</p> <p>Step 6: Calculate angles in a triangle – (missing angles)</p> <p>Step 7: Calculate angles in a quadrilateral</p> <p>Step 8: Calculate angles in polygons</p> <p>Step 9: Understand properties of circles</p> <p>Step 10: Draw</p>
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	<p>outdoors and inside. When appropriate, talk about the shapes and how their properties suit the purpose.</p> <ul style="list-style-type: none"> • Provide shapes that combine to make other shapes, such as pattern blocks and interlocking shapes, for children to play freely with. When appropriate, discuss the different designs that children make. • Occasionally suggest challenges, so that children build increasingly more complex constructions. • Use tidy-up time to match blocks to silhouettes or fit things in containers, describing and naming shapes. Suggestion: “Where does this triangular one /cylinder /cuboid go?” 	<p>Small steps sequence Summer: (visualise, map and build)</p> <p>Step 1 Identify units of repeating patterns</p> <p>Step 2 Create own pattern rules</p> <p>Step 3 Explore own pattern rules</p>					<p>shapes</p> <p>Step 9: Calculate regular and irregular polygons</p> <p>Step 10: Explore 3-D shapes</p>	<p>shapes accurately</p> <p>Step 11: Explore nets of 3-D shapes</p>
<p>Strand: Geometry - Position and direction</p>	<ul style="list-style-type: none"> • 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’. • Extend and create ABAB patterns – stick, leaf, stick, leaf. • Notice and correct an error in a repeating pattern. • Begin to describe a sequence of events, real or fictional, using 	<ul style="list-style-type: none"> • Continue, copy and create repeating patterns <p>Small steps sequence Autumn (talk about measure and pattern)</p> <p>Step 4 Explore simple patterns</p> <p>Step 5 Copy and continue simple patterns</p> <p>Step 6 Create simple patterns</p> <p>Small steps sequence Autumn (circles and triangles):</p> <p>Step 4 Describe position</p>	<p>Position and Direction describe position, direction and movement, including whole, half, quarter and three-quarter turns</p> <p>Small steps sequence Summer</p> <p>Step 1: Describe turns</p> <p>Step 2: Describe position – left and right</p> <p>Step 3: Describe position – forwards and backwards</p> <p>Step 4: Describe position – above and below</p> <p>Step 5: Understand</p>	<p>Position and Direction order and arrange combinations of mathematical objects in patterns and sequences</p> <ul style="list-style-type: none"> • use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise) 		<p>Position and Direction describe positions on a 2-D grid as coordinates in the first quadrant</p> <ul style="list-style-type: none"> • 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 <p>Small steps sequence Summer</p> <p>Step 1: Describe position using coordinates</p>	<p>Position and Direction 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</p> <p>Small steps sequence Summer</p> <p>Step 1: Read and plot coordinates</p> <p>Step 2: Problem solve with coordinates</p> <p>Step 3: Translate</p> <p>Step 4: Translate with coordinates</p> <p>Step 5: Identify lines</p>	<p>Position and Direction describe positions on the full coordinate grid (all four quadrants)</p> <ul style="list-style-type: none"> • draw and translate simple shapes on the coordinate plane, and reflect them in the axes <p>Small steps sequence Summer</p> <p>Step 1: Understand the first quadrant</p> <p>Step 2: Read and plot points in four quadrants</p> <p>Step 3: Solve problems with coordinates</p>

	<p>words such as 'first', 'then...'</p> <ul style="list-style-type: none"> •Discuss position in real contexts. Suggestions: how to shift the leaves off a path or sweep water away down the drain. •Use spatial words in play, including 'in', 'on', 'under', 'up', 'down', 'besides' and 'between'. <p>Suggestion: "Let's put the troll under the bridge and the billy goat beside the stream."</p> <ul style="list-style-type: none"> •Set up obstacle courses, interesting pathways and hiding places for children to play with freely. When appropriate, ask children to describe their route and give directions to each other. •Provide complex train tracks, with loops and bridges, or water-flowing challenges with guttering that direct the flow to a water tray, for children to play freely with. •Read stories about journeys, such as 'Rosie's Walk' 	<p>Small steps sequence Spring: (explore 3D shapes)</p> <p>Step 5 Identify more complex patterns Step 6 Copy and continue patterns Step 7 Identify patterns in the environment</p> <p>Small steps sequence Summer: (visualise, map and build)</p> <p>Step 1 Identify units of repeating patterns Step 2 Create own pattern rules Step 3 Explore own pattern rules Step 4 Replicate and build scenes and constructions Step 5 Visualise different positions Step 6 Describe positions</p>	ordinal numbers	<p>Small steps sequence Summer</p> <p>Step 1: Understand the language of position Step 2: Describe movement Step 3: Describe turns Step 4: Describe movement and turns Step 5: Describe shape patterns with turns</p>		<p>Step 2: Plot coordinates Step 3: Draw 2-D shapes on a grid Step 4: Translate on a grid Step 5: Describe translation on a grid</p>	of symmetry Step 6: Reflect shapes on horizontal and vertical lines	<p>Step 4: Translate shapes Step 5: Reflect shapes</p>
Strand: Measurement - Length and height	<ul style="list-style-type: none"> • Make comparisons between objects relating to size, length, weight and capacity. • Provide experiences of size changes. Suggestions: "Can you make a puddle larger?", "When you squeeze a sponge, does it stay small?", "What happens when 	<ul style="list-style-type: none"> • Compare length, weight and capacity <p>Small steps sequence Autumn (talk about measure and pattern) Step 1: Compare size</p> <p>Small steps sequence Spring (length, height and time)</p>	<p>Using Measures Compare, describe and solve practical problems for: lengths and heights, -measure and begin to record the following: lengths and heights mass/weight capacity, volume and time</p>	<p>Using Measures choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm) to the nearest appropriate unit, using rulers • compare and order lengths and record the results</p>	<p>Using Measures measure, compare, add and subtract: lengths</p> <p>Small steps sequence Spring (length and perimeter) Step 1: Measure in metres and centimetres Step 2: Measure in millimetres</p>	<p>Using Measures Convert between different units of measure [kilometre to metre] • estimate, compare and calculate different measures</p> <p>Small steps sequence Spring (length and perimeter) Step 1: Measure in</p>	<i>See Strand: Measurement - converting units</i>	<p>Using Measures 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</p>

	<p>you stretch dough, or elastic?"</p> <ul style="list-style-type: none"> •Talk with children about their everyday ways of comparing size, length, weight and capacity. •Model more specific techniques, such as lining up ends of lengths and straightening ribbons, discussing accuracy: "Is it exactly...?" 	<p>Step 1: Explore length Step 2: Compare length Step 3: Explore height Step 4: Compare height</p>	<p>Small steps sequence Spring Step 1: Compare lengths and heights Step 2: Measure length using objects Step 3: Measure length in centimetres</p>	<p>using >, < and =</p> <p>Small steps sequence Spring Step 1: Measure in centimetres Step 2: Measure in metres Step 3: Compare lengths and heights Step 4: Order lengths and heights Step 5: Use the four operations to solve length and height problems</p>	<p>Step 3: Measure in centimetres and millimetres Step 4: Metres, centimetres and millimetres Step 5: Equivalent lengths (metres and centimetres) Step 6: Equivalent lengths (centimetres and millimetres) Step 7: Compare lengths Step 8: Add lengths Step 9: Subtract lengths Step 10: What is perimeter? Step 11: Measure perimeter Step 12: Calculate perimeter</p>	<p>kilometres and metres Step 2: Calculate equivalent lengths (kilometres and metres)</p>		<p>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.</p> <ul style="list-style-type: none"> • convert between miles and kilometres <p>Small steps sequence Autumn Step 1: Use metric measures Step 2: Convert metric measures Step 3: Calculate with metric measures Step 4: Convert between miles and kilometres Step 5: Convert between imperial and metric measures</p>
<p>Strand: Measurement- Perimeter</p>					<p>Perimeter measure the perimeter of simple 2-D shapes</p> <p>Small steps sequence Spring (length and perimeter) Step 1: Measure in metres and centimetres Step 2: Measure in millimetres Step 3: Measure in centimetres and millimetres Step 4: Measure in metres, centimetres and millimetres Step 5: Understand equivalent lengths (metres and centimetres) Step 6: Understand equivalent lengths (centimetres and millimetres)</p>	<p>Perimeter measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres</p> <p>Small steps sequence Spring (length and perimeter) (see above strand for steps 1 and 2) Step 3: Measure perimeter on a grid Step 4: Measure perimeter of a rectangle Step 5: Measure perimeter of rectilinear shapes Step 6: Find missing lengths in rectilinear shapes Step 7: Calculate perimeter of</p>	<p>Perimeter measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres</p> <p>Small steps sequence Spring (perimeter and area) Step 1: Calculate the perimeter of rectangles Step 2: Calculate the perimeter of rectilinear (including composite) shapes Step 3: Calculate the perimeter of polygons</p>	<p>Perimeter and Area recognise that shapes of the same areas can have different perimeters and vice versa</p> <ul style="list-style-type: none"> • recognise when it is possible to use formulae for area and volume of shapes • calculate the area of parallelograms and triangles <p>Small steps sequence Spring (area, perimeter and volume) Step 1: Calculate the area of shapes Step 2: Calculate area and perimeter Step 3: Calculate the area of a triangle (counting squares)</p>

					<p>Step 7: Compare lengths</p> <p>Step 8: Add lengths</p> <p>Step 9: Subtract lengths</p> <p>Step 10: Understand perimeter</p> <p>Step 11: Measure perimeter</p> <p>Step 12: Calculate perimeter</p>	<p>rectilinear shapes</p> <p>Step 8: Measure perimeter of regular polygons</p> <p>Step 9: Measure perimeter of polygons</p>		<p>Step 4: Calculate the area of a right-angled triangle</p> <p>Step 5: Calculate the area of any triangle</p> <p>Step 6: Calculate the area of a parallelogram</p> <p>Step 7: Calculate volume (counting cubes)</p> <p>Step 8: Calculate the volume of a cuboid</p>
Strand: Measurement - Area						<p>Area find the area of rectilinear shapes by counting squares</p> <p>Small steps sequence Autumn</p> <p>Step 1: Understand and calculate area</p> <p>Step 2: Count squares to find the area of a shape</p> <p>Step 3: Make rectilinear shapes</p> <p>Step 4: Compare areas</p>	<p>Area 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</p> <p>Small steps sequence Spring (perimeter and area)</p> <p>Step 4: Calculate the area of rectangles</p> <p>Step 5: Calculate the area of compound shapes</p> <p>Step 6: Estimate area</p>	<p>Perimeter and Area recognise that shapes with the same areas can have different perimeters and vice versa</p> <ul style="list-style-type: none"> • recognise when it is possible to use formulae for area and volume of shapes • calculate the area of parallelograms and triangles <p>Small steps sequence Spring (area, perimeter and volume)</p> <p>Step 1: Calculate the area of shapes</p> <p>Step 2: Calculate area and perimeter</p> <p>Step 3: Calculate the area of a triangle (counting squares)</p> <p>Step 4: Calculate the area of a right-angled triangle</p> <p>Step 5: Calculate the area of any triangle</p> <p>Step 6: Calculate the area of a parallelogram</p> <p>Step 7: Calculate volume (counting cubes)</p> <p>Step 8: Calculate the volume of a cuboid</p>

<p>Strand: Measurement - Mass and volume</p>	<ul style="list-style-type: none"> • Make comparisons between objects relating to size, length, weight and capacity. 	<ul style="list-style-type: none"> • Compare length, weight and capacity <p>Small steps sequence Autumn (talk about measure and pattern)</p> <p>Step 2 Compare mass</p> <p>Step 3 Compare capacity</p> <p>Small steps sequence Spring (mass and capacity)</p> <p>Step 1 Compare mass</p> <p>Step 2 Find a balance</p> <p>Step 3 Explore Capacity</p> <p>Step 4 Compare capacity</p>	<p>Using Measures compare, describe and solve practical problems for:</p> <ul style="list-style-type: none"> • lengths and heights • mass/weight • capacity and volume • time • measure and begin to record the following: • lengths and heights • mass/weight • capacity and volume <p>Small steps sequence Spring</p> <p>Step 1: Understand heavier and lighter</p> <p>Step 2: Measure mass</p> <p>Step 3: Compare mass</p> <p>Step 4: Understand full and empty</p> <p>Step 5: Compare volume</p> <p>Step 6: Measure capacity</p> <p>Step 7: Compare capacity</p>	<p>Using Measures choose and use appropriate standard units to estimate and measure mass (kg/g); capacity (litres/ml) to the nearest appropriate unit, using scales and measuring vessels</p> <ul style="list-style-type: none"> • compare and order, mass, volume/capacity and record the results using >, < and = <p>Small steps sequence Spring (mass, capacity and temperature)</p> <p>Step 1: Compare mass</p> <p>Step 2: Measure in grams</p> <p>Step 3: Measure in kilograms</p> <p>Step 4: Use the four operations to solve mass problems</p> <p>Step 5: Compare volume and capacity</p> <p>Step 6: Measure in millilitres</p> <p>Step 7: Measure in litres</p> <p>Step 8: Use the four operations to solve volume and capacity problems</p> <p>Step 9: Understand and read temperatures</p>	<p>Using Measures measure, compare, add and subtract: mass (kg/g); volume/capacity (l/ml)</p> <p>Small steps sequence Spring (mass and capacity)</p> <p>Step 1: Use scales</p> <p>Step 2: Measure mass in grams</p> <p>Step 3: Measure mass in kilograms and grams</p> <p>Step 4: Calculate equivalent masses (kilograms and grams)</p> <p>Step 5: Compare mass</p> <p>Step 6: Add and subtract mass</p> <p>Step 7: Measure capacity and volume in millilitres</p> <p>Step 8: Measure capacity and volume in litres and millilitres</p> <p>Step 9: Calculate equivalent capacities and volumes (litres and millilitres)</p> <p>Step 10: Compare capacity and volume</p> <p>Step 11: Add and subtract capacity and volume</p>	<p>Using Measures Convert between different units of measure [for example, kilometre to metre; hour to minute]</p> <ul style="list-style-type: none"> • estimate, compare and calculate different measures <p>NO OBJECTIVES TAUGHT IN YEAR 4 FOR MASS AND VOLUME</p>	<p>Volume estimate volume [for example, using blocks to build cuboids] and capacity [for example, using water]</p> <p>Small steps sequence Summer - (volume)</p> <p>Step 1: Understand cubic centimetres</p> <p>Step 2: Compare volume</p> <p>Step 3: Estimate volume</p> <p>Step 4: Estimate capacity</p>	<p>Using Measures solve problems involving the calculation and conversion of units of measure, using decimal notation up to 3 d.p. where appropriate</p> <ul style="list-style-type: none"> • 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 <p>Volume</p> <ul style="list-style-type: none"> • calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm³) and cubic metres (m³), and extending to other units <p>Small steps sequence Spring (area, perimeter and volume)</p> <p>Step 1: Calculate the area of shapes</p> <p>Step 2: Calculate area and perimeter</p> <p>Step 3: Calculate the area of a triangle (counting squares)</p> <p>Step 4: Calculate the area of a right-angled triangle</p> <p>Step 5: Calculate the area of any triangle</p> <p>Step 6: Calculate the area of a</p>
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								parallelogram Step 7: Calculate volume (counting cubes) Step 8: Calculate the volume of a cuboid
Strand: Measurement - Converting units							Using 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 <u>Small steps sequence Summer</u> Step 1: Convert between grams and kilograms and between metres and kilometres (different units of measure) Step 2: Convert between millimetres and metres and between millilitres and litres (different units of measure) Step 3: Convert units of length Step 4: Convert between metric and imperial units Step 5: Convert units of time Step 6: Calculate with timetables	Using Measures 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 <u>Small steps sequence Autumn</u> Step 1: Use metric measures Step 2: Convert metric measures Step 3: Calculate with metric measures Step 4: Convert between miles and kilometres Step 5: Convert between imperial and metric measures
Strand: Measurement - Money			Money recognise and know the value of different	Money recognise and use symbols for pounds (£) and pence (p);	Money add and subtract amounts of money to give change,	Money estimate, compare and calculate different measures,	Money use all four operations to solve problems involving	Money use all four operations to solve problems involving

			<p>denominations of coins and notes</p> <p>Small steps sequence Summer Step 1: Unitise Step 2: Recognise coins Step 3: Recognise notes Step 4: Count in coins</p>	<p>combine amounts to make a particular value</p> <ul style="list-style-type: none"> • 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 <p>Small steps sequence Spring Step 1: Count money – pence Step 2: Count money – pounds (notes and coins) Step 3: Count money – pounds and pence Step 4: Choose notes and coins Step 5: Make the same amount Step 6: Compare amounts of money Step 7: Calculate with money Step 8: Make a pound Step 9: Find change Step 10: Solve two-step problems</p>	<p>using both £ and p in practical contexts</p> <p>Small steps sequence Summer Step 1: Understand pounds and pence Step 2: Convert pounds and pence Step 3: Add money Step 4: Subtract money Step 5: Find change</p>	<p>including money in pounds and pence</p> <p>Small steps sequence Summer Step 1: Write amounts of money using decimals Step 2: Convert between pounds and pence Step 3: Compare amounts of money Step 4: Estimate with money Step 5: Calculate with money Step 6: Solve problems with money</p>	<p>measure [for example, money]</p> <p>NO OBJECTIVES COVERED IN YEAR 5</p>	<p>measure [for example, money]</p>
<p>Strand: Measurement - Time</p>			<p>Time sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]</p> <ul style="list-style-type: none"> • recognise and use language relating to dates, including days of the week, weeks, months and 	<p>Time compare and sequence intervals of time</p> <ul style="list-style-type: none"> • 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 	<p>Time tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks</p> <ul style="list-style-type: none"> • estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, 	<p>Time read, write and convert time between analogue and digital 12- and 24-hour clocks</p> <ul style="list-style-type: none"> • solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days <p>Small steps sequence Summer</p>	<p>Time solve problems involving converting between units of time</p> <p><i>See Strand: Measurement - converting units</i></p>	<p>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</p> <p><i>Note - In the White Rose Math schemes, time conversions are covered in Y5; the Y6 block concentrates on metric units.</i></p>

			<p>years</p> <ul style="list-style-type: none"> • tell the time to the hour and half past the hour and draw the hands on a clock face to show these times <p><u>Small steps sequence Summer</u></p> <p>Step 1: Understand before and after</p> <p>Step 2: Identify the days of the week</p> <p>Step 3: Identify the months of the year</p> <p>Step 4: Understand hours, minutes and seconds</p> <p>Step 5: Tell the time to the hour</p> <p>Step 6: Tell the time to the half hour</p>	<p>a day</p> <p><u>Small steps sequence Summer</u></p> <p>Step 1: Tell the time (o'clock and half past)</p> <p>Step 2: Tell the time (quarter past and quarter to)</p> <p>Step 3: Tell the time past the hour</p> <p>Step 4: Tell the time to the hour</p> <p>Step 5: Tell the time to 5 minutes</p> <p>Step 6: Understand the number of minutes in an hour</p> <p>Step 7: Understand the number of hours in a day</p>	<p>minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight</p> <ul style="list-style-type: none"> • 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] <p><u>Small steps sequence Summer</u></p> <p>Step 1: Identify Roman numerals to 12</p> <p>Step 2: Tell the time to 5 minutes</p> <p>Step 3: Tell the time to the minute</p> <p>Step 4: Read time on a digital clock</p> <p>Step 5: Use am and pm to describe times</p> <p>Step 6: Understand years, months and days</p> <p>Step 7: Understand days and hours</p> <p>Step 8: Calculate durations of time in hours and minutes (use start and end times)</p> <p>Step 9: Use durations to calculate times in hours and minutes</p> <p>Step 10: Understand minutes and seconds</p> <p>Step 11: Understand units of time</p> <p>Step 12: Solve problems with time</p>	<p>Step 1: Understand the relationship between years, months, weeks and days</p> <p>Step 2: Understand the relationship between hours, minutes and seconds</p> <p>Step 3: Convert between analogue and digital times</p> <p>Step 4: Convert to the 24-hour clock</p> <p>Step 5: Convert from the 24-hour clock</p>		
Strand: Statistics				<u>Present and interpret data</u> interpret and	<u>Present and interpret data</u> interpret and	<u>Present and interpret data</u> interpret and	<u>Present and interpret data</u> complete, read and	<u>Present and interpret data</u> interpret and

				<p>construct simple pictograms, tally charts, block diagrams and simple tables</p> <p><u>Solve statistical problems</u> ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity</p> <ul style="list-style-type: none"> ask and answer questions about totalling and comparing categorical data <p><u>Small steps sequence Summer</u> Step 1: Make tally charts Step 2: Understand tables Step 3: Understand block diagrams Step 4: Draw pictograms (1 to 1 correspondence) Step 5: Interpret pictograms (1 to 1 correspondence) Step 6: Draw pictograms (2, 5 and 10 correspondence) Step 7: Interpret pictograms (2, 5 and 10 correspondence)</p>	<p>present data using bar charts, pictograms and tables</p> <p><u>Solve statistical problems</u> <ul style="list-style-type: none"> 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 </p> <p><u>Small steps sequence Summer</u> Step 1: Interpret pictograms Step 2: Draw pictograms Step 3: Interpret bar charts Step 4: Draw bar charts Step 5: Collect and represent data Step 6: Interpret information from two-way tables</p>	<p>present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs</p> <p><u>Solve statistical problems</u> <ul style="list-style-type: none"> solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs </p> <p><u>Small steps sequence Summer</u> Step 1: Interpret charts Step 2: Solve comparison, sum and difference problems Step 3: Interpret line graphs Step 4: Draw line graphs</p>	<p>interpret information in tables, including timetables</p> <p><u>Solve statistical problems</u> <ul style="list-style-type: none"> solve comparison, sum and difference problems using information presented in a line graph </p> <p><u>Small steps sequence Spring</u> Step 1: Draw line graphs Step 2: Read and interpret line graphs Step 3: Read and interpret tables Step 4: Explore two-way tables Step 5: Read and interpret timetables</p>	<p>construct pie charts and line graphs and use these to solve problems</p> <p><u>Solve statistical problems</u> calculate and interpret the mean as an average</p> <p><u>Small steps sequence Spring</u> Step 1: Understand line graphs Step 2: Understand dual bar charts Step 3: Read and interpret pie charts Step 4: Understand pie charts with percentages Step 5: Draw pie charts Step 6: Calculate and interpret the mean as an average</p>
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Whole School
Multiplication
Programme

YEAR	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
1	Experience counting in 1s, 2s, 5s, 10s					
2	1x	(1x) 2x	5x	(5x) 10x	0 x and revision	revision
3	(2x) 4x	(4x) 8x	3x	(3x) 6x	(6x) 12x	revision
4	9x	7x	11x	squares	revision	Test: June
5	Audit individual classes to identify gaps	Times tables sessions - at least 10 minutes per week focusing on key T.T <u>chn</u> find challenging One explicit times tables sessions per term focusing on patterns, connections and developing problem solving and reasoning (conceptual understanding - the why!). Options: choose a focus T.T or a range of T.Ts for each session.				
6	Audit individual classes to identify gaps					