



Rotherhithe Primary School Mathematics Curriculum Map Year R-6 2021-2022



Year	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
R	<p><u>Pattern and early number U2</u> Recognise, describe and copy colour extend and create size and colour patterns . Count, recognise and represent numbers one, two and three</p> <p><u>Numbers within 6 U3</u> Recognise, count and order numbers; say which numbers are 'more or less'</p> <p><u>Addition and subtraction within 6 U4</u> Add by combining two sets within six. Partition a set within six.</p>	<p><u>Numbers within 10 U8</u> Count reliably, place in order, recognise numerals, use ordinals, understand zero</p> <p><u>Addition and subtraction within 10 U9</u> Add two numbers by counting on. Subtract by taking away. Describe the direction on a number track when adding or subtracting.</p> <p><u>Calendar and Time U7</u> Use everyday language to discuss time. Record periods of time.</p>	<p><u>Numbers within 15 U10</u> Recognise, count and order numbers; estimate and compare groups of objects</p> <p><u>Numbers within 20 U12</u> Recognise, count and order numbers; estimate and compare groups of objects</p> <p><u>Shape and Pattern U14</u> Describe 2D shapes and create patterns. Begin to describe 3D shapes.</p>	<p><u>Addition and Subtraction 15</u> Add two numbers together by counting on. Recognise that when two groups are counted in a different order the answer remains the same. Subtract by counting the subset of what is left. Subtract by taking away from the whole.</p> <p><u>Money U16</u> Recognise and use everyday language related to money</p>	<p><u>Grouping and sharing U11</u> Solve practical problems involving equal and unequal groups. Explore counting in steps of 2.</p> <p><u>Doubling and halving U13</u> Solve problems and explore the relationship between doubling and halving</p> <p><u>Measure U5</u> Compare objects and quantities, solve size, weight and capacity problems</p>	<p><u>Addition and Subtraction consolidation</u> Compare quantities to solve problems that include doubling, halving and sharing</p> <p><u>Shape and sorting U6</u> Describe and sort the properties of 3-D shapes. Use 3-D shapes create a variety of stable structures. Describe the position of an object or person using mathematical vocabulary. Follow instructions related to positional language</p> <p><u>Time consolidation</u> Sequence events in the day and begin to tell the o'clock time.</p>

<p>1</p>	<p><u>Numbers to 10</u> Count, read, write, identify, represent, double and half, and use comparative language.</p> <p><u>Addition and subtraction within 10</u> Represent and use number bonds; read, write, interpret, represent and solve.</p> <p><u>Shapes and patterns</u> Recognise common 2-D and 3-D shapes; describe position, direction and movement.</p>	<p><u>Numbers to 20</u> Count, read, write, identify, represent, double and half, and use comparative language.</p> <p><u>Addition and subtraction within 20</u> Augmentation and reduction. Represent and use number bonds; read, write, interpret and solve one-step problems.</p>	<p><u>Time</u> Tell the time to the hour and half-past the hour; solve practical problems for time.</p> <p><u>Exploring calculation strategies within 20</u> Represent and use number bonds; use concrete and pictorial representation to solve one-step problems</p> <p><u>Numbers to 50</u> Count, read, write, identify, represent in numerals and words; recognise place value.</p>	<p><u>Adding and subtracting within 50</u> Represent and use number bonds; read, write, interpret and solve one-step problems.</p> <p><u>Fractions</u> Recognise, find and name a half and a quarter as one of two or four equal parts respectively.</p> <p><u>Measures (1): Length and weight</u> Compare, describe, measure, record and solve practical problems.</p>	<p><u>Numbers 50 to 100 and beyond</u> Count from a given number in 1s, 2s, 5s and 10s; represent, identify and estimate numbers; recognise place value.</p> <p><u>Adding and subtracting within 100</u> Represent and use number bonds; read, write, interpret and solve one-step problems.</p> <p><u>Money</u> Recognise and value coins and notes; solve one-step addition/subtraction problems.</p>	<p><u>Multiplication and division</u> Solve one-step problems using concrete and pictorial representations and arrays.</p> <p><u>Measures (2):</u> Capacity and volume Compare, describe, measure, record and solve practical problems.</p>
<p>2</p>	<p><u>Numbers within 100</u> Use place value and number facts to solve problems; identify, represent, compare and order numbers.</p> <p><u>Add and subtract 2-digit numbers</u> Build addition/subtraction facts/methods to 100; understand commutativity.</p> <p><u>Addition and</u></p>	<p><u>Measuring length</u> Understand appropriate units of measure (cm, m); compare and order; read scales to 100.</p> <p><u>Graphs</u> Interpret and construct tables, tally charts, pictograms and block diagrams; ask/answer questions about</p>	<p><u>Fractions</u> Recognise, find, name and write simple fractions of objects and quantities; recognise equivalences between fractions</p> <p><u>Time</u> Tell and write the time to five minutes; compare and sequence intervals of time.</p>	<p><u>Money</u> Recognise units symbols (£, p); explore combinations of money; solve simple problems, including giving change.</p> <p><u>Faces, shapes and patterns; lines and turns</u> Identify and describe properties of 2-D and 3-D shapes; compare and sort common shapes and objects; describe position and</p>	<p><u>Numbers within 1000</u> Use, identify and represent place value and number facts to solve problems; compare, read, write and order numbers.</p> <p><u>Measures: capacity and volume</u> Understand appropriate units of measure; compare and order; read scales to 1000.</p>	<p><u>Exploring calculation strategies</u> Add/subtract numbers mentally and using formal written methods</p> <p><u>Multiplication and division by 3 and 4</u> Recall and use facts for the 3 and 4 times tables; calculate mathematical statements; solve problems using concrete, pictorial, written and mental methods.</p>



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	<p><u>subtraction word problems</u> Solve problems using concrete and pictorial representations to develop mental and written methods; recognise inverse relationships of operations.</p>	<p>totaling and comparing data.</p> <p><u>Multiplication and division by 2, 5 and 10</u> Calculate mathematical statements; understand commutativity; solve problems using concrete, pictorial, written and mental methods.</p>	<p><u>Addition and subtraction of 2-digit numbers (regrouping and adjusting)</u> Solve problems involving numbers, quantities and measures; estimate and check calculations.</p>	<p>movement in mathematical language</p>	<p><u>Measures: mass</u> Understand appropriate units of measure; compare and order; read scales to 1000.</p>	
3	<p><u>Number sense and reasoning within 100</u> Solve number and practical problems, including estimation and checking; add and subtract money to give change in £ and p.</p> <p><u>Place Value</u> Identify, represent and estimate numbers in different contexts, recognise and use place value of 3-digit numbers in calculations.</p>	<p><u>Graphs</u> Interpret and present data using charts and tables. Solve one and two-step problems using presented information.</p> <p><u>Addition and subtraction with up to 4 digits</u> Calculate mentally and using formal written methods; solve problems using number facts and place value.</p> <p><u>Length and perimeter</u> Measure, compare, add/subtract</p>	<p><u>Multiplication and division word problems</u> Solve scaling and correspondence problems in which n objects are connects to m objects.</p> <p><u>Using 10s and 100s to multiply and divide large numbers</u> Calculate mathematical statements including for two-digit numbers by one-digit numbers; progress from mental to formal written methods.</p>	<p><u>Time: analogue, digital and finding how long</u> Tell, record, write and compare the time, including using Roman numerals, 12 and 24-hour clocks, using correct vocabulary; compare durations.</p> <p><u>Fractions</u> Recognise, use, compare, order simple fractions; understand fractions as parts of a whole; add/subtracts fractions of same denominator.</p>	<p><u>Angles and shape</u> Identify right-angles, recognising them as quarters of a turn; identify parallel and perpendicular lines; draw/make and measure 2-D and 3-D shapes.</p> <p><u>(Length), weight & volume</u> Measure, compare, add/subtract and solve problems, using appropriate tools and units.</p>	<p><u>6 & 8 times tables</u> Recall and use multiplication/division facts for 6 & 8 times table; count in multiples of 6 & 8; calculate mathematical statements.</p> <p><u>Exploring calculation strategies and place value</u> Add/subtract numbers mentally; find 10, 100, 1000 more than a given number; order and compare beyond 1000; round any number to nearest 10, 100, 1000.</p>



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		lengths; solve problems using appropriate tools and units.				
4	<p><u>Reasoning with large numbers</u></p> <ul style="list-style-type: none"> •4-digit place value. Read, write, represent, order and compare •Find 10, 100 or 1000 more or less •Round numbers to the nearest 10, 100 or 1000 <p><u>Addition and subtraction</u></p> <ul style="list-style-type: none"> •Select appropriate strategies to add and subtract •Illustrate and explain appropriate addition and subtraction strategies including column method with regrouping 	<p><u>Multiplication and division</u></p> <ul style="list-style-type: none"> •Distributive property including multiplying three 1-digit numbers •Mental multiplication and division strategies using place value and known and derived facts •Short multiplication and division <p><u>Discrete and continuous data</u></p> <ul style="list-style-type: none"> •Read, interpret and construct pictograms, bar charts and time graphs •Compare tables, pictograms and bar charts 	<p><u>Securing multiplication facts</u></p> <ul style="list-style-type: none"> •Identify and explore patterns in multiplication tables including 7 and 9 <p><u>Fractions</u></p> <ul style="list-style-type: none"> •Explore different interpretations and representations of fractions •Equivalent fractions •Represent fractions greater than one as mixed number and improper fractions •Add and subtract fractions with the same denominator including fractions greater than one <p><u>Time</u></p> <ul style="list-style-type: none"> •Analogue to digital, 12- hour and 24-hour •Convert between units of time 	<p><u>Decimals</u></p> <ul style="list-style-type: none"> •Decimal equivalents to tenths, quarters and halves •Compare and order numbers with same number of decimal places •Multiply and divide by 10 and 100 including decimals <p><u>Area and perimeter</u></p> <ul style="list-style-type: none"> •Perimeter of rectangles and rectilinear shapes •Area of rectangles and rectilinear shapes •Investigate area and perimeter 	<p><u>Solving measures and money problems</u></p> <ul style="list-style-type: none"> •Convert units of measure •Select appropriate units to measure •Use strategies to investigate problems: trial and improvement, organising using lists and tables, working systematically <p><u>Shape and symmetry</u></p> <p>Classify, compare and order angles</p> <ul style="list-style-type: none"> •Compare and classify 2-D shapes •Identify lines of symmetry 	<p><u>Position and direction</u></p> <ul style="list-style-type: none"> •Describe and plot using coordinates •Describe translations <p><u>Reasoning with pattern and sequences</u></p> <ul style="list-style-type: none"> •Roman numerals up to 100 •Place value of other number systems •Number sequences and patterns <p><u>3-D shape</u></p> <ul style="list-style-type: none"> •Use understanding of 3-D shapes •Identify 3-D shapes from 2-D representations

5	<p><u>Reasoning with large whole integers</u></p> <ul style="list-style-type: none"> • Read, write, order and compare numbers up to one million • Round numbers within one million to the nearest multiple of powers of ten • Read Roman numerals up to M <p><u>Integer addition and subtraction</u></p> <ul style="list-style-type: none"> • Use rounding to estimate • Use a range of mental calculation strategies to add and subtract integers • Illustrate and explain the written method of column addition and subtraction • Select efficient calculation strategies <p><u>Line graphs and timetables</u></p> <p>Complete, read and interpret data</p>	<p><u>Multiplication and division</u></p> <ul style="list-style-type: none"> • Identify multiples and factors • Investigate prime numbers^{[1][2]}_[SEP] • Multiply and divide by 10, 100 and 1000 (integers)^{[1][2]}_[SEP] • Derived facts^{[1][2]}_[SEP] • Illustrate and explain formal multiplication and division strategies such as short and long • Use a range of mental calculation strategies <p><u>Perimeter and area</u></p> <ul style="list-style-type: none"> • Investigate area and perimeter of rectilinear shapes^{[1][2]}_[SEP] • Estimate area of non-rectilinear shapes^{[1][2]}_[SEP] 	<p><u>Fractions and decimals</u></p> <ul style="list-style-type: none"> • Read, write, order and compare decimals • Round decimals to the nearest whole number • Represent, identify, name, write, order and compare fractions (including improper and mixed numbers)^{[1][2]}_[SEP] • Calculate fractions of amounts <p><u>Angles</u></p> <ul style="list-style-type: none"> • Classify, compare and order angles • Measure a draw angles with a protractor • Understand and use angle facts to calculate missing angles 	<p><u>Fractions and percentages</u></p> <ul style="list-style-type: none"> • Add, subtract fractions with denominators that are multiples of the same number • Multiply fractions (and mixed numbers) by a whole number • Explore percentage, decimal, fractions equivalence <p><u>Transformations</u></p> <p>Coordinates in all four quadrants</p> <ul style="list-style-type: none"> • Translation and reflection • Calculate intervals across zero as a context for negative numbers 	<p><u>Converting units of measure</u></p> <ul style="list-style-type: none"> • Convert between metric units of length, mass and capacity and units of time • Know and use approximate conversion between imperial and metric <p><u>Calculating with whole numbers and decimals</u></p> <ul style="list-style-type: none"> • Mental strategies to add and subtract involving decimals • Formal written strategies to add, subtract and multiply involving decimals • Multiply and divide by 10, 100 and 1000 involving decimals • Derive multiplication facts involving decimals 	<p><u>2-D and 3-D shape</u></p> <ul style="list-style-type: none"> • Classify 2-D shapes and reason about regular and irregular polygons • Properties of diagonals of quadrilaterals • Classify 3-D shapes^{[1][2]}_[SEP] • 2-D representations of 3-D shapes. <p><u>Volume</u></p> <ul style="list-style-type: none"> • Use cube numbers and notation Estimate volume^{[1][2]}_[SEP] Convert units of volume^{[1][2]}_[SEP] <p><u>Problem solving</u></p> <ul style="list-style-type: none"> • Negative numbers and calculating intervals across zero • Calculating the mean • Interpret remainders • Investigate numbers: consecutive, palindromic, multiples
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	presented in line graphs Read and interpret timetables including calculating intervals					
White Rose MTP						
6	<p><u>Number: Place Value</u></p> <ul style="list-style-type: none"> Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit. Round any whole number to required degree of accuracy. Use negative numbers in context, and calculate intervals across zero. Solve number and practical problems that involve all of the above. <p><u>Number: Addition & Subtraction, Multiplication & Division</u></p> <ul style="list-style-type: none"> Solve addition & subtraction multi-step problems in contexts, deciding which operations and methods to use and why. Multiply multi-digit numbers up to 4 	<p><u>Number: Fractions</u></p> <ul style="list-style-type: none"> Use common factors to simplify fraction; use common multiples to express fractions in the same denomination. Compare and order fractions, including fractions >1 Generate and describe linear number sequences (with fractions) Add and subtract fractions with different denominations and mixed numbers, using the concept of equivalent fractions. Multiply simple pairs of proper 	<p><u>Number: Decimals</u></p> <ul style="list-style-type: none"> Identify the value of each digit in numbers given to 3 decimal places and multiply numbers by 10, 100 and 1000 giving answers up to 3 decimal places. Multiply 1-digit numbers with up to 2 decimal places by whole numbers. Use written division methods in cases where the answer has up to 2 decimal places. Solve problems which require answers to be rounded to specified degrees of accuracy. <p><u>Number: Percentages</u></p>	<p><u>Measurement: Converting Units</u></p> <ul style="list-style-type: none"> Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate. Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to 3 dp. Convert between miles and kilometers. <p><u>Measurement: Area, Perimeter & Volume</u></p> <ul style="list-style-type: none"> Recognise that shapes with the 	<p><u>Geometry: Properties of shape</u></p> <ul style="list-style-type: none"> Draw 2D shapes using given dimensions and angles Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals and regular polygons. Recognise angles where they meet at a point, are on a straight line, or are vertically opposite and find missing angles. <p><u>Problem Solving</u> <i>White Rose Problem of the Day</i></p> <p><u>Statistics</u></p> <ul style="list-style-type: none"> Illustrate and name parts of circles, including 	<p><u>Investigations</u> <i>White Rose Problem of the Day</i></p> <p><u>Consolidation</u></p>

	<p>digits by a 2digit number using the formal written methods of long multiplication.</p> <ul style="list-style-type: none"> ○ Divide numbers up to 4 digits by a 2-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. ○ Perform mental calculations, including with mixed operations and large numbers. ○ Identify common factors, common multiples and prime numbers. ○ Use their knowledge of the order of operations to carry out calculations involving the four operations. ○ Solve problems involving addition, subtraction, multiplication and division. ○ Use estimation to check answers to 	<p>fractions writing the answer in its simplest form. $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$</p> <ul style="list-style-type: none"> ○ Divide proper fractions by whole numbers $\frac{1}{3} \div 2 = \frac{1}{6}$ ○ Associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $\frac{1}{8}$) ○ Recall and use equivalences between simple fractions, decimals and percentages, including different contexts. <p><u>Geometry: Position & Direction</u></p> <ul style="list-style-type: none"> ○ Describe positions on the full coordinate grid (all four quadrants) ○ Draw and translate simple shapes on the coordinate plane, and 	<ul style="list-style-type: none"> ○ Solve problems involving the calculation of percentages (e.g. of measures and such as 15% of 360) and the use of percentages for comparison. ○ Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. <p><u>Number: Algebra</u></p> <ul style="list-style-type: none"> ○ Use simple formulae ○ Generate and describe linear number sequences ○ Express missing number problems algebraically ○ Find pairs of numbers that satisfy an equation with two unknowns. ○ Enumerate possibilities of combinations of two variables. 	<p>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. ○ Calculate, estimate and compare volume of cubes and cuboids using standard units, including cm^3, m^3 and extending to other units (mm^3 and km^3) <p><u>Number: Ratio</u></p> <ul style="list-style-type: none"> ○ Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication & division facts. ○ Solve problems involving similar shapes where the scale factor is known or can be found. ○ Solve problems involving unequal 	<p>radius, diameter and circumference and know that the diameter is twice the radius</p> <ul style="list-style-type: none"> ○ Interpret and construct pie charts and line graphs and use these to solve problems, ○ Calculate the mean as an average. 	
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	calculations and determine the context of a problem, an appropriate degree of accuracy.	reflect them in the axes. <u>Consolidation</u>		sharing and grouping using knowledge of fractions and multiples. <u>Consolidation</u>		
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