

Mathematics Long Term Planning

Year Group	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
Year N	<ul style="list-style-type: none"> - Use some number names and number language in play - Show finger numbers up to 5 - Say one number name for each item in order 1,2,3,4,5 - Use informal language like 'pointy', 'spotty', 'blobs' - Joins in with simple patterns in sounds, objects, games and stories dance and movement predicting what comes next 	<ul style="list-style-type: none"> - Fast recognition of up to 3 objects, without having to count them individually (subitising) - Recite numbers past 5 and at least up to 10 - Select shapes appropriately: flat surfaces for building, a triangular prism for a roof etc - Separates a group of three or four objects in different ways, beginning to recognise that the total is still the same 	<ul style="list-style-type: none"> - Begin to recognise numerals 0-10 - Verbally counts beyond 10 - Understand position through words alone - Compare quantities using language 'lots' 'more' 'same' 'more than' 'fewer than' - Make comparisons between objects relating to size, length, weight and capacity - Extend and create ABAB patterns 	<ul style="list-style-type: none"> - Link numerals and amounts - Know that the last number reached when counting a small set of objects tells you how many there are in total (cardinal principle) - Talk about and explore 2D and 3D shapes - Describe a familiar route - Predicts, moves and rotates objects to fit the space or create the shape they would like - Explore using a range of own marks and signs which ascribe mathematical meanings. 	<ul style="list-style-type: none"> - In meaningful contexts, find the longer or shorter, heavier or lighter and more/less full of two items - Discuss routes and locations, using words like 'in front of' and 'behind' - Experiment with their own symbols an marks as well as numerals - Begin to recognise that each counting number is one more than the one before - Develop a deep understanding of number to 5, including the composition of each number 	<ul style="list-style-type: none"> - Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 3 (including subtraction facts) - Notice and correct an error in a repeating pattern - Solve real world mathematical problems with numbers up to 5 - Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then'...
Year R	<ul style="list-style-type: none"> - Counts objects, actions and sounds - Enjoys reciting numbers from 0 to 10 and back from 10 to 0 - Count beyond 10 - Link the number symbol (numeral) with its cardinal number value. - Compare size, length, weight and capacity. - Continue, copy and create repeating patterns. 	<ul style="list-style-type: none"> - Subitise, for example, identify small quantities in familiar patterns, i.e. dice. Identify the number of objects from hide/reveal activities without counting etc. - Estimate how many objects they can see and checks by counting them. - Increasingly confident at putting numerals in order 0 to 10 (ordinality) - Chooses familiar objects to create and recreate repeating patterns beyond AB patterns and begins to identify the unit of repeat. 	<ul style="list-style-type: none"> - Understand the 'one more than/one less than' relationship between consecutive numbers. - Explore the composition of numbers to 10 exploring partitioning in different ways with a wide range of objects - Compare numbers using number names and symbols - Select, rotate and manipulate shapes in order to develop spatial reasoning skills. 	<ul style="list-style-type: none"> - In practical activities, adds one and subtracts one with numbers to 10 - Begin to explore and work out mathematical problems, using signs and strategies of their own choice, including (when appropriate) standard numerals, tallies and "+", "-", "=" - Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can. 	<ul style="list-style-type: none"> - ELG Subitise (recognise quantities without counting) up to 5 - ELG 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. - ELG Verbally count beyond 20, recognising the pattern of the counting system 	<ul style="list-style-type: none"> - ELG Have a deep understanding of number to 10, including the composition of each number - ELG Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally - Automatically recall number bonds for numbers 0-10. - ELG Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity
Year 1	<ul style="list-style-type: none"> - Count on and back to 100, identify 1 more or less. - Read and write numbers to 100 in numerals and words. - Add and subtract numbers to 20 using a number line. - Recognise 2d a& 3d shape names. - Begin to measure lengths. 	<ul style="list-style-type: none"> - Count in multiples of 2, 5 and 10. - Multiple by using arrays. - Divide by using grouping and sharing. - Find half of shapes and amounts. - Measure and record time. - Recognise coins and notes. 	<ul style="list-style-type: none"> - Add numbers to 20 by partitioning and using a number line. - Subtract numbers by taking away and finding the difference. - Compare heights and lengths. - Measure and record weight/mass. 	<ul style="list-style-type: none"> - Multiply using arrays and repeated additions - Solve division problems using grouping and sharing. - Find quarters of shapes and amounts. - Tell the time to the hour and half past on a clock. - Measure and record capacity and volume. - Describe position and movement of objects. 	<ul style="list-style-type: none"> - Recall number bonds to 10 and 20. - Solve addition and subtraction problems by using taught written methods. - Compare and solve problems involving time. - Use clockwise and anticlockwise to make different turns. - Solve problems for length, weight and capacity. 	<ul style="list-style-type: none"> - Solve addition and subtraction problems by using taught written methods. - Begin to recall the 2, 5, and 10 times table facts. - Solve problems using halves and quarters. - Recognise and use language relating to dates.

<p>Year 2</p>	<ul style="list-style-type: none"> - Count forward & back in steps of 2, 5, 10. - Recognise the value of two-digit numbers. - Compare, order and round numbers to 100. - Add and subtract numbers using numbers using objects and number lines. - Add up to 3 single digits mentally. - Recall number bonds to 10 & 20. - Identify properties of 2d shapes. - Measure and record length, weight and capacity. - Recall multiplication and division facts for the 2, 5, 10s. 	<ul style="list-style-type: none"> - Recognise odd and even numbers. - Solve multiplication using repeated addition on a number line. - Solve division using grouping, sharing and number lines. - Identify and describe 3d shapes using edges, faces and vertices. - Describe the faces of 3d shapes using 2d shape names. - Identify $\frac{1}{2}$, $\frac{1}{4}$, $2/4$ & $\frac{3}{4}$ of amounts, shapes and lengths. - Interpret and construct simple graphs and charts when collecting data. - Compare and measure units of measure including temperature. - Tell the time at five-minute interval and use quarter past and to. 	<ul style="list-style-type: none"> - Partition two-digit numbers up to 100. - Add and subtract two 2-digit numbers using number lines. - Recognise and use inverse to check calculations. - Apply number bonds for 10 and 20 for numbers up to 100. - Recognise and count coins to solve problems including £ and p. - Compare and sort 2d and 3d shapes and relate to real life objects. - Read and write names for 2d and 3d shapes. - Draw lines and shapes using straight edges. 	<ul style="list-style-type: none"> - Solve multiplication problems using repeated addition on a number line. - Solve division problems using grouping, sharing and number lines. - Write and understand simple fractions and recognise simple equivalence. - Compare and order length, mass & volume. - Use comparing language such as half as tall, etc. - Increase fluency of telling the time to five minutes of analogue clocks. - Ask and answer questions and problems from simple charts and graphs. 	<ul style="list-style-type: none"> - Add and subtract two 2-digit numbers using number lines and simple columns. - Solve addition and subtraction problems with increasing difficulty. - Count in fractions up to 10 using $1/2$ and $\frac{1}{4}$. - Create and describe patterns with shapes in different orientations. 	<ul style="list-style-type: none"> - Solve problems and explain with reasoning for multiplication and division using number line written methods. - Solve worded problems, which include all four operations. - Recall fluently the 2, 5 and 10 times tables including division facts. - Use correct language to describe position and direction including angles such as a right angle.
<p>Year 3</p>	<ul style="list-style-type: none"> - Recognise the place value of 3-digit numbers. - Compare & order 3-digit numbers. - Identify, estimate and represent numbers in different ways. - Read and write numbers to 1000 in numerals and words. - Round 3-digit numbers to the nearest 10 & 100. - Draw and make 2d & 3d shapes. - Add and subtract 3-digit numbers using number lines and expanded columnar methods. - Recognise 3d shapes in different orientations. - Interpret and present data using bar charts, tables and pictograms. - Begin to recall the multiplication & division facts for the 3, 4 & 8 times tables. 	<ul style="list-style-type: none"> - Solve number problems and practical problems using place value of 3-digit numbers. - Recall multiplication and division facts for the 3, 4 & 8 times tables. - Solve multiplication calculations using number lines and grid method. - Solve division calculations using number lines for repeated addition and subtraction and progress to using the chunking method. - Tell the time accurately on an analogue clock. - Read and write time using Roman Numerals 1-12. - Read time on both 12-hour and 24-hour clocks. - Know time facts such as seconds in a minute, minutes in an hour, etc. 	<ul style="list-style-type: none"> - Add and subtract 2-digit and 3-digit numbers using the formal compact column methods beginning to use decomposition for subtraction. - Count up and down in tenths. - Recognise and find fractions of numbers and show equivalent fractions using diagrams. - Understand what a tenth is and link this to division by 10. - Add and subtract money, give change using both £ and p. - Compare different forms of measure and use simple scaling (e.g. twice as long, etc.). - Solve one or two step problems relating to data presented in charts and tables. - Present data in a range of forms using different scales. 	<ul style="list-style-type: none"> - Multiply and divide using formal written methods. Short multiplication (TU x U) and short division (bus stop method), with or without remainders. - Recognise fractions as parts of a whole, shape, numbers and link to division. - Estimate and read time to the nearest minute. - Compare lengths of time and link to time vocabulary. - Continue to develop fluency of using money, notes and coins, apply addition and subtraction to work out change and totals. - Identify right angles and understand how two right angles make a straight line. - Identify whether angles are greater or less than a right angle. 	<ul style="list-style-type: none"> - Add and subtract 2-digit and 3-digit numbers using the formal compact column methods beginning to use decomposition for subtraction, using the inverse operations to check. - Solve addition and subtraction word problems. - Select and use the appropriate tools to accurately measure length, mass and capacity. - Compare measures and use simple equivalence (e.g. 1m = 100 cm, etc.). - Identify horizontal and vertical lines. - Identify and draw lines that perpendicular and parallel. - Describe properties of 2d shapes using lines, angles and lines of symmetry. - Describe properties of 3d shapes. 	<ul style="list-style-type: none"> - Solve problems linked to multiplication and division, including scaling and - Solve problems linked to all four operations. - Add and subtract fractions with the same denominator. - Compare and order fractions with the same denominators. - Solve problems including fractions taught.

<p>Year 4</p>	<ul style="list-style-type: none"> - Recognise and understand the place value of four-digit numbers. Order and compare numbers beyond 1000. Identify, estimate and represent numbers in different ways. - Round any whole number to the nearest 10, 100 or 1000. - Count backwards past zero including negative numbers. - Count on in steps of 6, 7, 9, 25 and 1000. - Add and subtract numbers up to 4 digits using formal written methods. - Estimate and use inverse to check written methods. - Read, write and convert between analogue and digital 12 and 24-hour times. - Solve problems including converting units of time. - Compare and sort 2d shapes including different types of triangles and quadrilaterals. - Identify lines of symmetry in shapes and complete simple symmetrical patterns. 	<ul style="list-style-type: none"> - Begin to recall multiplication and division facts for times table up to 12×12. - Multiply 2-digit and 3-digit numbers by a single digit number using the grid method. - Divide numbers using the chunking method and short division method (bus stop). - Count up and down in hundredths. - Understand the place value of decimal numbers to 2 decimal place. - Round decimal numbers to the nearest whole number. - Convert between units of measure (e.g. hours to minutes, km to m etc.). - Measure and calculate the perimeter of rectangular shapes. - Identify, compare and order angles including acute and obtuse angles. - Interpret and present data using bar charts and line graphs. 	<ul style="list-style-type: none"> - Read Roman numerals to 100. - Add and subtract 4 digit numbers and numbers to 2 decimal point (money) using columnar methods. - Solve addition and subtract two-step problems in a range of contexts. - Recall multiplication and division facts for times table up to 12×12. - Recognise factor pairs using times table skills. - Use diagrams to represent common equivalent fractions. - Read and write decimal equivalence for 10^{th}s and 100^{th}s. - Estimate, compare and calculate measures including money. - Find the area of rectangular shapes. - Describe and plot positions as coordinates in the first quadrant. 	<ul style="list-style-type: none"> - Multiply 2-digit and 3-digit numbers by a single digit number using the grid method. - Divide numbers using the chunking method and short division method (bus stop). - Solve problems involving multiplying and dividing applying scaling problems. - Solve problems including fractions to calculate quantities including measures and money. - Add and subtract fractions with the same denominator. - Solve comparison questions and problems from bar charts, tables, pictograms and time graphs. 	<ul style="list-style-type: none"> - Add and subtract 4 digit numbers and numbers to 2 decimal point (money) using columnar methods moving on to increasing larger numbers to develop fluency and accuracy. - Solve addition and subtract two-step problems in a range of contexts linking in shape, measures and money. - Draw symmetrical patterns using a variety of media. - Describe movements between two positions as translations. 	<ul style="list-style-type: none"> - Multiply 2-digit and 3-digit numbers by a single digit number using the grid method. - Divide numbers using the chunking method and short division method (bus stop). - Solve two step problems in context involving multiplying and dividing applying scaling problems. - Continue to add and subtract fractions and develop fluency of applying this to more complex problems. - Use decimal notation fluently to order, compare and round decimals.
<p>Year 5</p>	<ul style="list-style-type: none"> - Read, write, compare, order and round numbers up to 1,000,000 understanding the value of each digit. - Recognise number sequences and patterns. - Add and subtract whole numbers with more than 4-digits using the formal column written methods and solve multi-step word problems involving both. - Using rounding to support estimation of answers for addition and subtraction. - Measure and calculate the perimeter of rectangular shapes in both cm and m. - Understand properties of different types of angles. 	<ul style="list-style-type: none"> - Interpret negative numbers in context. - Multiply number up to 4 digit numbers using short multiplication written methods. - Divide numbers up to 4 digit by using both the long and short division written methods. - Identify multiples and factors, prime numbers and prime factors. - Multiply and divide numbers by 10, 100 and 1000. - Compare and order fractions and identify and name equivalent fractions. - Calculate and compare area of rectangular shapes and estimate area of irregular shapes. - Identify properties of 2d shapes and identify regular and irregular polygons. - Solve problems and questions based on data presented in a line graph. 	<ul style="list-style-type: none"> - Read and write Roman numerals to 1000. - Add and subtract using formal column methods for numbers up to 4-digits and decimals up to 1 decimal place. - Identify squared and cubed numbers. - Understand how fractions link to decimals and measures for 100^{th} and 1000^{th}. - Add and subtract decimals using written methods and mental strategies (number bonds). - Use a protractor to measure and draw angles accurately. - Explain the position of a shape following reflection and translation. 	<ul style="list-style-type: none"> - Multiply number up to 4 digit numbers using short and long multiplication written methods. - Divide numbers up to 4 digit by using both the long and short division written methods. - Solve problems for multiplication and division, apply knowledge of factors, multiples, square, and cube numbers. - Convert mixed number fractions to improper fractions. - Add and subtract fractions, which would exceed a whole. Apply knowledge of fractions to find fractions on quantities. - Convert between different units of measure and solve problems that include conversions on measure and time. - Identify 3d shapes in different 2d representations. - Complete, read and interpret information shared in a timetable. 	<ul style="list-style-type: none"> - Add and subtract using formal column methods for numbers up to 4-digits and decimals up to 1 decimal place. - Solve multistep problems that include all four operations. - Understand the place value of decimal numbers to compare, order and solve problems including these. - Begin to understand what percentages are and how they relate to fractions and decimals. - Solve problems involving conversions of measure including time. - Identify and solve missing angles. 	<ul style="list-style-type: none"> - Solve problems for multiplication and division, apply knowledge of factors, multiples, square, and cube numbers. - Solve multistep problems that include all four operations. - Multiply fractions by whole numbers. - Solve problems including fractions, decimals and percentages. - Compare and convert metric and imperial units of measure. - Use all four operations to solve problems involving all areas of measure.

Year 6

<ul style="list-style-type: none"> - Read, write, compare and order number up to 10,000,000 and understand the value of each digit. - Round any whole number accurately. - Use negative numbers in context and calculate intervals across zero. Apply these skills to problem solving including temperatures. - Solve addition and subtraction multi-step problems in context. - Multiply 4-digit by 2-digit numbers by using long multiplication written methods. - Divide numbers by using both the short and long written methods, and interpret remainders as fractions and decimals. - Multiply 1-digit numbers with up to 2 decimal places by whole numbers. - Divide decimal numbers by 1-digit whole numbers. - Use estimation to check answers and use inverse operations. - Multiply and divide numbers by 10, 100 and 1000 giving answers to 3 decimal places. - Draw 2d shapes with given measurements and angles. 	<ul style="list-style-type: none"> - Solve addition, subtraction, multiplication and division multi-step problems in context. - Use common factors to simplify fractions and identify common multipliers. - Recognise, describe 3d shapes and nets. - Compare and classify geometric shapes based on properties and angles. - Recognise and work out missing angles in different contexts. - Identify and work out the different parts of a circle. - Use simple formulae, generate and describe number sequences. Express missing number problems algebraically. - Begin to use and work out ratios and proportions and apply in different contexts. 	<ul style="list-style-type: none"> - Solve addition, subtraction, multiplication and division multi-step problems in context. - Compare and order fractions to 1. - Add and subtract fractions. - Multiply simple pairs of fractions. - Divide proper fractions by whole numbers. - Recall and recognise equivalences between simple fractions, decimals and percentages. - Solve problems including conversions of measure. - Use, read, write and convert all measures. - Describe position on the full quadrant coordinate grid. - Draw and translate simple shapes and reflect them on the axes. - Interpret and construct pie charts. - Calculate mode, median, range and mean for a set of data. 	<ul style="list-style-type: none"> - Solve addition, subtraction, multiplication and division multi-step problems in context. - Continue to practise, use and problem solve with fractions, percentages and decimals. - Find the area of parallelograms and triangles and use the formulas to work out missing measurements. - Draw and label 2d shapes on a full coordinates grid and work out missing coordinates. - Convert miles to km and use graphical representations to show this. - Begin to find and work out volume for cubes and cuboids. 	<ul style="list-style-type: none"> - Solve addition, subtraction, multiplication and division multi-step problems in context. - Continue to practise, use and problem solve with fractions, percentages and decimals. - Find and work out volume for cubes and cuboids using standard units of measure. - Introduce the use of symbols and letter to represent unknowns in mathematical situations, e.g. missing number sentences and unknown measurements. 	<ul style="list-style-type: none"> - Solve addition, subtraction, multiplication and division multi-step problems in context. - Continue to practise, use and problem solve with fractions, percentages and decimals. - Find and work out volume for cubes and cuboids using standard units of measure. - Solve problems including conversions of all measures including converting between imperial and metric. - Introduce compound units for speed and link this to learning in other subjects.
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