

Maths Subject Overview

	Nursery	Reception	Year 1	● Year 2
Autumn	<p>Say one number for each item in order: 1,2,3,4,5. Develop fast recognition of up to 3 objects, without having to count them individually ('subitising'). 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.</p> <p>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> <p>Select shapes appropriately in play: flat surfaces for building, a triangular prism for a roof etc. Combine shapes to make new ones - an arch, a bigger triangle etc.</p> <p>Understand position through words alone</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 correspondence; understanding that anything can be counted, including actions and sounds compare sets of objects by matching begin to develop the language of 'whole' when talking about objects which have parts 	<ul style="list-style-type: none"> Geometry – Positional language including ordinal numbers Numbers to Ten: Finding patterns in numbers (including subitising) Counting and comparison (more, less, fewer) Estimating and ordering Regrouping the whole Part whole addition and subtraction Solving problems using part or whole unknown Comparison Equality and balance Numbers to twenty Making 10 and some more Numbers to 20 Estimating and ordering 1 more and 1 less Doubling and halving Odd and even numbers Geometry – Names and Properties of 2-D and 3-D Shape 	<ul style="list-style-type: none"> Securing fluency to twenty Place Value – making tens and some more Regrouping two-digit numbers Counting on & back in ones and tens from any number Representing, ordering and comparing numbers to 100 and quantities for measures Estimation and magnitude Numbers to 20 – mental addition and subtraction Finding complements of 10 & 100 including measures Add and subtract numbers mentally using 1- and 2-digit numbers Finding part or whole unknown Money – making combinations and finding change Comparison (difference, more, less, fewer) Measures – estimation and measure Using different scales

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Spring	<p>Recite numbers past 5. Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5.</p> <p>Name 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids)</p> <p>Create ABAB patterns – stick, leaf, stick, leaf. Make comparisons between objects relating to size, length, weight and capacity.</p> <p>Play games that involve positional and directional language.</p>	<ul style="list-style-type: none"> Continue to develop their subitising skills for numbers within and beyond 5, and increasingly connect quantities to numerals Begin to identify missing parts for numbers within 5 Explore the structure of the numbers 6 and 7 as '5 and a bit' and connect this to finger patterns and the Hungarian number frame Focus on equal and unequal groups when comparing numbers Understand that two equal groups can be called a 'double' and connect this to finger patterns Sort odd and even numbers according to their 'shape' Continue to develop their understanding of the counting sequence and link cardinality and ordinality through the 'Staircase' pattern Order numbers and play track games Join in with verbal counts beyond 20, hearing the repeated pattern within the counting numbers 	<ul style="list-style-type: none"> Measures: the language of comparing length, height, mass and speed Sequencing events – Days / Months Numbers to Twenty Adding using 'Think 10' Subtraction using 'Think 10' Equality and Balance Part or Whole Unknown Language and Problem Solving (part or whole unknown) Comparison (difference, more, less, fewer) including Statistics Measures: Coins and Combinations to 20p, Ordering and Comparing Counting in 2s, 5s 10s. Non-standard Measures and Introducing Simple Standard Measures 	<ul style="list-style-type: none"> Statistics – totalling /comparing Block graphs, pictograms, tables & tally charts Written addition method Commutativity in addition Written subtraction method Problem solving with addition and subtraction Telling the time: O'clock, half past, quarter past and quarter to Time: estimating, ordering and comparing time Double and halve one and two-digit numbers and amounts of money Times Tables – 2s, 5s and 10s. Patterns & strategy (counting in 3s) Multiplication: Multiples / repeated addition Number of groups, group size and product Problem solving Division: Sharing & grouping Problems including remainders

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Summer	<p>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'.</p> <p>Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language: 'sides', 'corners'; 'straight', 'flat', 'round'.</p> <p>Notice and correct an error in a repeating pattern.</p> <p>Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...' Discuss routes and locations, using words like 'in front of' and 'behind'.</p>	<ul style="list-style-type: none"> ● Continue to develop their counting skills, counting larger sets as well as counting actions and sounds ● Explore a range of representations of numbers, including the 10-frame, and see how doubles can be arranged in a 10-frame ● Compare quantities and numbers, including sets of objects which have different attributes ● Continue to develop a sense of magnitude, e.g. knowing that 8 is quite a lot more than 2, but 4 is only a little bit more than 2 ● Begin to generalise about 'one more than' and 'one less than' numbers within 10 ● Continue to identify when sets can be subitised and when counting is necessary ● Develop conceptual subitising skills including when using a rekenrek 	<ul style="list-style-type: none"> ● Multiplication and Division: ● Equal or unequal groups and remainders ● Repeated addition and arrays ● problem solving ● Scaling and counting in 2s to 24 ● Sharing and grouping problems ● Geometry – Turns ● Time – Telling the time, O'clock and Half Past ● Fractions: Sharing into equal groups ● Equal or unequal parts of shapes ● of continuous quantities including capacity ● Numbers to twenty – review ● Numbers to one hundred ● Place value and digits, making tens and some more 	<ul style="list-style-type: none"> ● Fractions: Finding halves, quarters and thirds of amounts / shapes ● Finding three-quarters of shapes and quantities ● Equivalence of continuous quantities ● Telling the time to nearest 5 Mins ● Multiplication, Division & Fractions: ● Scaling ● Problem solving ● Equality and balance ● Geometry: Properties of 2-D and 3-D Shape ● Classifying and Sorting ● Symmetry ● Sequencing ● Rotation and Right Angles ● Mental Calculation Review ● Place Value & Written Calculation Review

Maths Subject Overview

	Year 3	Year 4	Year 5	Year 6
Autumn	<ul style="list-style-type: none"> • Place Value and regrouping • Counting on and back in one, Tens and Hundreds • Estimation, Magnitude and rounding • Mental Fluency, addition, subtraction • Fact families and applying the inverse • Written addition and subtraction • problem solving - worded problems • Statistics- interpreting bar charts and tables • Angles, right angles and estimation • Perpendicular and parallel lines, vertical and horizontal lines • 2-D shape- properties and drawing • Perimeter including problem solving - using written and mental methods • Arithmetic and fluency 	<ul style="list-style-type: none"> • Place Value – Order and Compare Numbers Beyond 1000 • Rounding, Estimation and Magnitude • Securing Addition and Subtraction Mental Fluency • Securing Formal Written Addition and Subtraction Fluency • Counting in Multiples of 6, 7, 9, 25 and 1000 • Multiplication and Division Facts (Times Tables) • Factor Pairs, Integer Scaling and Correspondence Problems • Problem Solving Including Measures to Apply Place Value, Mental Strategies and Arithmetic Laws • Multiply and Divide a One or Two-digit Number by 10 and 100 • Measure – Conversion of Units • Measures – Compare, Estimate and Calculate • Discrete and Continuous Data (Time Graphs), Including Application of Scales and Division • Perimeter • Arithmetic and fluency 	<ul style="list-style-type: none"> • Place Value and Rounding of Large Numbers • Interpret Negative Numbers • Place Value of Numbers with up to Three Decimal Places • Multiply and Divide by 10, 100 and 1,000 • Properties of Number – Multiples, Factors and Common Factors • Prime and Composite Numbers • Multiply and Divide Mentally • Solve Problems Involving Knowledge of Key Facts • Add and Subtract Using a Range of Strategies • Add and Subtract Using Formal Written Methods • Formal Written Method for Multiplication • Formal Written Method of Short Division • Equivalent Fractions • Compare and Order Fractions • Adding and Subtracting Fractions • Arithmetic and fluency 	<ul style="list-style-type: none"> • Place Value • Multiply and Divide by 10, 100 and 1,00 • Choosing Effective Mental Calculation Strategies • Problem Solving with Four Operations • Application of Factors, Multiples and Primes • Equivalent Fractions • Comparing and Ordering Fractions • Adding and Subtracting Fractions • Fraction and Decimal Equivalents • Fractions, Decimals and Percentages • Calculating Percentages • Formal Written Method of Multiplication • Area of Parallelograms and Triangles • Formal Written Method of Short Division • Properties of Shape • Arithmetic & fluency sessions

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Spring	<ul style="list-style-type: none"> • Multiplication 3, 4 and 8 times tables including counting • Division 1,2,3,5,4 and 8 times tables • Multiplication- strategy, associative and distributive laws • Statistics- pictograms and scaled bar charts • Multiplication and division word problems • Fractions - finding fractions of discrete and continuous quantities • Ordering and comparing fractions • adding and subtracting fractions with the same denominator • Fractions- problem solving and unit and non unit fractions • Multiplication- multiplying multiples of Ten • multiplication - formal written multiplication • Arithmetic and fluency 	<ul style="list-style-type: none"> • Properties of Shape • Symmetry • Decimal Numbers • Calculating With Decimals • measure – Money • Problem Solving involving Decimals to Two Decimal Places • Add and Subtract Fractions with the Same Denominator • Finding Fractions of Quantities • Fractions in the Context of Measure • Equivalent Fractions, Ordering and Comparing • Multiply Two and Three-digit Numbers by a One-digit Number Using a Formal Written Layout • Divide Two and Three-digit Numbers by a One-digit Number Using a Formal Written Layout • Arithmetic and fluency 	<ul style="list-style-type: none"> • Problem Solving – All Four Operations • Multiply Fractions by Whole Numbers • Fraction Problem Solving • Measure – Converting Units of Measure • Area • Volume and Capacity • Percentages • Problem Solving – Percentages • 3-D Shapes from 2-D Representations • Reflection and Translation • Perimeter • Estimate, Compare, Measure and Draw Angles • Identify Unknown Angles • Arithmetic and fluency 	<ul style="list-style-type: none"> • Order of Operations and Algebra • Formal Written Method for Long Division • Exploring Relationships Between Perimeter and Area • Recognise and Find Angles • Reflection and Translation • Multiplying Fractions • Dividing Fractions • Fraction Problem Solving • Ratio and Proportion • Volume • Measures • Statistics – Interpret Line Graphs and Pie Charts • Algebra and Sequences • Arithmetic & fluency sessions

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Summer	<ul style="list-style-type: none"> • Division problem solving - sharing and division • Division - two and three digit numbers by one digit numbers including halving • Multiplication, division and fractions- scaling and correspondence problems • Division -long division • Time - hours, minutes, seconds, days, weeks, months and years • Telling the time digital and analogue • Securing the four operations with whole numbers including problem solving • Place value and decimals- ten times greater and smaller, regrouping, estimating, comparing and rounding • Measuring and problem solving • 3-D shape - building and identifying properties • Arithmetic and fluency 	<ul style="list-style-type: none"> • <i>Multiplication Tables Check</i> • Time – Read, Write Calculate and Convert Time on Analogue and Digital 12- and 24-Hour Clocks • Statistics – Interpret and Present Continuous and Discrete Data, Solve Problems incorporating Measures • Roman Numerals to 100 and Zero • Negative Numbers – Counting through Zero and Calculating in Context • Geometry – Angles • Geometry – Properties of Triangles • Geometry – Coordinates in the First Quadrant and Translations • Geometry – Position and Direction, incorporating Angles and Plotting Points of a Shape • Multiplication and Division • Area • Fractions • Application and Problem Solving – Developing Operation Sense • Arithmetic and fluency 	<ul style="list-style-type: none"> • Formal Methods for Division and Multiplication in Increasingly Complex Problems • Strategies for Multiplication and Division (Mental and Written) • Solving Problems involving Scaling by Simple Fractions and Rates • Conversion of Imperial and Metric Units of Measure • Fractions, Decimals and Percentages Problem Solving • Reading Timetables and Calculating with Time • Solve Problems involving the Four Operations • Distinguish between Regular and Irregular Polygons • Use Properties of Rectangles • Statistics – Solve Comparison, Sum and Difference Problems using Information in a Line Graph • Statistics – Interpreting and Evaluating Information Presented in Charts and Tables • Roman Numerals • Arithmetic and fluency 	<ul style="list-style-type: none"> • Statistics – Calculate and Interpret Mean Average • Application of Known Facts and Calculation Strategies • SATs work • Constructing Pie Charts • Statistical Representations • Further Algebra • Financial Maths and Enterprise • Maths Preparation for KS3 • Arithmetic & fluency sessions