

Curriculum Overview



Early Years

	Autumn	Spring	Summer
Nursery	By the end of the Autumn Term Nursery children should be able to: Counting - Uses some number names and number language within play, number rhymes and stories and may show fascination with large numbers. Cardinality - Beginning to notice significant numerals (number symbols). Spatial Awareness - Responds to and uses language of position and direction. Shape - Responds to both informal language and common shape names. Pattern - Joins in with simple patterns in sounds, objects, games and stories dance and movement, predicting what comes next.	By the end of the Spring Term Nursery children should be able to: Counting - May enjoy counting verbally as far as they can go. Cardinality - Subitises one, two and three objects (without counting). Composition - Through play and exploration, beginning to learn that numbers are made up (composed) of smaller numbers. Spatial Awareness - Predicts, moves and rotates objects to fit the space or create the shape they would like. Shape - Choose items based on their shape which are appropriate for the child's purpose.	By the end of the Summer Term Nursery children should be able to: Comparison - Compares two small groups of up to five objects, saying when there are the same number of objects in each group, e.g. You've got two, I've got two. Same! Counting - Recites numbers in order to 10. - Points or touches (tags) each item, saying one number for each item, using the stable order of 1,2,3,4,5. - Enjoys reciting numbers from 0 to 10 and beyond and back from 10 to 0. Cardinality - Begins to subitise four objects (without counting) - Separates a group of three or four objects in different ways, beginning to recognise that the total is still the same. - Begin to recognise numerals 0 to 10. - Links numerals with amounts up to 5 and maybe beyond. - Counts up to five items, recognising that the last number said represents the total counted so far (cardinal principle). Composition - Explores using a range of their own marks and signs to which they ascribe mathematical meaning.

	Measures In meaningful contexts, finds the longer or shorter, heavier or lighter and more/ less full of two items (ongoing). Recalls a sequence of events in everyday life and stories (ongoing).	- Shows awareness of shape similarities and differences between objects. Pattern - Creates their own spatial patterns showing some organisation or regularity. Measures - In meaningful contexts, finds the longer or shorter, heavier or lighter and more/ less full of two items (ongoing). Becomes familiar with measuring tools in everyday experiences and play.	- Beginning to use understanding of number to solve practical problems in play and meaningful activities. Spatial Awareness - May enjoy making simple maps of familiar and imaginative environments. Shape - Enjoys partitioning and combining shapes to make new shapes with 2D and 3D shapes. - Attempts to create arches and enclosures when building, using trial and improvement to select blocks. - Uses informal language and analogies (e.g. <i>heart-shaped</i> and <i>hand-shaped leaves</i>). Pattern - Explores and adds to simple linear patterns of two or three repeating items, e.g. stick, leaf (AB) or stick, leaf, stone (ABC). - Spots patterns in the environment, beginning to identify the pattern “rule”. Measures - In meaningful contexts, finds the longer or shorter, heavier or lighter and more/ less full of two items (ongoing).
Educational Programme for Mathematics: Developing a strong grounding in number is essential so that all children develop the necessary building blocks to excel mathematically. Children should be able to count confidently, develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers. By providing frequent and varied opportunities to build and apply this understanding - such as using manipulatives, including small pebbles and tens frames for organising counting - children will develop a secure base of knowledge and vocabulary from which mastery of mathematics is built. In addition, it is important that the curriculum includes rich opportunities for children to develop their spatial reasoning skills across all areas of mathematics including shape, space and measures. It is important that children develop positive attitudes and interests in mathematics, look for patterns and relationships, spot connections, ‘have a go’, talk to adults and peers about what they notice and not be afraid to make mistakes.		Number Early Learning Goal: 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. Numerical Pattern Early Learning Goal: 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.	

Reception	By the end of the Autumn Term Reception children should be able to: Counting - Enjoys reciting numbers from 0 to 10 and beyond and back from 10 to 0. - Matches the numeral with a group of items to show how many there are (up to 5). - In practical activities, adds one and subtracts one with numbers to 10. Cardinality - Engages in subitising numbers to four and maybe five. Composition - Shows awareness that numbers are made up (composed) of smaller numbers, exploring partitioning in different ways with a wide range of objects. - Beginning to recognise that each counting number is one more than the one before. Spatial Awareness - Uses spatial language, including following and giving directions, using relative terms and describing what they see from different viewpoints. Shape - Uses informal language and analogies, (e.g. <i>heart-shaped and hand-shaped leaves</i>), as well as mathematical terms to describe shapes. Pattern - Spots patterns in the environment, beginning to identify the pattern “rule”.	By the end of the Spring Term Reception children should be able to: Comparisons - Increasingly confident at putting numerals in order 0 to 10 (ordinality). - Matches the numeral with a group of items to show how many there are (up to 10). - Estimates of numbers of things, showing understanding of relative size. Cardinality - Counts out up to 10 objects from a larger group Composition - Begins to conceptually subitise larger numbers by subitising smaller groups within the number, e.g. sees six raisins on a plate as three and three Spatial Awareness - Investigates turning and flipping objects in order to make shapes fit and create models; predicting and visualising how they will look (spatial reasoning). Shape - Uses own ideas to make models of increasing complexity, selecting blocks needed, solving problems and visualising what they will build. Pattern - Chooses familiar objects to create and recreate repeating patterns beyond AB patterns and begins to identify the unit of repeat.	By the end of the Summer Term Reception children should be able to: Comparison - Uses number names and symbols when comparing numbers, showing interest in large numbers - Begins to explore and work out mathematical problems including sharing, using signs and strategies of their own choice, including (when appropriate) standard numerals, tallies and “+” or “-” - Recall some doubling facts. - Recall number bonds to 5 including subtraction facts. - Recall some number bonds to 10. - Begin to recognise odds and evens. Spatial Awareness - May enjoy making simple maps of familiar and imaginative environments, with landmarks. Shape - Enjoys composing and decomposing shapes, learning which shapes combine to make other shapes. Measures - Enjoys tackling problems involving prediction and discussion of comparisons of length, weight or capacity, paying attention to fairness and accuracy. - Beginning to experience measuring time with timers and calendars (ongoing).
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	Measures - Beginning to experience measuring time with timers and calendars (ongoing). - Becomes familiar with measuring tools in everyday experiences and play.	Measures - Beginning to experience measuring time with timers and calendars (ongoing). - Is increasingly able to order and sequence events using everyday language related to time.	
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Key Stage 1						
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1	Place Value within 10 Addition and Subtraction Within 10	Place Value Within 20 Shape	Addition and Subtraction Within 20 Place Value Within 50	Place Value Within 50 Multiplication and Division	Measurement Length, Mass, Time and Money Fractions	Place Value to 100 Position and Direction
Year 2	Place Value Addition and Subtraction	Addition and Subtraction Shape	Multiplication and Division Money	Fractions	Measurement Time	Statistics Position and Direction

The focus of mathematics teaching in Key Stage 1 is to ensure that pupils develop confidence and mental fluency with whole numbers, counting and place value. This should involve working with numerals, words and the four operations, including with practical resources [for example, concrete objects and measuring tools]. At this stage, pupils should develop their ability to recognise, describe, draw, compare and sort different shapes and use the related vocabulary. Teaching should also involve using a range of measures to describe and compare different quantities such as length, mass, capacity/volume, time and money. By the end of Year 2, pupils should know the number bonds to 20 and be precise in using and understanding place value. An emphasis on practice at this early stage will aid fluency.

Upper Key Stage 2						
	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 5	Place Value Addition and Subtractions	Multiplication and Division A Fractions A	Multiplication and Division B Fractions Decimals and Percentages	Decimals and Percentages Perimeter and Area Statistics	Shape Position and Direction Decimals	Negative Numbers Converting Units Volume
Year 6	Place Value Addition, Subtractions, Multiplication and Division	Fractions A Fractions B Converting Units	Ratio Algebra Decimals	Fractions, Decimals and Percentages Area, perimeter and Volume Statistics	Shape Position and Direction	Themed Projects, Consolidation and Problem Solving

The principal focus of mathematics teaching in upper key stage 2 is to ensure that pupils extend their understanding of the number system and place value to include larger integers. This should develop the connections that pupils make between multiplication and division with fractions, decimals, percentages and ratio.

At this stage, pupils should develop their ability to solve a wider range of problems, including increasingly complex properties of numbers and arithmetic, and problems demanding efficient written and mental methods of calculation. With this foundation in arithmetic, pupils are introduced to the language of algebra as a means for solving a variety of problems. Teaching in geometry and measures should consolidate and extend knowledge developed in number. Teaching should also ensure that pupils classify shapes with increasingly complex geometric properties and that they learn the vocabulary they need to describe them.

By the end of year 6, pupils should be fluent in written methods for all four operations, including long multiplication and division, and in working with fractions, decimals and percentages.

Pupils should read, spell and pronounce mathematical vocabulary correctly.