Mathematics in the Early Years

Mathematics in the early years is taught through a combination of different ways. We provide Mathematic opportunities throughout provision and in daily routines. We have number group interventions that deepen a child's sense of number using high quality resources through the NCTEM. Shape space and measure groups also make up part of our teaching as we believe our children learn best through small group teaching. The children have daily maths lessons using White Rose Maths resources, the sequence of learning is provided below, consolidation weeks are incorporated throughout the year.

We use a maths mastery approach which prioritises children having practical mathematical experiences. We use a 'concrete, pictorial and then abstract' mastery concept to structure learning within lessons. Children have 'concrete experiences', which can then lead to pictorial representations in order to apply and understand abstract concepts (e.g. we make, we draw, we use numbers).

Every session includes at least one aspect of the '5 counting principles' to continuously support children's understanding of number. We also follow the six principles of early mathematics as displayed below.

In EYFS we focus on the NCTEM principles:
Six Principles of Early Mathematics
Progression Maps are available at https://ncetm.org.uk/in-the-classroom/early-years/

Cardinality and Counting	Comparison	Composition	Pattern	Shape and Space	Measures

Sequence of learning

Autumn Term Progression									
Matching - Same and Different →	Sort Colour, Shape and Size	Compare amounts, more, fewer and equal.	Compare - Size, mass and capacity.	Exploring patterns, making simple patterns.	Introduce 1 and 0 Representing 1,2,3 Comparing 1,2,3 Equal/not equal, circle, 1p	Introduce 2 Composition of 1,2,3 Addition, 2 step pattern, 2p	Introduce 3 Circles & Triangles Spatial Awareness 3 step pattern, triangles Positional Language	Introduce 4 Squares and Rectangles	Introduce 5 Pentagons
1 more/1 less Subtraction symbol	Comparing Shapes Night & Day/Time Measurement	ASSESS NUMBERS 1-5 End of Autumn							

Spring Term Progression										
MAKE AMOUNTS TO 5 USING COUNTERS →	SHOW 1-5 ON FINGERS USING 1 HAND	SUBITISE TO 5 USING DICE, COUNTERS, PICTURES	ORDER NUMBERS TO 5	RECOGNISE NUMERALS 1,2,3,4,5	COUNT OBJECTS ACCURATELY TO 5	SHOW WAYS TO MAKE 5	INTRODUCE ZERO COMPARING NUMBERS TO 5	COMPOSITION OF 4 AND 5	COMPARING MASS	
COMPARING CAPACITY	INTRODUCE 6 HEXAGON	INTRODUCE 7	INTRODUCE 8	MAKING PAIRS DOUBLES	COMBINING TWO GROUPS	LENGTH AND HEIGHT	TIME	INTRODUCE 9	INTRODUCE 10	
COMPARING NUMBERS TO 10	BONDS TO 10	3D SHAPE	PATTERN 2	ASSESS 0-10 End of Spring MAKE AMOUNTS TO 10, USING COUNTERS/FINGERS, SUBITISE TO 10 USING 2 DICE, COUNTERS, PICTURES, ORDER NUMBERS TO 10, RECOGNISE NUMERALS 0-10, COUNT OBJECTS ACCURATELY TO 10, SHOW WAYS TO MAKE 10 USING NUMICON, BLOCKS					

Summer Term Progression										
Number patterns to 20 Matching pictures and numerals Ten frame fill beyond 10 Estimating game Subtraction from ten frames game	Missing numbers Ordering numbers to 20 Race to 20 game Bingo with numbers to 20 Which holds the most?	Find my match with shapes Find my match with models Match and fill Replicate my model Tangrams	Track game- counting on Adding more Adding more- unknown then Adding more- first unknown	Taking away with pebbles Taking away Taking away- unknown then Pass it on game	Making new shapes with 2 right angle triangles Making new shapes with squares Grandpa's quilt Making new shapes with tangrams Pattern blocks	Doubling Doubling Dice Game Doubling barrier Game Domino game	Sharing Teddy Bear Picnic The Doorbell Rang Grouping	Even and Odd One Odd day How many cubes Barrier Game	Problem Solving Cuisenaire Rods Patterns Making Maps Designing Mazes	ASSESS END OF TERM SUMMER

Impact

Mathematics	3 and 4 Year Olds	Reception Children	ELG
Number	Develop fast recognition of up to 3 objects, without having to count them individually. Recite numbers past 5. Say one more 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.	Count objects, actions and sounds. Subitise (recognise number patterns without counting) Link number symbol with its cardinal number value. Count beyond ten Compare numbers Understand the 'one more then/one less than' relationship between	Children have a deep understanding of number to 10, including the composition of each number. Subitise up to 5 Automatically recall number bonds up to 5 and some number bonds to 10, including double facts.

	(Cardinal principle) Show 'finger numbers' up to 5. Link numeral and amount. Experiment with their own symbols and marks as well as numerals. Solve real world mathematical problems with numbers up to 5.	consecutive numbers. Explore the composition of numbers to 10. Automatically recall number bonds for numbers 0-10.	
Numerical Patterns	Talk about and identify the patterns around them. 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 using words such as 'first', 'then'	Continue, copy and create repeating patterns.	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.
Shape, Space, Measure	Talk about and explore 2D and 3D shapes. Understand position through words alone. Compare quantities with language: 'more than', 'fewer than' Describe a familiar route. Discuss routes and locations using words like 'in front of' and 'behind' Make comparisons between objects relating to size, length, weight and capacity. Select shapes appropriately: flat surfaces for building, triangular prism for roof etc.	Select, rotate and manipulate shapes in order to develop spatial reasoning skills. Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can. Compare length, weight and capacity.	