Mathematics in the Early Years

Mathematics – EYFS Statutory Educational Programme

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.

Maths in Nursery

Children in our nursery will access mathematics through carefully designed continuous provision that will allow them to use, practise and consolidate mathematical concepts and ideas across the classroom and in the outdoor area. They will be supported by highly skilled practitioners who will also provide many opportunities to develop their mathematical language, vocabulary and extend their mathematical knowledge and understanding. Enhancements to continuous provision will also be provided throughout the year linked to children's needs, interests and also topics. As we move through the year children in nursery will access some maths carpet times as well as some small group maths activities where appropriate.

Progression Across Nursery

Autumn 1 Focus	*Autumn 2 Focus*	*Spring 1 Focus*	*Spring 2 Focus*	*Summer 1 Focus*	*Summer 2 Focus*
During this half term children will be settling into nursery over the first few weeks. Adults will spend time getting to know children and working with them in continuous provision. Adults will support children to access and use resources in areas that are set up in basic provision that is available all the time for children to consolidate and practise skills, knowledge and vocabulary. They will also begin to develop and introduce children to mathematical language/vocabulary linked to areas of provision and resources in the areas.	- Rote counting - Counting songs - Counting actions e.g. claps - Routines - Begin to explore 2D shapes *Continue to develop and introduce children to mathematical language/vocabulary linked to areas of provision and resources in the areas of the classroom.*	- Describe a familiar route - Recite numbers to 5 - Talk about and explore simple 2D shapes (circle, square, triangle rectangle) - Comparisons: Length - Positional Language	- Recite numbers to 5 - Count objects to match a number to 3 - 2D shapes, making arrangements with shapes - Comparisons: Weight - Patterns – talk about and identify - Cardinal principle (knowing the last number is how many there are in total)	- Recite numbers past 5 - Fingers to 5 - Count objects to match a number to 5 - Introduce mathematical language around shape e.g. sides, corners, flat, straight etc - Comparisons: Capacity - Pattern – introduce repeating patterns continuing these - Cardinal principle (knowing the last number is how many there are in total)	- Subitising to 3 - Using language more than and fewer than - Problem solving to 5 - Fingers to 5 - Experiment with own symbols and marks as well as numerals - Comparison Recap: size, length, weight and capacity

Autumn Term – Key Development Matters Focus (including these however not limited to)	*Spring Term – Key Development Matters Focus (including these however not limited to)*	*Summer Term – Key Development Matters Focus (including these however not limited to)*
3 and 4 Year Olds Will be learning to: • Recite numbers past 5. • Say one number for each item in order: 1,2,3,4,5. Show 'finger numbers' up to 5. • 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'. • Understand position through words alone – for example, "The bag is under the table," – with no pointing. • Select shapes appropriately: flat surfaces for building, a triangular prism for a roof, etc. • Combine shapes to make new ones – an arch, a bigger triangle, etc • Use informal language like 'pointy', 'spotty', 'blobs', etc. • Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...	**3 and 4 Year Olds Will be learning to:** • Talk about and identify the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. • Make comparisons between objects relating to size, length, weight and capacity • Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5. • Recite numbers past 5. • Say one number 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 ('cardinal principle'). • 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'. • Understand position through words alone – for example, "The bag is under the table," – with no pointing. • Describe a familiar route. • Discuss routes and locations, using words like 'in front of' and 'behind • Select shapes appropriately: flat surfaces for building, a triangular prism for a roof, etc.	**3 and 4 Year Olds Will be learning to:** • Extend and create ABAB patterns – stick, leaf, stick, leaf. • Notice and correct an error in a repeating pattern. • Make comparisons between objects relating to size, length, weight and capacity • 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' • Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5. • Develop fast recognition of up to 3 objects, without having to count them individually ('subitising'). -

Maths in Reception

In Reception we follow White Rose Maths. The children in reception will access carefully planned and supported maths activities through basic continuous provision, enhancements in provision to allow children consolidate and practise skills they may have been taught. Children will also access daily maths carpet time sessions as well as being set independent challenges and working in small groups. Children who need extra support will also be identified and interventions will be put in place, this may be on a daily/half termly basis depending on individual children's needs.

Progression of Maths in Reception

Autumn 1 Focus	*Autumn 2 Focus*	*Spring 1 Focus*	*Spring 2 Focus*	*Summer 1 Focus*	*Summer 2 Focus*
- Getting to know the children for the first 3 weeks - Complete Baseline including maths section of this **Phase 1 Just Like Me:** - Match and sort - Making Comparisons - Exploring Pattern **Phase 2 Its me 1, 2, 3:** - Representing 1, 2, 3 - Comparing 1, 2, 3	**Phase 2 continued its me 1, 2, 3: Geometry and Spatial Thinking** - Circles and triangles - Positional Language **Phase 3 Light and Dark** - Numbers 4 and 5 - One more and one less ***Geometry and Spatial Thinking:*** - Shapes with 4 sides – rectangle and square	**Phase 4 Alive in 5!** - Introduce zero - Comparing numbers to 5 - Composition of 4 and 5 **Comparing Mass:** - Heavy and Light **Comparing Capacity:** - Full/empty - Half full/nearly full/nearly empty **Phase 5 Growing 6, 7, 8** - Representing 6, 7, 8 - Comparing 6, 7, 8 - Composition of 6, 7, 8	**Phase 5 Growing 6, 7, 8 continued** **Measurements:** - Length and Height - Time **Phase 6 Building 9 and 10** - Representing 9 / 10 - Arranging 9/10 - Composition of 9/10 - Comparing numbers to 10 - Bonds to 10 - 3D Shape - Pattern **Assessments / Consolidation Weeks end of this half term**	***Throughout the final phases and across the summer term continue to consolidate and practise the following:*** - Subitising - Counting - Comparing/ordering - Composition of numbers to 10 - Sorting /matching **Phase 7 To 20 and beyond** - Building on numbers beyond 10 - Recognising numbers 11-20 - Counting patterns **Phase 8 First, then, now**	***Throughout the final phases and across the summer term continue to consolidate and practise the following:*** - Subitising - Counting - Comparing/ordering - Composition of numbers to 10 - Sorting /matching **Phase 9 Find my pattern** - Doubling - Finding Half - Sharing and Grouping - Even and Odd **Phase 10 On the Move**

- Composition of 1, 2, 3	**Measurement – Time** - Night and day	- Making pairs - Combining 2 groups		- Adding More - Taking Away - Spatial Reasoning – combining / separating shapes to make new shapes.	- Deepening Understanding / Problem Solving - Patterns and Relationships

Development Matters

Through following the White Rose Scheme, we will ensure coverage of the non-statutory development matters throughout the year

Children in Reception will be learning to:

- Count objects, actions and sounds
- Subitise
- Link the number symbol (numeral) with its cardinal value
- Count beyond 10
- Compare Numbers
- Understand the one more than/one less than relationships between consecutive numbers
- Explore the composition of numbers to 10
- Automatically recall number bonds for numbers 0-5 and some to 10
- Select, rotate and manipulate shapes 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
- Continue, copy and create repeating patterns
- Compare length, weight and height

At the end of the EYFS children will be assessed against the two mathematics Early Learning Goals identifying whether children are expected or emerging.

Number	Numerical Patterns
• 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.	• 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.