EYFS Progression in Learning Framework

Mathematics

Manor Park Primary School

Manor Park Primary School: Progression in Learning Framework - Mathematics

EYFS Statutory Educational Programme. The curriculum needs to include:

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 r**elationships** 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**

ELG: Number

Children at the expected level of development will:

- **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 to 5 (including subtraction facts) and some number bonds to 10, including double facts**

ELG: Numerical Patterns

Children at the expected level of development will:

- **Verbally count beyond 20, recognising the pattern of the counting system**
- **Compare quantities up to 10 in different contexts, recognising when one quantity if 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**

Mathematics Progression in Learning – Small Steps Nursery to KS1

	Nursery			Reception			Interface with KS1
	Autumn	**Spring**	**Summer**	**Autumn**	**Spring**	**Summer**	
NUMBER	**Recites some numbers, not always in order** **Is beginning to use number names in the context of play** **Attempts to count in play** **Begins to recognise groups of 1 or 2 objects** **Begins to compare quantities – 'more than' – in play**	**Recites numbers to 5 usually in the correct order eg in songs and rhymes** **Can say number names for each item in order 1,2,3** **Counts in play but may not understand the significance of the last number in the count** **Can recognise groups of 1 or 2 objects** **Compares quantities – 'more than' – in play**	**Recites numbers past 5 eg in songs and rhymes** **Has fun counting as far as they can go** **Begins to 'tag' (points or touches each item), using the stable order of 1,2,3** **Counts in play and is beginning to understand the significance of the last number in the count** **Can recognise groups of up to 3 objects** **Compares quantities – 'more than' 'fewer than' in play** **With adult support experiments with recording quantities eg tallying, dots**	Composition of numbers within 5. Compare sets of objects and use the language of comparison. Identify when a set can be subitised and when counting is needed. Subitise different arrangements Make different arrangements of numbers within 5 and talk about what they can see. Connect quantities and numbers to finger patterns and explore different ways of representing numbers on their fingers Develop counting skills and knowledge, including that the last number in the count	Develop their subitising and counting skills and explore the composition of numbers within and beyond 5. 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' Focus on equal and unequal groups when comparing numbers	Order numbers and play track games. Consolidate their counting skills, counting to larger numbers and developing a wider range of counting strategies. Secure knowledge of number facts through varied practice. 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. Continue to develop a sense of magnitude, e.g.	***Includes:*** **Can count to and across 100, forwards and backwards** **Can count, read and write numbers to 100 in numerals;** **Can count in multiples of twos, fives and tens** **Can identify one more and one less** **Can use the language of: equal to, more than, less than (fewer), most, least**

				tells us 'how many' (cardinality) Make different arrangements of numbers within 5 and talk about what they can see. Spot smaller numbers 'hiding' inside larger numbers. Understand that actions and sounds can be counted Compare sets of objects by matching Begin to develop the language of 'whole' when talking about objects which have parts. Join in with verbal counts beyond 20, hearing the repeated pattern within the counting numbers	Begin to identify when two sets are equal or unequal and connect two equal groups to doubles. 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' Order numbers to and within 8 and think about one less within this. Continue to develop their understanding of the counting sequence and link cardinality and ordinality through the 'staircase' pattern.	knowing that 8 is quite a lot 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. Continue to develop their counting skills, counting larger sets as well as counting actions and sounds.	**Can read and write numbers from 1 to 20 in numerals and words**
PATTERN	**Explores patterns in the environment with adult support**	**Can identify patterns around them**	**Arranges items in their own patterns**	**Copy, continue and create simple patterns**	**Identify more complex patterns and learn how to copy and continue these**	**Identify a range of patterns in the environment**	**Can recognise and create patterns in the number system with objects and with shapes**
SHAPE, SPACE & MEASURE	**Explores 2D and 3D shapes e.g. through block play and modelling** **Selects shapes appropriately e.g. cube/cuboid for a house** **Combines shapes to make pictures** **Makes simple constructions** **Talks about familiar places**	**Explores 2D and 3D shapes e.g. through block play, puzzles, modelling, using some shape names and related mathematical language** **Combines shapes to make other shapes** **Selects shapes appropriately e.g. square house with triangle roof** **Uses ordinal vocabulary 'first' 'last' in play**	**Can name some 2D shapes - circle, rectangle, triangle, square *in play*** **Can name some 3D shapes - cube, cylinder, cone, *in play*** **Uses some mathematical language to talk about shape e.g. sides, corners, flat, round, *in play*** **Uses some positional language 'in' 'out' 'on'**	**Talk about and explore different measures, including size, mass and capacity** **Identify, name and compare 2D shapes (circles, triangles, squares)** **Recognise shapes in the environment**	**Explore and compare mass and capacity** **Recognise and name 3D shapes** **Find 2D shapes within 3D shapes** **Use 3D shapes in a range of activities,** **Find 3D shapes in the environment**	**Explore and compare length** **Explore and compare height** **Talk about, order and sequence time** **Select shapes for a purpose** **Rotate, manipulate and explain shape arrangements**	**Can recognise a range of 3D and 2D shapes and talk about their properties** **Can describe position, direction and movement** **Can describe and solve practical problems involving length, height, weight,**

	Begins to remember their way around familiar environments eg knows where to find their favourite activity Begins to explore big and small to compare size Anticipates times of the day, such as mealtimes or home time Explores money in play	Begins to use some positional language such as 'in' 'out' 'on' 'under' 'next to' 'behind' in play Recalls some parts of a familiar route Explores long/short and tall/short in play Explores heavy/light and full/empty in play Explores money through first-hand experiences	'under' 'next to' 'behind' in play Moves and rotates objects to fit the space Describes a familiar route using very simple directional language Uses simple language about measure, in play eg long/short; heavy/light; tall/short; full/empty Sequences some familiar events Understands that items need to be paid for and can talk about what they would like to buy			Compose and decompose shapes	capacity and time Recognises and knows the values of different coins and notes

Assessment: On track/not on track using best fit for each Milestone Descriptor – Mathematics	
Milestone 1	*Number:* *I recite some numbers, not always in order. I am beginning to use number names in the context of play. I attempt to count in play. I am beginning to recognise groups of 1 or 2 objects. I am beginning to compare quantities – 'more than' – in play.* *Pattern:* *I explore patterns in the environment with adult support* *Shape Space & Measure:* *I explore 2D and 3D shapes. I select shapes appropriately. I combine shapes to make pictures. I make simple constructions. I talk about familiar places. I am beginning to remember my way around familiar environments eg knows where to find their favourite activity. I am beginning to explore big and small to compare size. I anticipate times of the day, such as mealtimes or home time. I explore money in play.*
Milestone 2	*Number:* *I recite numbers to 5 usually in the correct order eg in songs and rhymes. I can say number names for each item in order 1,2,3. I count in play but may not understand the significance of the last number in the count. I can recognise groups of 1 or 2 objects. I compare quantities – 'more than' – in play.* *Pattern:* *I can identify patterns around me.*

	Shape Space & Measure: *I explore 2D and 3D shapes e.g. through block play, puzzles, modelling, using some shape names and related mathematical language. I combine shapes to make other shapes. I select shapes appropriately. I use ordinal vocabulary 'first' 'last' in play. I am beginning to use some positional language such as 'in' 'out' 'on' 'under' 'next to' 'behind' in play. I recall some parts of a familiar route. I explore long/short and tall/short in play. I explore heavy/light and full/empty in play. I explore money through first-hand experiences.*
Milestone 3	*Number:* *I recite numbers past 5 eg in songs and rhymes. I have fun counting as far as I can go. I am beginning to 'tag' (points or touches each item), using the stable order of 1,2,3. I count in play and I am beginning to understand the significance of the last number in the count. I can recognise groups of up to 3 objects. I can compare quantities – 'more than' 'fewer than' in play. With adult support I experiment with recording quantities eg tallying, dots.* *Pattern:* *I can arrange items in my own patterns.* *Shape, Space & Measure:* *I can name some 2D shapes - circle, rectangle, triangle, square in play. I can name some 3D shapes - cube, cylinder, cone, in play. I use some mathematical language to talk about shape e.g. sides, corners, flat, round, in play. I use some positional language 'in' 'out' 'on' 'under' 'next to' 'behind' in play. I move and rotate objects to fit the space. I can describe a familiar route using very simple directional language. I use simple language about measure, in play eg long/short; heavy/light; tall/short; full/empty. I sequence some familiar events. I understand that items need to be paid for and can talk about what I would like to buy.*
Milestone 4	*Number* *I develop my understanding of numbers to 5, exploring different ways to make and represent numbers using objects, fingers and pictures. I recognise small quantities without counting (subitising) and begin to understand when counting is needed. I count objects, actions and sounds, understanding that the last number counted tells me how many there are altogether. I compare groups of objects by matching and use mathematical language such as more, fewer and the same. I begin to recognise smaller numbers within larger numbers and explore how numbers can be made up of different parts. I join in with counting beyond 20 and begin to recognise the repeating pattern in number names.* *Pattern* *I recognise, copy, continue and create simple repeating patterns using objects, colours, shapes and sounds. I begin to notice patterns in the environment and talk about what comes next. I explore and compare different measures, including size, length, mass and capacity, using appropriate mathematical language.* *Shape, Space and Measure* *I recognise, name and describe common 2D shapes, including circles, triangles and squares. I notice and talk about shapes in the environment, identifying similarities and differences. I begin to compare and describe the properties of shapes, including their sides and corners. I explore objects and shapes in different positions and arrangements, developing my understanding of space and shape.*

Milestone 5	***Number*** ***I develop my subitising and counting skills, recognising quantities within and beyond 5 and increasingly connecting amounts to their written numerals. I explore the composition of numbers within and beyond 5, identifying missing parts and recognising different ways numbers can be made. I understand the structure of 6 and 7 as '5 and a bit'. I compare groups of objects, identifying when sets are equal or unequal. I begin to understand doubles as two equal groups and explore odd and even numbers through their patterns and arrangements. I order numbers to 8 and explore one more and one less. I develop my understanding of the counting sequence, recognising that numbers represent both how many objects there are (cardinality) and their position in a sequence (ordinality).*** ***Pattern*** ***I recognise, copy and continue more complex repeating patterns using objects, colours, shapes and sounds. I begin to identify the structure within patterns and predict what comes next. I explore and compare mass and capacity, using appropriate mathematical language to describe and compare objects and containers.*** ***Shape, Space and Measure*** ***I recognise and name common 3D shapes and begin to describe their properties. I explore 3D shapes through practical activities, investigating how they can be moved, stacked and combined. I identify familiar 2D shapes within 3D shapes and recognise 3D shapes in the environment. I begin to use mathematical language to describe and compare the features of 2D and 3D shapes.***
Milestone 6	***Number*** ***I confidently count forwards and backwards, ordering numbers and using number tracks to explore number sequences. I develop a range of counting strategies to count larger groups of objects, actions and sounds. I secure my knowledge of number facts through practical activities and explore different ways to represent numbers, including using 10-frames and rekenreks. I recognise doubles and explore how they can be represented in different ways. I compare quantities and numbers, developing an understanding of their magnitude and recognising that some numbers are much greater or smaller than others. I begin to generalise about one more and one less within 10. I recognise when quantities can be subitised and when counting is needed, developing my ability to see smaller groups within larger quantities.*** ***Pattern*** ***I recognise, describe and explore a range of patterns in the environment, identifying similarities, differences and repeating elements. I continue to copy, create and extend patterns using different objects, shapes, colours and arrangements. I explore and compare length and height, using appropriate mathematical language to describe and compare objects. I begin to order and sequence familiar events and talk about time, using language such as before, after, next and later.*** ***Shape, Space and Measure*** ***I select and use shapes for different purposes, explaining why they are suitable. I explore how shapes can be rotated, moved and manipulated to create different arrangements and patterns. I compose and decompose shapes, recognising that smaller shapes can be combined to make larger shapes and that shapes can be separated into smaller parts. I describe and explain my shape arrangements, using mathematical language to talk about their properties and position.***