



## Maths Long Term Map Nursery

### Preparation for Reception:

Pupils in Nursery develop a strong grounding in number by delving deep into the number system and exploring numbers to 10 through games, rhymes, stories, social counting and using numbers in play. Pupils regularly experiencing a variety of mathematical skills, such as; counting, representing, subitising, numeral recognition and comparing quantities. These skills are revisited, practised and consolidated throughout the year.

Pupils develop an understanding of how-to-count using the following principles;

- The one-one principle
- The stable-order principle
- The cardinal principle

Once pupils have developed their understanding of how to count, they will develop their understanding of 'what to count' using the following principles;

- The abstraction principle
- The order irrelevance principle

Pupils in Nursery develop a deep understanding of pattern, learning to recognise, duplicate and create patterns using objects, preparing them for the exploration of patterns within the number system, such as odd and even numbers when they reach Reception.

	Unit	Early Years Foundation Stage Framework
Autumn 1	<p><u>Once upon a time</u></p> <p><b>Stable Order Principle</b> Pupils will begin to understanding the verbal sequence of counting; being able to say the number names to at least 5.</p> <p>Pupils will have regular opportunities to hear the counting sequence, in a variety of playful contexts, inside and outdoors, forwards and backwards, sometimes going to higher numbers. For example: playing hide and seek, rocket-launch count-downs, counting the total number of children in the group when taking the register and lining up etc.</p> <p><b>One-to-one Principle</b> Pupils will take part in finger rhymes with numbers, such as 'Two Little Dicky Birds', '1, 2, Buckle my Shoe', 'One Potato, Two Potatoes' and 'Here is the Beehive'.</p> <p>Pupils will sing songs, using puppets and props, such as 5 Little Speckled Frogs, 5 Little Ducks, 5 Cheeky Monkeys, 5 Little Men in a Flying Saucer and 5 Current Buns.</p> <p><b>Time</b> Pupils will use the Nursery visual daily timetable to describe a familiar routine. They will talk about patterns of events e.g.- 'First', 'then', 'after', 'before' - "Every day we..."</p> <p><b>Position</b> Pupils will develop their understand of position through words alone- with no pointing. They will learn and sing the position song 'on in under *clap* *clap* *clap*' and will be invited to place objects in the corresponding locations e.g.- in the box/ under the box/ on the box etc. They will then discuss position in real contexts. Adults will model the use of spatial words in play.</p> <p><b>Key Vocabulary</b> count, one, two, three, four, five, six, seven, eight, nine, ten, count, numbers, first, then, after, before, now, next, on, in, under</p>	<p><b>Maths</b></p> <ul style="list-style-type: none"> <li>• Recite numbers past 5.</li> <li>• Say one number for each item in order: 1,2,3,4,5</li> <li>• Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle').</li> <li>• Understand position through words alone - for example, "The bag is under the table," - with no pointing.</li> <li>• Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...'</li> </ul>

Magnificent me**Stable Order Principle**

Pupils will continue to learn to understand the verbal sequence of counting; being able to say the number names in sequential order to at least 10.

**One-to-one Principle**

Pupils will continue to sing songs, using puppets and props, such as 5 Little Speckled Frogs, 5 Little Ducks, 5 Cheeky Monkeys, 5 Little Men in a Flying Saucer and 5 Current Buns. These props will be available in the maths and/or music areas of provision for pupils to access independently.

Children will explore large number tracks from 0- 10 (and beyond) on the ground. They will practise saying the number names in order as they walk along the number line.

**Recognition and Representing Numbers**

Pupils will be introduced to 10 Town. This half term they will explore The Zero Pond/0, King One/1 and Tommy Two/2 through stories, songs and games.

Pupils will identify number representations, including Numicon, objects, pictures, pairs and numerals. Pupils will explore standard representations, such as dice, and fingers as well as nonstandard representations.

Pupils will begin to represent numbers using objects, actions, fingers and marks

Pupils link taught numerals to amounts, showing the right number of fingers/ objects to match a given number

**Subitising**

Pupils will develop their ability to recognise up to at least two objects, in structured arrangements, and say the amount without counting (subitising)

Whilst learning about the number 1, pupils will explore circles. They will learn to recognise a circle and know that it has 1 curved side.

**Maths**

- Develop fast recognition of up to 3 objects, without having to count them individually ('subitising')
- Recite numbers past 5.
- Show 'finger numbers' up to 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').
- Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5.
- Experiment with their own symbols and marks as well as numerals.
- 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><b>Sorting and categorising</b></p> <p>Pupils will be encouraged to sort and categorise objects according to shape, colour or size. Pupils will continue to notice similarities and differences as they match and sort objects in different contexts.</p> <p><b>Key Vocabulary</b></p> <p>Zero, sort, shape, colour, size, small, big, same, circle, side, curved, round</p>	
Spring 1	<p><b><u>Old McDonald had a Farm</u></b></p> <p><b>Stable Order Principle</b></p> <p>Pupils will practise and consolidate their understanding of the verbal sequence of counting; being able to say the number names in sequential order to at least 10.</p> <p><b>One-to-One Principle</b></p> <p>Pupils will develop their understanding that when they count, they must say the names of the numbers in sequence and that each object receives one, and one only, one count. Children will have regular opportunities to practise touch counting, in a variety of playful contexts, inside and outdoor, sometimes going to higher numbers.</p> <p>Adults will model counting and make deliberate mistakes, for example counting the same object twice. Children will discover good ways of counting, for example; touching or moving each object as they count.</p> <p><b>Recognition and Representing Number</b></p> <p>Pupils will continue to work their way through 10 towns. This term, pupils will explore Thelma Three/ 3 and Freddie Four/ 4 through stories, songs and games</p> <p>Pupils will identify number representations, including Numicon, objects, pictures and numerals. Pupils will explore standard representations, such as dice, and fingers as well as nonstandard representations.</p> <p>Pupils link taught numerals to amounts, showing the right number of fingers/ objects to match a given number</p>	<p><b>Maths</b></p> <ul style="list-style-type: none"> <li>• Develop fast recognition of up to 3 objects, without having to count them individually ('subitising')</li> <li>• Recite numbers past 5.</li> <li>• Say one number for each item in order: 1,2,3,4,5</li> <li>• Show 'finger numbers' up to 5.</li> <li>• Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle').</li> <li>• Link numerals and amounts; for example, showing the right number of objects to match the numeral, up to 5.</li> <li>• Experiment with their own symbols and marks as well as numerals.</li> <li>• 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'.</li> </ul>

	<p><b>Subitising</b> Pupils will develop their ability to recognise up to 3 objects, in structured arrangements, and say the amount without counting.</p> <p>Pupils will continue to represent numbers using objects, actions, fingers and marks</p> <p><b>Shape</b> Whilst learning about the number 3, pupils will explore triangles. They will learn to recognise a triangle and count the 3 sides/ corners.</p> <p>Whilst learning about the number 4, pupils will explore squares. They will learn to recognise a square and count the 4 sides/ corners</p> <p>Pupils will create arrangements using 2D shapes. They will develop their ability to create simple picture using familiar shapes, such as a house/ rocket/ sun etc. Pupils will informally describe the pictures they have made using mathematical language such as: 'sides', 'corners'; 'straight', 'round'.</p> <p><b>Key Vocabulary</b> New Vocabulary: square, triangle, rectangle, corners, straight Revisited Vocabulary: circle, sides, curved, round</p>	<ul style="list-style-type: none"> <li>Select shapes appropriately: flat surfaces for building, a triangular prism for a roof, etc.</li> </ul>
Spring 2	<p><b><u>Teddy Bears Picnic</u></b></p> <p><b>Stable Order Principle</b> Pupils will practise and consolidate their understanding of the verbal sequence of counting; being able to say the number names in sequential order to at least 10.</p> <p><b>One-to-One Principle</b> Pupils will practise and consolidate counting, saying the names of the numbers in sequence, and ensuring each object receives one, and only one, count.</p>	<p><b>Maths</b></p> <ul style="list-style-type: none"> <li>Develop fast recognition of up to 3 objects, without having to count them individually ('subitising')</li> <li>Recite numbers past 5.</li> <li>Say one number for each item in order: 1,2,3,4,5</li> <li>Show 'finger numbers' up to 5.</li> </ul>

### Cardinal Principle

Pupils will learn that when counting, the last number spoken in a counting sequence names the quantity for that set. Pupils will practise counting objects and then repeat the last number. For example: "1, 2, 3 - 3 cars". Pupils will have regular opportunities to practise touch counting, in a variety of playful contexts, inside and outdoor, sometimes going to higher numbers. Pupils will learn to answer the question 'How many?' saying how many there are in a set with the last number counted.

Pupils will explore collections of buttons in different sizes, colours and shapes. They will sort these by different attributes, such as collecting only the big, red buttons, and then count how many there are.

### Order Irrelevance Principle

Pupils will develop their understanding that the order that items are counted in is irrelevant—left-to-right, right-to-left, in a random fashion—as long as every object in the set is given one count and only one count.

### Recognition and Representation

Pupils will continue to work their way through 10 towns. Pupils will explore Fiona Five/ 5 and Seal Six/6 through stories, songs and games.

Pupils will identify number representations, including Numicon, objects, pictures and numerals. Pupils will explore standard representations, such as dice and fingers as well as nonstandard representations.

Pupils will continue to represent numbers using objects, actions, fingers and marks

Pupils link taught numerals to amounts, showing the right number of fingers/ objects to match a given number

### Subitising

Pupils will consolidate and practise their ability to recognise up to at least three objects, in structured arrangements, and say the amount without counting (subitising)

### Position

Pupils will listen to the key text 'Were Going on a Bear Hunt' read repeatedly. Pupils will hear and use language associated with position such as over, under and through. Pupils will then go on a hunt in the outdoor environment to

- Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle').
- Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5.
- Experiment with their own symbols and marks as well as numerals.
- 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'.
- Talk about and identify the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper.
- Extend and create ABAB patterns
- Notice and correct an error in a repeating pattern.

	<p>locate a hidden bear. They will follow positional clues through words alone. For example, 'the next clue is under the slide'. Pupils will be encouraged to use these words in their own play to discuss position.</p> <p><b>Pattern</b></p> <p>Pupils will explore simple repeated ABAB patterns. They will match objects by colour/ size (such as compare bears) to duplicate a pre-made pattern. They will then develop their ability to recognise patterns and identify missing elements.</p> <p><b>Key Vocabulary</b></p> <p><b>New Vocabulary:</b> over, under, up, down, next to, between, around, though, along, pattern, repeat</p> <p><b>Revisited Vocabulary:</b> in, on, under</p>	
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Summer 1</p>	<p><b><u>Amazing Animals</u></b></p> <p><b>Stable Order Principle</b></p> <p>Pupils will practise and consolidate their understanding of the verbal sequence of counting; being able to say the number names in sequential order to at least 10.</p> <p><b>One-to-One Principle</b></p> <p>Pupils will practise and consolidate their understanding of one-to-one correspondents. When counting they will practise saying the names of the numbers in sequence and ensuring each object receives one count and one only one count.</p> <p>Pupils will practise and consolidate their ability to show finger numbers, to at least 5.</p> <p><b>Cardinal Principle</b></p> <p>Pupils will practise and consolidate their ability to touch count and answer the question 'How many?' saying how many there are in a set with the last number counted.</p> <p><b>Order Irrelevance Principle</b></p> <p>Pupils will practise and consolidate their understanding that the order that items are counted in is irrelevant—left-to-right, right-to-left, in a random fashion—as long as every object in the set is given one count and only one count.</p>	<p><b>Maths</b></p> <ul style="list-style-type: none"> <li>• Develop fast recognition of up to 3 objects, without having to count them individually ('subitising')</li> <li>• Recite numbers past 5.</li> <li>• Say one number for each item in order: 1,2,3,4,5</li> <li>• Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle').</li> <li>• Show 'finger numbers' up to 5.</li> <li>• Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5.</li> <li>• Experiment with their own symbols and marks as well as numerals.</li> <li>• Solve real world mathematical problems with numbers up to 5.</li> <li>• Talk about and explore 2D and 3D shapes (for example, circles,</li> </ul>

<p><b>Change</b> Pupils will solve real world mathematical problems with numbers up to 5 using fingers, objects and marks.</p> <p><b>Representation and Recognition</b> Pupils will continue to work their way through 10 Town. This term they will explore; Sir Seven/7 and Eric Eight/ 8 through stories, songs and games.</p> <p>Pupils will identify number representations, including Numicon, objects, pictures and numerals. Pupils will explore standard representations, such as dice, and fingers as well as nonstandard representations.</p> <p>Pupils will continue to represent numbers using objects, actions, fingers and marks</p> <p>Pupils link taught numerals to amounts, showing the right number of fingers/ objects to match a given number</p> <p><b>Subitising</b> Pupils will consolidate and practise their ability to recognise up to at least three objects, in structured arrangements, and say the amount without counting (subitising)</p> <p><b>Shape</b> Pupils will build models using solid 3D shapes- they will talk informally about shape properties and using some mathematical vocabulary such as, 'pointy' or 'curved' 'sides', 'corners'; 'straight', 'flat', 'round'. Adults will model talking about the shapes and how their properties suit the purpose. Pupils will develop their ability to select shapes appropriately, for example a flat surface for building, a triangular prism for a roof etc.</p> <p><b>Weight</b> Pupils will explore weighing using balancing scales. They will explore weighing farm animals and begin to make comparisons as to which animal is heavier or lighter.</p> <p><b>Key Vocabulary</b> New Vocabulary: pointy, flat, heavy, light, 'how many', Revisited Vocabulary: round, straight, curved, corners, sides, size, colour, shape, small, big</p>	<p>rectangles, triangles and cuboids) using informal and mathematical language: 'sides', 'corners'; 'straight', 'flat', 'round'.</p> <ul style="list-style-type: none"> <li>• Make comparisons between objects relating to size, length, <b>weight</b> and capacity.</li> <li>• Select shapes appropriately: flat surfaces for building, a triangular prism for a roof, etc.</li> </ul>
<p>5 3 <b>Wiggle and Grow</b></p>	<p><b>Maths</b></p>



### Stable Order Principle

Pupils will practise and consolidate their understanding of the verbal sequence of counting; being able to say the number names in sequential order to at least 10.

### One-to-One Principle

Pupils will practise and consolidate their understanding of one-to-one correspondents. When counting they will practise saying the names of the numbers in sequence and ensuring each object receives one count and one only one count.

### Cardinal Principle

Pupils will practise and consolidate their ability to touch count and answer the question 'How many?' saying how many there are in a set with the last number counted.

### Abstraction Principle

Pupils will develop their understanding that it doesn't matter what they count, how they count stays the same. For example, any set of objects can be counted as a set, regardless of whether they are the same colour, shape, size, etc.

Pupils will also explore counting non-physical things such as sounds, action and imaginary objects.

Pupils will explore counting actions they can make with their bodies, such as claps, hops, jumps etc.

Pupils will practise counting number of objects or pictures out of their reach so that they can count objects that cannot be touched or moved.

Pupils will use musical instrument to make their own music by playing an instrument a number of times. They will be encouraged to count each sound. Pupils will also roll a dice to decide the number of times an instrument should be played

Pupils will go on a hunt in the outside environment to discover 'action cards' alongside numerals for them to complete the given number of actions.

### Recognition and Representation

Pupils will continue to work their way through 10 Town. This term pupils will explore Nina Nine/9 and Tia Ten/10 through stories, songs and games.

- Develop fast recognition of up to 3 objects, without having to count them individually ('subitising')
- 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').
- Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5.
- Show 'finger numbers' up to 5.
- Experiment with their own symbols and marks as well as numerals.
- Compare quantities using language: 'more than', 'fewer than'.
- Make comparisons between objects relating to size, length, weight and **capacity**.
- Talk about and identify the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper.
- Extend and create ABAB patterns - stick, leaf, stick, leaf.
- Notice and correct an error in a repeating pattern.

Pupils will identify number representations, including Numicon, objects, pictures, pairs and numerals. Pupils will explore standard representations, such as dice, and fingers as well as nonstandard representations.

Pupils will continue to represent numbers in their own ways using objects, actions, fingers and marks

Pupils link taught numerals to amounts, showing the right number of fingers/ objects to match a given number

### Capacity

Pupils will have opportunity in the indoor and outdoor environment to explore capacity through investigating filling and emptying containers. They will learn the vocab 'full' and 'empty'.

### Comparison

pupils will compare and order quantities. They will notice which has more, which has fewer and when two sets have the same amount.

### Subitising

Pupils will consolidate and practise their ability to recognise up to at least three objects, in structured arrangements, and say the amount without counting (subitising)

### Pattern

Pupils will revisit simple repeated ABAB patterns. They will spot errors in a repeated ABAB pattern and correct them. They will then continue a pre-made pattern and make their own repeated ABAB pattern.

### Key Vocabulary

New Vocabulary: more, fewer, less, full, empty

Revisited Vocabulary: pattern, same

### Ongoing

Pupils explore technological toys, such as Bee-Bots and the remote-control cars. Pupils will explore routes and describe routes they took using their bee bot e.g. 'first I went forward, then I went backward, now I'm going next to...'

### Maths

- Understand position through words alone - for example, "The bag is under the table," - with no pointing.
- Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...'