

## Maths in the environment

-All Adults to find opportunities to bring numeracy into play. T to facilitate and scaffold the following learning opportunities.

### Autumn Term

Number songs	Colours	Match	Sort	Compare amounts	Compare size, mass, capacity	Simple patterns
<p>Opportunities for settling in, introducing the areas of provision and getting to know the children.</p>	<p>Children should be taught to recognise and name colours in a variety of contexts e.g. toys within the classroom, colours in nature, colours in the environment, matching colours, colours on themselves such as hair, skin, clothes. Children should be able to say when objects are and are not the same colour. Link to expressive art and design through painting.</p>	<p>Provide opportunities for the children to explore and match objects which are the same. Can you find one exactly like mine? How do you know it's the same? Can you find one different to mine? Why is this one not like mine?</p>	<p>Children learn that collections can be sorted into sets based on attributes such as colour, size or shape. Sorting enables the children to consider what is the same about all the objects in one set and how they are different to the other sets. They begin to understand that the same collection of objects can be sorted in different ways</p>	<p>Once children can confidently sort collections into sets they learn that these sets can be compared and ordered. They understand that when making comparisons a set can have more, the same or fewer than another set. NOTE – it is easier for children to notice the difference between sets when the difference is greater. Start by asking the children to compare 2 and 5 rather than 5 and 6</p>	<p>Children learn that objects can be compared and ordered according to their size. Encourage the use of language such as big and little, small and large to describe a range of objects. More specific language such as tall, long, short can also be introduced.</p>	<p>Children copy, continue and create their own patterns. It is important to provide patterns with at least three full units of repeat. Encourage the children to say the pattern out loud</p>

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## Spring Term

Weight	Number				Measure
<p>Children may already have experience of weight through carrying heavy and light items. Encourage them to make direct comparisons holding items to estimate which feels the heaviest then use the balance scales to check. Prompt them to use the language heavy, heavier than, heaviest, light, lighter than, lightest to compare items starting with items that have an obvious difference in weight. Avoid common misconception that bigger items are always heavier by providing some small heavier items and some large lighter ones</p> <p>heavy, heavier than, heaviest, light, lighter than, lightest</p>	<p>Children identify representations of 1, 2, 3. They subitise or count to find out how many and make their own collections of 1, 2 or 3 objects. They match the number names to quantities and numerals. They touch count in different arrangements and recognise the final number is the quantity of the set.</p> <p>Begin Number blocks Counting to 1 Finding 1 object Representing 1 on a 5 frame A circle – 1 sides shape (including in the environment) 1 action e.g. 1 hop, 1 jump, 1 clap What is 1 made of 1 nose, 1 mouth, 1 body Exploring different varieties of circles</p> <p>1 being the first number, its position on a number line, ordinal numbers Numicon 1 Dice 1 Subitising 1 The numeral and formation of 1 Number 1 in the environment Representing 1 using marks, pictures and finger Matching numeral to quantity</p>	<p>Children identify representations of 1, 2, 3. They subitise or count to find out how many and make their own collections of 1, 2 or 3 objects. They match the number names to quantities and numerals. They touch count in different arrangements and recognise the final number is the quantity of the set.</p> <p>Number blocks episode 2 Counting to 2 Finding 2 objects Representing 2 on a 5 frame A semi circle – 2 sides shape (including in the environment) 2 actions e.g. 2 hops, 2 jumps, 2 claps What 2 is made of 1 is a part of me, 1 is a part of me and the whole of me is 2</p> <p>2 being the second number, its position on a number line, ordinal numbers Numicon 2 Dice 2 Subitising 2 The numeral and formation of 2 Number 2 in the environment Representing 2 using marks, pictures and finger Matching numeral to quantity</p>	<p>Children identify representations of 1, 2, 3. They subitise or count to find out how many and make their own collections of 1, 2 or 3 objects. They match the number names to quantities and numerals. They touch count in different arrangements and recognise the final number is the quantity of the set.</p> <p>Number blocks episode 3 Counting to 3 Finding 3 objects Representing 3 on a 5 frame A triangle – 3 sides shape (including in the environment) 3 actions e.g. 3 hops, 3 jumps, 3 claps What is 3 made of - 2 is a part of me, 1 is a part of me and the whole of me is 3. Exploring different varieties and orientations of triangles.</p> <p>3 being the third number, its position on a number line, ordinal numbers Numicon 3 Dice 3 Subitising 3 The numeral and formation of 3 Number 3 in the environment Representing 3 using marks, pictures and finger Matching numeral to quantity</p>	<p>Children count on and back to 4. They subitise sets of up to 4 objects to find out how many make their own collections of objects. They match the number to numerals and quantities and are able to say which sets have more and fewer items. When counting they continue to learn that the final number they say names the set.</p> <p>Number blocks episode 4 Counting to 4 Finding 4 objects Representing 4 on a 5 frame Squares and rectangles, 4 sided shapes including in the environment 4 actions e.g. 4 hops, 4 jumps, 4 claps Composition of 4 (2 is a part of me, 2 is a part of me and the whole of me is 4; 3 is a part of me, 1 is a part of me and the whole of me is 4)</p> <p>4 being the fourth number, its position on a number line, ordinal numbers Numicon 4 Dice 4 Subitising 4 The numeral and formation of 4 Number 4 in the environment Representing 4 using marks, pictures and finger Matching numeral to quantity</p>	<p>Children begin by using language to describe length and height e.g. the tree is tall the pencil is short. When making direct comparisons they may initially say something is bigger than something else. Encourage them to use more specific mathematical vocabulary in relation to Length - longer, shorter height – taller, shorter Breadth – wider, narrower</p> <p>The children should then move on to finding objects that are longer/shorter than a given item. They should be encouraged to utilise strategies such as direct comparison (e.g. placing objects side by side to determine which is longer).</p> <p>Encourage them to use more specific mathematical vocabulary in relation to Length - longer, shorter height – taller, shorter Breadth – wider, narrower</p>

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### Summer

Number cont. – greater depth	Shapes	Time	Capacity	Positional language	
<p>Children continue to subitise up to 5 items and to count forwards and backwards to 5 accurately using the counting principles. They represent up to 5 items on a five frame.</p> <p>Number blocks episode 5 Counting to 5 Finding 5 objects Representing 5 on a 5 frame Pentagons, 5 sided shapes including in the environment 5 actions e.g. 5 hops, 5 jumps, 5 claps Composition of 5 (3 is a part of me, 2 is a part of me and the whole of me is 5; 4 is a part of me, 1 is a part of me and the whole of me is 5) <i>5 being the fifth number, its position on a number line, ordinal numbers</i> Numicon 5 Dice 5</p>	<p>The children will use real objects to see that the quantity of a group can be changed by adding more. The first, then, now structure can be used to create mathematical stories in meaningful contexts. Children continue to count, subitise and compare as they explore one more and one less. Prompt children to see the link between counting forwards and the one more pattern and back and the one less pattern.</p>	<p>The primary focus in relation shapes should be on the properties of shapes. For example, children should be encouraged to notice and describe shapes in the environment and talk about the properties using words such as 'straight/flat/round/curved'. When teaching the names of shapes, wherever possible, real life shapes in the environment should be used. Note that only flat surfaces should be referred to as faces. Include sorting of natural shapes; the children may sort stones, for example,</p>	<p>Children talk about night and day and order key events in their daily routines, such as waking up, coming to school, dinner, bed time.</p> <p>They use language to describe when things happen e.g. day, night, morning, afternoon, before after, today, tomorrow. Encourage the vocabulary of first, next, then and possibly last.</p> <p>Children explore measuring time</p>	<p>Encourage children to build on their understanding of full and empty Provide opportunities to explore capacity with different materials such as water, sand, rice and loose parts Initially children should be exposed to the comparison of full, half full, empty using the same container. Provide different sized and shaped containers to investigate, When comparing capacities directly children can pour from one container to another to find which holds more or less water.</p>	<p>Children need opportunities to be exposed to and to use the language of position and direction; <i>Position: 'in', 'on', 'under'. Direction: 'up', 'down', 'across'</i> Children also need opportunities to use terms which are relative: <i>'in front of, 'behind', 'on top of'</i>. Create as many opportunities as possible to explore this language such as hunting for hidden objects with some prompts (e.g. look behind the shed).</p>

<p>Subitising 5 The numeral and formation of 5 Number 5 in the environment Representing 5 using marks, pictures and finger Matching numeral to quantity</p>		<p>into sets that have straight edges, sets that have curved edges etc.</p>			
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