



F1

Mathematics Curriculum 2022 - 2023

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RATIONALE

This maths curriculum has been designed to effectively meet the aims and objectives of the early learning goals set out in the Development matters document. We want children to develop a positive attitude and interest into mathematics by providing frequent and varied opportunities to build and apply understanding of the six key areas of early mathematic learning:

- Cardinality and Counting
- Comparison
- Composition
- Pattern
- Shape and space
- Measures (*See appendix A for further detail*)

Maths lessons in the foundation stage are designed to coincide with the three characters of effective learning as set out in the development matters document:

1. Playing and exploring.
2. Active learning.
3. Creating and thinking critically.

Teaching structure.

Children will be given a group input before moving onto appropriate tasks, planned for using continuous provision. Each child will experience an adult-led continuous provision group once a week. Extra adults will be used to support and address misconceptions.

Lesson designs are set out in detail and use well-tested methods to teach each mathematical topic. They include a variety of representations, which are essential to introduce and explore concepts effectively and set out related teacher explanations and questions to pupils.



YEARLY PLAN

	Cardinality and counting	Comparison	Composition	Pattern	Shape and space	Measures.
Autumn	<p>Number rhymes</p> <p>Count from 1-3.</p> <p>Show fingers up to 3.</p>	<p>Compare quantities up to 3 using (more, a lot, fewer)</p>	<p>Begin to look at the numbers 1, 2, 3. Talk about what they notice. Begin to subitise.</p>	<p>Pattern in routines and pictures.</p>	<p>Select shapes for building.</p> <p>Explore 2d and 3d shapes.</p>	<p>Compare size (big, small).</p>
Spring	<p>Use 1:1 correspondence for numbers 1-3.</p> <p>Match numerals to objects 1-3.</p> <p>Count from 1-5</p> <p>Show fingers up to 5.</p> <p>Experiment with own symbols and marks as well as numerals.</p>	<p>Compare quantities up to 5 using 'more than/fewer'</p>	<p>Subitise 3. (on its own and as parts)</p>	<p>Identify patterns around them.</p> <p>Extend and create ABAB patterns</p>	<p>Explore shapes using language. (sides, corners, round).</p> <p>Combine shapes to make bigger shapes.</p> <p>Begin to use positional words. (under, next to)</p>	<p>Compare length (long, short)</p>
Summer	<p>Use 1:1 correspondence for numbers 1-5.</p> <p>Match numerals to objects 1-5.</p> <p>Recite numbers past 5.</p> <p>Real world maths problems up to 5.</p>	<p>Sorting similar objects. Comparing the groups.</p>	<p>Show finger numbers up to 5.</p> <p>Subitise 3 in irregular patterns.</p>	<p>Correct errors in patterns.</p> <p>Sequence events. (First, then)</p>	<p>Describe and discuss familiar routes and locations.</p>	<p>Compare weight and capacity (heavy, full)</p>



HEURISTICS TO FOCUS ON DURING THE YEAR:

Draw Something

Play and exploring

Act it out

LINKS TO MASTERY MATERIALS

<https://www.ncetm.org.uk/in-the-classroom/early-years/>

<https://nrich.maths.org/13371>

TERMLY PLANS

Teachers to incorporate Number blocks into Math's lessons where appropriate, using the supporting NCETM guidance. Teachers to use number rhymes daily to develop oracy and understanding of number.



AUTUMN ACTIVITIES

Cardinality and counting	Comparison	Composition	Pattern	Shape and space	Measures.
<p>Representing numbers to 3 in different ways.</p> <p>Singing number rhymes with actions.</p> <p>Object counting.</p> <p>Physical counting (claps, jumps)</p>	<p>Talk about more or less with objects and numbers up to 3.</p> <p>Sharing objects talking about who has more & less.</p> <p>Using stories and videos to compare items.</p> <p>Matching objects and pictures to find the same. Which group has more?</p>	<p>Recite numbers in a sequence</p> <p>Begin to show the concept of part and whole up to the number 3.</p> <p>Begin trying to subitise 1, 2 and 3 using dice patterns.</p>	<p>Talk about the patterns in their daily routine.</p> <p>Look at patterns in everyday objects. (on their clothes, toys etc)</p>	<p>Explore shapes and building blocks.</p> <ul style="list-style-type: none"> - Creating pictures and buildings. - Talking about the shapes they are using. <p>Shapes in environments, going on shape walks around the school.</p>	<p>When building and making pictures, use language (big and small).</p>



SPRING ACTIVITIES

Cardinality and counting	Comparison	Composition	Pattern	Shape and space	Measures.
<p>Object counting using 1:1 correspondence for numbers up to 3.</p> <p>Match numerals to objects.</p> <p>Match numicon to objects.</p> <p>Recite numbers counting to 5.</p> <p>Begin experimenting writing their numbers to 3. (mark-making)</p> <p>Say and touch counting. Children understand that the last number said is how many</p>	<p>Looking at groups of objects up to 5. Which group has more/fewer?</p> <p>Match objects to other objects. (e.g bananas to each monkey) are there enough?</p>	<p>Become secure with subitising 3 in regular patterns.</p> <p>Become more familiar with part-part whole model.</p> <ul style="list-style-type: none"> - Colour mixing, parts are yellow and blue and the whole is green. - Parts of fruit. - Using practical resources. <p>Look at the parts when subitising to 3, reinforcing that the whole is the biggest.</p>	<p>Identify patterns in the Nursery and outdoors.</p> <p>Create ABAB patterns using shapes and peg boards etc.</p> <p>Continue ABAB patterns</p>	<p>Chose shapes appropriate to task. Explain using language such as sides, straight, tall, corners, round.</p> <p>Create pictures by combining shapes to make a bigger picture. (making a house using a square and triangle etc).</p> <p>Begin describing their buildings by using prepositional language such as, under, next to.</p>	<p>Sort objects by their shape or size.</p> <p>Compare the length of objects in play using (long, short).</p> <p>Look at pencils, compare snakes and everyday materials to compare their length.</p> <p>Follow instructions carefully that use prepositional language.</p> <p>Play 'where is the teddy'. (put the teddy somewhere and children use prepositional language to describe its position.)</p>



SUMMER ACTIVITIES

Cardinality and counting	Comparison	Composition	Pattern	Shape and space	Measures.
<p>Gives its object one numeral each when counting to 5.</p> <p>Begin to recite numbers past 5 and up to 10.</p> <p>Counts objects that cannot be touched.</p> <p>Can count starting from any number.</p> <p>Can count backwards from 5 confidently. Challenging further to count back from 10.</p> <p>Match numerals to objects 1-5.</p> <p>Real world maths problems up to 5.</p> <p>Begins to look at simple dice and board games.</p>	<p>Sorting objects into similar groups and comparing, using language such as:</p> <p>(fair, unfair, more, fewer, the same)</p> <p>Children to sort objects with their own rules.</p>	<p>Subitise 3 in irregular patterns.</p> <p>Look at partitioning numbers up to 5, using resources to assist.</p>	<p>Correct errors in patterns.</p> <p>Create AB patterns for their friends to continue and copy.</p> <p>Create template with spaces for pattern work, will an AB pattern fit?</p> <p>Look at sequencing events in stories and everyday routines using first and then.</p>	<p>Compare shapes and choosing appropriate shapes for their pictures. (circle for a wheel etc).</p> <p>Going on walks around the school grounds and describing what they can see and hear.</p> <p>Order and sequence familiar routines.</p>	<p>Use sand and water to compare capacity using empty and full.</p> <p>Use balance scales and objects to compare weight. Heavy and light.</p> <p>Order objects by weight and capacity.</p> <p>Describe which container is best for weight and capacity.</p>



APPENDIX A

Cardinality and counting	Comparison	Composition	Pattern	Shape and space	Measures
<p>Children should understand that numbers relate to quantities and are helpful with finding out 'how many'.</p> <p><u>Progression steps:</u></p> <p>Counting: Saying numbers in the correct sequence.</p> <ul style="list-style-type: none"> - forwards. - backwards. - Starting from different places. <p>Counting: 1:1 correspondence.</p> <ul style="list-style-type: none"> - Tagging an object with a number for careful counting. - Count items of different size, items that cannot be seen or touched. <p>Counting: saying the last number.</p> <ul style="list-style-type: none"> - Knowing that the last number said is 'how many'. 	<p>Children should understand that some numbers are worth more or less than other numbers.</p> <p><u>Progression steps:</u></p> <p>More than/ Less than:</p> <ul style="list-style-type: none"> -comparing collections that are very different. - Comparing collections that have a slight difference. <p>Identifying equal groups:</p> <ul style="list-style-type: none"> - Compare collections that are the same amount. <p>Comparing numbers</p> <ul style="list-style-type: none"> - Comparing numbers and explaining why they have more/less? 	<p>Children should understand that numbers can be made from 2 or more smaller numbers.</p> <p><u>Progression steps:</u></p> <p>Part, part, whole</p> <ul style="list-style-type: none"> - Number talks and manipulatives. <p>Subitising: Knowing an amount without counting.</p> <ul style="list-style-type: none"> - In regular and irregular arrangements. 	<p>Children should actively look for and explore patterns to develop their understanding of mathematical relationships</p> <p><u>Progression steps:</u></p> <p>AB pattern</p> <ul style="list-style-type: none"> - Continuing an AB pattern - Copying an AB pattern. - Making an AB pattern - Spotting mistakes <p>Pattern spotting around us.</p>	<p>Children should understand what happens when a shape is moved or combined with another shape. They will develop visualisation skills during shape and space that will develop their mathematical thinking.</p> <p><u>Progression steps:</u></p> <p>Spatial awareness</p> <ul style="list-style-type: none"> - Develop spatial awareness through movement and different ways of looking. - Develop vocabulary through prepositional language. - Actively use language to describe objects. <p>Shape</p> <ul style="list-style-type: none"> -Explore shapes through play and construction. - Identify similarities through sorting. - Begin describing the properties of shapes. - Find relationships between 2D and 3D shapes. 	<p>Children should begin to compare weight, length and volume through appropriate vocabulary and non-standards measures</p> <p><u>Progression steps:</u></p> <p>Recognise attributes</p> <ul style="list-style-type: none"> - begin to describe people or things as 'tall' or 'long' etc. <p>Comparing</p> <ul style="list-style-type: none"> - Begin comparing objects using 'taller', 'heavier' etc. - Begin predicting and estimating. (Is the box big enough for the ball to fit?) - Comparing more than 2 things.