

2022 to 2023 framework for **Mathematical Development** with links to the 2022-2023 nursery project 'what is alive in our garden?'

Autumn	Spring	Summer
number		
<ul style="list-style-type: none"> • Joining in and reciting number rhymes with actions and through songs. • Using number words in context i2 well is one coat • Fixed quantity / loose symbol. Adults introduce the numbers 1 to 10 using number rods, use the language of one more than or one less than. 	<ul style="list-style-type: none"> • Recites number rhymes, actions, songs. • Introduced cardinality: how many with fixed symbol and loose quantity Montessori number rods. • What comes next and before. • Comparisons: recognised changes in quantity, children use the language of more, less, same. 	<ul style="list-style-type: none"> • Match loose symbol and loose quantity. • Red counters and symbols. • Number formation. • Number bonds: how many ways we can make 5, 6, 7, 8, 9, 10. • Counting forwards and backwards.
spatial awareness		
<ul style="list-style-type: none"> • Children can order the Montessori pink tower. • Using own bodies: stretching, curling, spinning. • Adults introduce games with position and direction: games- put the spider on the web, behind the web etc. • Exploring spaces around us • Knobbed cylinders x 2 • Crawling through tunnels to crawl. • Replacing resources correctly. • Constructing with unit blocks. 	<ul style="list-style-type: none"> • Knobbed cylinders x 3 • Block building: developing ideas of structures • Gross motor obstacle games. • Running, hiding, going up, going down. • Create tracks and roads, adults use the play to narrate with the vocabulary of direction. • Problem solving when playing with tracks, bridges, and tunnels • Exploring what things look like from a different angle / viewpoint: a bird's eye view, and ant's eye view etc • 	<ul style="list-style-type: none"> • Knobbed cylinders x 4 • Shape games: using mirrors predicting what happens when objects are turned or flipped over. • Play barrier games: objects are positioned hidden, and second player guesses the arrangement responding to language to reposition objects.
shape		
<ul style="list-style-type: none"> • Shape puzzles new line blocks and boxes to stack and build on flat surfaces • Construction shapes available for independent play: using vocabulary for shapes • Clay: creating shapes- exploring the properties of shapes • Jigsaws 	<ul style="list-style-type: none"> • Montessori shape bag: matching similar shapes • Adults model thinking when building using 3d blocks and naming 3d shapes such as cube, cone • Shapes that are the same shape but different sizes 	<ul style="list-style-type: none"> • Tessellation and nets • Using a variety of 3D blocks for building and 2D shapes for tessellation and drawing • Using net shapes to build 3d shapes

Pattern

- Simple clapping games: copy me.
- Simple to and fro games: children to predict what comes next.
- Repeated actions or refrains in songs and stories.
- Observe patterns in the environment.
- Notice the rotation of different times of day.
- Identify what is the same, different.

- Practical life activities.
- Sorting teddies, elephants: lining up, positioning, matching pattern
- Provide a range of natural and man-made resources to line up, and make patterns.
- Copy patterns using percussion instruments
- Join in with familiar stories with repeated phrases e.g., 'fee fi fo fum,' 'run run as fast as you can.'

- Opportunities for children to create their own spatial patterns.
- Add two and explore simple linear patterns provide a range of items for patterning including cultural resources such as wallpaper, clothing, wrapping paper

Measures

- Exploratory play filling and emptying containers while adults use language to describe measurement-based vocabulary.
- Children compare different sized objects during sand and water exploration
- Measures in time: Adults model the language of now and later.
- Share books showing daily routines.

- Explore and describe differences in size, length, weight and capacity with sand and water and other sensitive opportunities.
- The language of time (of the day).
- Use scales in the role play area.

- Begin to experience measure and measured time: stopwatch, sand timer
- Play games: how quickly can we fill the bucket
- Timed challenges.
- Is able to use the vocabulary of measurement with accuracy to communicate with adults and peers.