



Numeracy Policy

POLICY CONTROL

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Numeracy Policy

Highbury School is a community primary school providing for children from ages 4 to 11 who have a range of special educational needs, and whose needs cannot be fully met in a mainstream setting. All children at Highbury have an Education, Health and Care Plan (EHCP). Highbury also has one KS1 and two KS2 specialist Satellite Provisions based in two local mainstream primary schools.

Introduction

Numeracy is a core subject within the National Curriculum which means coverage of this area is compulsory. This policy outlines the purpose, nature and management of the teaching and learning of Numeracy at Highbury. The skills developed in Numeracy provide pupils with tools for exploring, investigating and understanding the world. Children develop their ability to calculate, reason and solve problems; as well as understand and appreciate relationships and patterns in number and space in their everyday lives. By learning to communicate and apply mathematical ideas and concepts, pupils become equipped with the tools to tackle a range of practical tasks and real-life problems. The skills developed in Numeracy are life-long skills that will support pupils into adulthood.

Highbury Curriculum

The fundamental principle behind our curriculum design at Highbury is personalisation and the need to ensure that all learning is relevant, meaningful and functional. All of our classes are organised on a needs and ability-led basis. This ensures that the curriculum being taught is appropriate for every child and allows all children to be active participants in their learning. The Highbury Numeracy Curriculum also encompasses relevant aspects of the National Curriculum.

Our Numeracy curriculum is split into the following pathways:

- A. Number: Counting and Place Value
- B. Number: Calculation (+ -)
- C. Number: Calculation (x ÷)
- D. Measurement
- E. Measurement: Money
- F. Measurement: Time
- G. Geometry: Shape
- H. Geometry: Position and Direction
- I. Statistics
- J. Community and life skill application

For more information on this please refer to the Teaching and Learning Policy and / or the Highbury Curriculum Pathways.

Aims

At Highbury we believe that by providing exciting and relevant learning opportunities, all pupils can develop to their full mathematical potential. We aim to do this by:

- Promoting enjoyment and enthusiasm for learning mathematical concepts through play, practical activity, outdoor learning, exploration and discussion.
- Using a range of multi-sensory teaching styles and resources.
- Ensuring all teaching is highly differentiated and personalised to suit individual needs.
- Developing pupils' confidence and competence with numbers and the number system.
- Exploring features of shape and space, and develop measuring skills in a range of contexts.
- Equipping pupils with the language and skills to communicate their mathematical ideas.
- Developing an understanding of the importance of Numeracy in everyday life and how to apply skills in a functional and meaningful way.
- Improving pupils' abilities to solve problems through decision-making and reasoning in a range of contexts.

Teaching and Learning

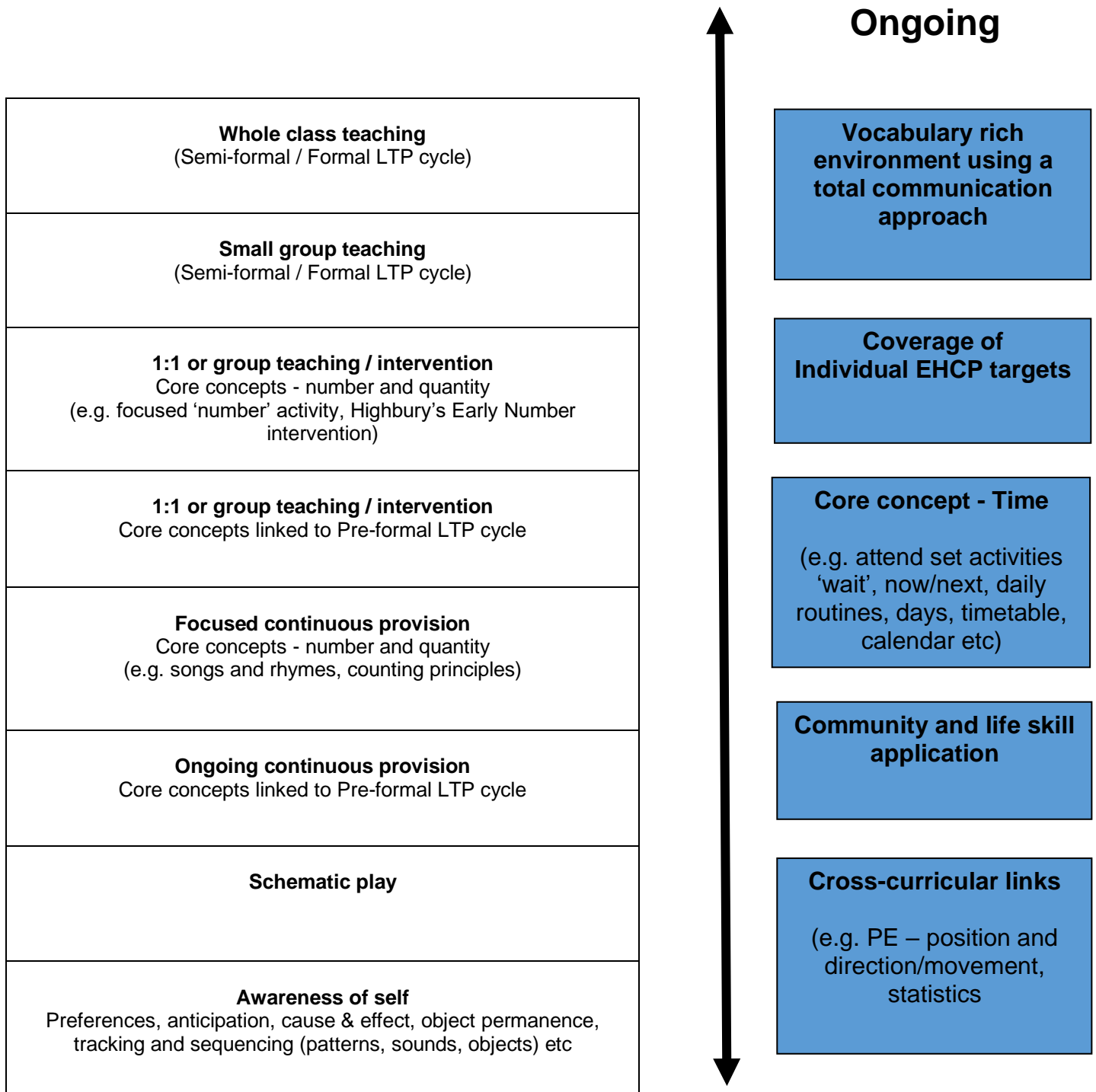
Numeracy is delivered at Highbury as both a discrete subject and through a cross-curricular approach. Staff teach knowledge, skills and understanding in age-appropriate ways that match and challenge their pupils' abilities. Teaching

will be delivered on an individual basis, small groups or whole class groups as appropriate. The frequency and duration of Numeracy teaching in classes across school will differ according to individual needs.

Below is an outline of how our Numeracy coverage fits within the Highbury School curriculum pathways and what it may 'look like' in different classes.

If parents/carers require any further information, the child's class teacher can be the first point of contact.

Progression Steps (subject-specific)



Ongoing

Engagement Steps (non-subject specific)

Our Pre-formal long-term plan illustrates the Numeracy coverage over a year.

Numeracy LTP: Pre-formal							
<i>This will be delivered through Continuous Provision in both indoor and outdoor environments, enhanced provision, focused activities and interventions.</i>							
Focus		Ongoing					
Term 1	Transition & baseline assessments Core concept: Position and Movement Schema focus: Transporting, Enclosing / Enveloping, Positioning	Schematic play	Core concept: Time (Sequences and routines)	Intervention (e.g. See and Learn Number, Numicon)	Core concept: Number and quantity	Core concept: Colour	Community and life skill application
Term 2	Core concept: Shape and pattern Schema focus: Rotating, Orienteering						
Term 3 & 4	Core concept: Size and quantity (size, weight and capacity) Schema focus: Containing, Transforming						
Term 5	Core concept: Number and quantity Schema focus: Connecting, Trajectory						
Term 6	Teaching based on AfL Transition						

Our Semi-formal and Formal long-term plan illustrates the Numeracy coverage over a 3-year period.

This links to a 3-year topic cycle encompassing all curriculum areas.

Numeracy LTP: Semi-formal and Formal			
	Cycle 1	Cycle 2	Cycle 3
Term 1	RICE transition curriculum	Time (routines)	Assessment period (prioritise number)
	Geometry: Position and Direction	Geometry: Shape and Pattern	Statistics
Term 2	Number	Number	Number
Term 3	Number with measurement (time)	Number with measurement (size, weight and/or capacity)	Number with measurement (time)
Term 4	Number with measurement (size, weight and/or capacity)	Number with measurement (money)	Number with measurement (size, weight and /or capacity)
Term 5	Number with measurement (money)	Number with measurement (time)	Number with measurement (money)
Term 6	Revisit based on AfL Community & life skills application	Revisit based on AfL Community & life skills application	Revisit based on AfL Community & life skills application

Pre-formal classes

Pupils in a pre-formal class follow the Engagement Steps Framework or Early Years Curriculum.

The Engagement Steps Framework is designed to support the learning and assessment of children not yet engaged in subject-specific learning and covers the following areas:

- Responsiveness, curiosity, discovery, anticipation, persistence, initiation, investigation.

The Early Years Curriculum covers the following areas:

- Mathematics, Literacy, Understanding the world, Expressive arts and design, Communication and language, Physical development, Personal, social and emotional development

The skills pupils learn in pre-formal classes are the foundation for future learning in Numeracy. There is a large emphasis placed on schema, as well as the teaching of core concepts and vocabulary (see below for more information) The majority of Numeracy in the pre-formal classes is taught through continuous provision and teaching in 1:1 or small groups. The pupils' mathematical understanding can also be developed through stories, songs and games.



• Early mathematical development - Schema

Schemas are described as patterns of repeated behaviour which allow children to explore and express developing ideas and thoughts through their play and exploration. The repetitive actions of schematic play allow children to construct meaning in what they are doing. They provide opportunities to solve problems, question, predict, imagine, speculate and develop independent choices. Children may be working through a single schema, multiple schemas or none at all at any given time. Particular emphasis will be placed on developing and extending the preferred schema of individuals. Schemas are a crucial aspect of child development as mathematical learning can only progress once an understanding of the world is achieved.

Here are some examples of schematic play at Highbury School:



Connecting



Transforming



Transporting

For more information on schemas see Appendix 1.

• Early mathematical development – Core Concepts

This document highlights what concepts and vocabulary pupils need to understand before accessing a more formal curriculum. Phases 1- 4 (see extract below) have many links to Mathematical development. The Pre-formal long-term plan is based around these key concepts.

Stage	size	position	colour	quantity	texture	sound	shape	movement	time	number	properties	description word	
Phase 1	big	down		all	soft					more	wet	gone	
		in		more							dirty		
		on									hot		
		up									heavy		
Phase 2	little	out	blue	a bit	hard	noisy	dot / spot	fast	again	one	alike	nice	
	fat	off	green	all	cold	quiet	line	slowly	now	two	same as	good	
	long	near	red	a lot	dry	loudly	round	quickly	after	three	too	happy	
	small	over	black white	some			circle	still	soon	four			sad
		biggest	behind	yellow	empty		flat	around	today	five			bad
		in front of		full			square	away		first			hungry
		through		another			straight			next			pretty
		inside		any									silly
		outside		many									
		to		no more									
		next to		as much									
		as		as									

• Early mathematical development – Number and Quantity

The concept of number and quantity is developed through play (both exploratory and adult-led), stories and songs as well as specific teaching and interventions.

We have also developed a Highbury Early Number intervention. This is based on the principle of precision teaching and an already established scheme named 'See and Learn' combined with the use of Numicon manipulatives. For more information, contact your child's class teacher.



Semi-formal classes

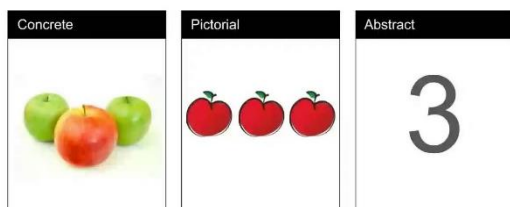
The approach used throughout the semi-formal classes is to develop mathematical thinking through a themed approach, with regular focused learning opportunities that introduce appropriate curriculum content. It is particularly important that the pupils develop a secure understanding of the Counting Principles (see Appendix 2). Semi-formal classes will generally start with a short whole-class input. This is designed to introduce the lesson whilst using a range of multi-sensory resources to engage and motivate pupils. It may be a game, song or brief activity to recap previous learning or introduce the new topic being taught. This learning is then continued in small focus groups or 1:1 (as appropriate). Learning objectives, teaching methods and resources are highly differentiated to ensure all pupils' needs are met. Many children will continue to follow the Highbury Early Number intervention.

Mathematical concepts are taught using the concrete, pictorial and abstract approach. Once the first stage is mastered, pupils progress to the next.

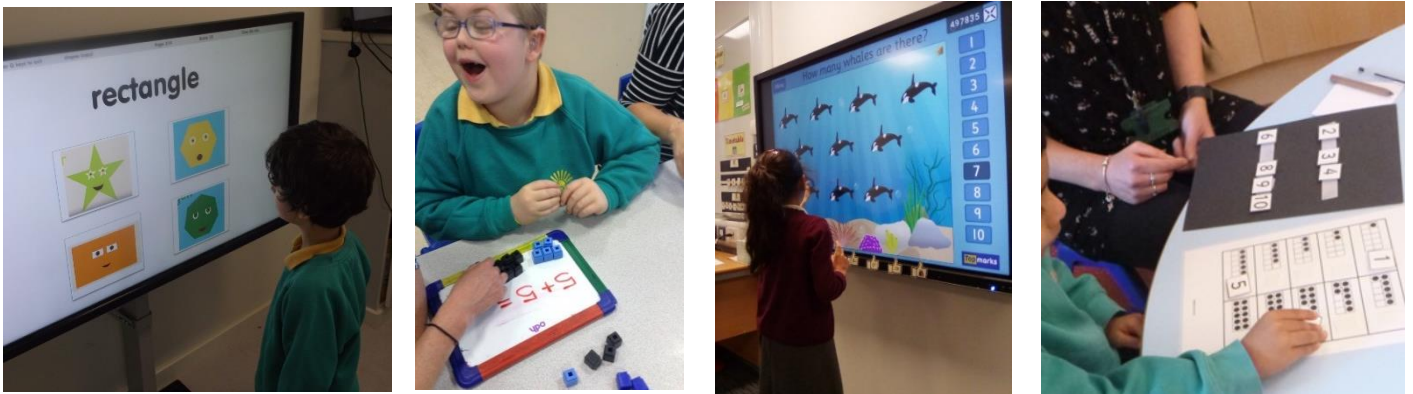
Concrete = A 'hands on' component using real objects. This is the foundation for conceptual understanding.

Pictorial = Pupil's relate their previous understanding to diagrams and pictures of mathematical concepts.

Abstract = Ideas begin to be represented in an abstract way using mathematical notation and symbols.

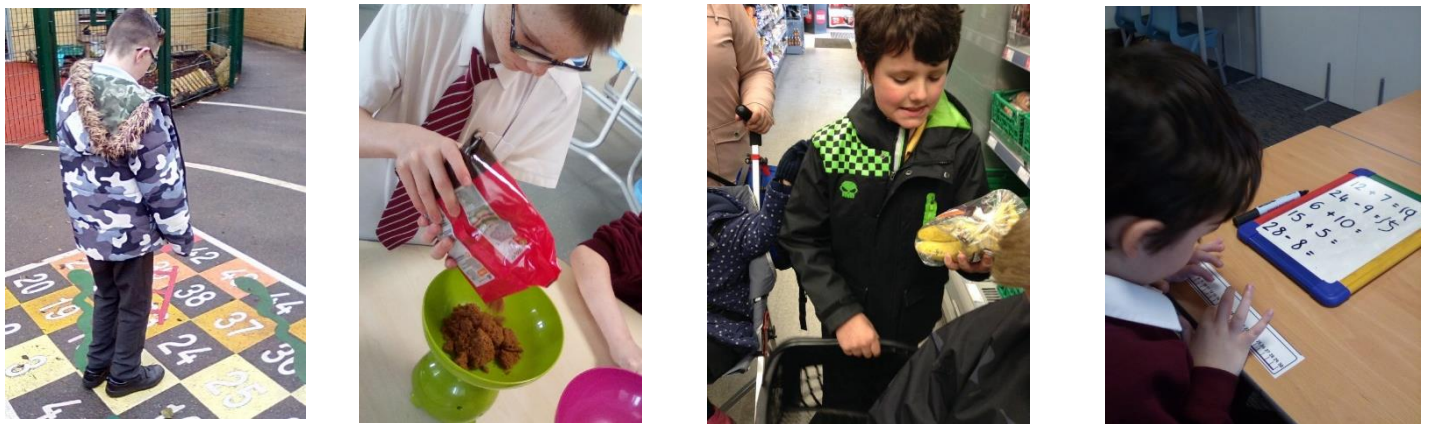


When pupils are not working on their focused Numeracy work, they will access continuous provision set up around the classroom. These activities will be accessed largely independently and focus on their sensory needs, the Numeracy topic being taught or other key maths skills (e.g. number / shape). This explorative play provides further opportunities for pupils to encounter and further understand the world around them. Staff are on hand throughout to support and extend children's learning as deemed necessary.



Formal classes

The formal curriculum is for those children who are working within the National Curriculum expectations. It builds upon and extends the knowledge, skills and understanding introduced in the semi-formal curriculum. Lessons follow a similar format, but the pupils are expected to work at an increased pace, in larger groups, for an extended period of time and with reduced support / independently. The children in more formal classes will cover the full range of topics within the Numeracy curriculum. There will also be a large emphasis on problem-solving and relating Numeracy to real-life contexts.



Outdoor Learning

Highbury has a wonderful Garden School. The Garden School provides the opportunity to teach most aspects of the curriculum in the natural environment, including Numeracy. The children enjoy working outdoors and those that may find learning in the classroom more difficult, may be more motivated to participate and learn mathematical concepts



outdoors. Although some activities are set by teachers, work in the Garden School is often child-initiated and/or child-led.

Monitoring and Reporting on progress

At Highbury School we have high expectations for every pupil. Staff work hard to offer a curriculum which allows for personalisation and an opportunity to assess pupils' progress in a holistic way. Assessment is ongoing and built into the teaching and learning process for all pupils. It is a valuable tool for informing staff of the next steps in learning.

Children's summative targets are set within the first school term and monitored throughout the academic year. Our assessment system, B-Squared, is updated by class teachers and pupil progress meetings are held (attended by the class teacher, head teacher and data manager) to ensure that children are on track to meet their targets. Regular moderation meetings also take place which enable teachers to confirm their assessment judgements with other teaching staff. These meetings allow staff to share knowledge and expertise in order to overcome any specific barriers their pupil/s may have. Children also work towards their EHC targets, some of which may have a mathematical focus if relevant. Progress against EHC targets is also tracked through our data meetings and reported to parents / carers and other professionals through the annual EHCP review process. Parents/carers also receive regular updates about their child's learning via parents' evenings, our class blogs and school social media posts.

In Numeracy, children are set learning objectives by the class teacher. These are then assessed by all staff using the school feedback system (BOP). The BOP score informs the teacher of the child's learning behaviour, understanding of the objective and how much adult prompt was required (this may be verbal, visual, physical or gestural). Pupil progress is recorded in a variety of ways at Highbury including observations, written work, videos and photos. Children's books are monitored regularly by the Numeracy subject lead and senior leadership team.

For more information, please see the school Assessment policy.

Equal Opportunities

The teaching of Numeracy will be in accordance with Highbury School's Equality Objectives. We aim to provide equal access to Numeracy for those children with Special Educational Needs through highly personalised learning and approaches.

Professional Development

Highbury School firmly believes that continuing professional development (CPD) for all staff features highly in the school improvement plans to support the development of Numeracy for all pupils. All practitioners receive regular CPD opportunities in the delivery of the teaching approaches mentioned in this policy. All aspects of Numeracy at Highbury School are monitored by the Numeracy lead - where training needs are identified, appropriate support will be provided.

Review

This policy was reviewed and updated in July 2024 by Lauren Cook (Numeracy Subject Lead)

Appendix 1 – Schematic play

Connecting

Joining things together, connecting objects, opening and closing things.

This can and often includes destruction/disconnection of what they've connected such as knocking over blocks they have put together.



What are they learning?

Examining how things come together and apart, fine and gross motor skills, cause and effect, spatial awareness, and pre-science and math skills, such as predicting and estimating.

Activities

- Jigsaws
- Dressing up (fastening buttons / Velcro)
- Train track
- Construction (building blocks/lego)
- Threading
- Junk Modelling

Transforming

Combining or changing materials, mixing things together.

What are they learning?

Cause and effect, fine and gross motor skills, pre-science skills such as observing and predicting.

Activities

- Mixing ingredients when baking
- Food colouring activities
- Mixing paint to make new colours
- Making juice
- Making sensory bottles

Orientation

Experimenting with different viewpoints like hanging upside down.

What are they learning?

Body and spatial awareness, fine and gross motor skills, sensory and vestibular system stimulation.

Activities

- Yoga / Gymnastics
- Twister game
- Drawing in different positions / places
- Spinning, twisting and rolling
- Looking through binoculars and magnifying glasses

Trajectory

Moving objects by throwing, dropping or rolling, trajectory of own body.

What are they learning?

How things move, fine and gross motor skills, cause and effect.

Activities

- Blowing bubbles
- Roll balls down ramps / tubes
- Bowling
- Frisbee
- Ring toss
- Target games

Rotating

Interest in things that spin or turn, spinning themselves, drawing circles.

What are they learning?

How things move, fine and gross motor skills, cause and effect.

Activities

- Locks and keys
- Mixing
- Rolling playdough
- Different weights / sizes of balls
- Paint rollers
- Hula hoops
- Rolling pin with bubble wrap for patterns

Enveloping

Covering objects or themselves, hiding things in discrete places.

What are they learning?

Object permanence, fine and gross motor skills, problem-solving and visual tracking.

Activities

- Coloured sensory bin to hide objects in
- Peekaboo
- Blankets
- Den making
- Freezing small toys in ice
- Sock puppets
- Pass the parcel

Enclosing

Containing things, creating borders around objects or themselves.

What are they learning?

Building pre-math skills while planning their enclosures (measuring, predicting), fine and gross motor skills, object permanence.

Activities

- Den making
- Parachute games - dome
- Posting into a box
- Shoe box – small world toys or animal habitats
- Ball pool

Positioning

Arranging or lining up objects or themselves in a particular way.

What are they learning?

Fine and gross motor skills, recognising differences and similarities, concentration, visual discrimination, and pre-math and science skills such as problem-solving, exploring patterns, classifying, and planning.

Activities

- Building blocks
- Balancing objects
- Colour and number sorting
- Making patterns
- Stacking and unstacking
- Hide and seek

Transporting

Carrying objects in pockets, hands or bags. Transporting oneself or others.

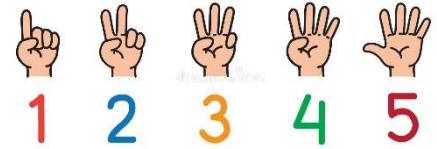
What are they learning?

Object permanence, fine and gross motor skills, spatial awareness, planning, and measuring (how much will fit?).

Activities

- Emptying and filling bags / boxes
- Using trollies, prams, baskets and wheelbarrows to move or collect objects
- Using scoops, spoons, spades, buckets and pipettes to move or collect materials / liquid
- Treasure hunt

Appendix 2 – Counting Principles



Stable Order: Understanding the verbal sequence of counting; being able to say the number names in sequential order.

One-to-One Correspondence: Understanding that when saying the names of the numbers in sequence, each object receives one count and only one count.

Cardinality: Understanding that the last number spoken in a counting sequence names the quantity (total) for that set.

Conservation: Understanding that the count for a set group of objects stays the same no matter whether they are spread out or close together.

Order Irrelevance: Knowledge 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.

Abstraction: Understanding that it doesn't matter what you count, how we 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. This can also include non-physical things such as sounds, imaginary objects, etc.

Subitising: The ability to “see” or visualize a small amount of objects and know how many there are without counting (2 types – perceptual and conceptual).

- ✓ Perceptual – the ability to look at a small number of objects and instantly recognise how many there are (limited to amounts up to 5)
- ✓ Conceptual – builds upon perceptual and is the ability to recognise a larger quantity of objects as being the sum of several smaller quantities (e.g. see groups of 5 and 3 = 8).

Hierarchical inclusion: Understanding that all numbers preceding a number can be or are systematically included in the value of another selected number. For example, knowing that within a group of 5 items, there is also a group of 4 items within that group; 3 items within that group; 2 items... and so on.

Unitizing: Understanding that objects can be grouped and counted (2s, 10s, 100s). This understanding can help them with place value and partitioning (hundreds, tens, ones etc).

Movement is magnitude: Understanding that as you move up the counting sequence (or forwards), the quantity increases by one and as you move down (or backwards), the quantity decreases by one or whatever quantity you are going up/down by.