



Kilcreggan Early Learning and Childcare Centre



# Early Numeracy and Maths Policy



## UNCRC:

**Article 17** I have the right to get information in lots of ways, so long as it's safe

**Article 28** I have the right to an education

## Rationale

Children's experience of early numeracy and mathematics begins at home. In and around the home children are involved in a variety of early mathematical activities and their awareness of number and its importance is developed through everyday activities in family life such as shopping, setting the table or cooking. These are rich mathematical contexts, which introduce them to a variety of mathematical concepts and can give a secure basis on which to build their future skills.

Before starting their Pre-5 education many children can already:

- Count
- Recognise numerals
- Represent quantities
- Share things out
- Sort and match items
- Understand the language for comparing and ordering objects
- Do very simple addition and subtraction

Young children's learning is holistic and they encounter mathematical concepts as part of the whole process of finding out about and making sense of the world around them. Children's knowledge and understanding should be based on experiential learning, using their senses to explore the concrete world before they can deal with abstract ideas.

Children have individual experiences and interests and learn at different rates. But the way they learn follows a similar pattern as they:

- Explore the world around them
- Discover patterns in what they see and do

*Kilcreggan Primary ELCC*

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- Repeat actions and test the patterns they have recognised
- Add their new understanding to what they already know about what the world is like and how it works
- Use words to make clear what they know

This policy has been produced to support and develop an environment that will foster a lifelong interest in numeracy and mathematics.

### Aims

One of the most powerful and self-motivating contexts for early mathematics is play. Through play children can repeat, rehearse and refine skills, using skills already gained and practising new skills.

Learning maths through play aims to enable children to mathematics:

- has a purpose – it's fun!
- is set within a meaningful context It gives the child responsibility and control
- provides time to repeat, practise and gain mastery
- is a practical activity and natural to their holistic learning.

### Creating a Maths Rich Environment

To create a maths rich environment we aim to promote positive attitudes to maths by:

#### **Involving the children in:**

- Making decisions
- Imagining
- Reasoning
- Predicting
- Planning
- Experimenting with strategies
- Recording

All these processes, integral to play, are essential for mathematical thinking.

**Creating attractive spaces for exploring mathematics by ensuring that the playroom offers play opportunities for children to:**



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- Develop powers of observation using the senses
  - Recognise patterns, shapes and colour
  - Be aware of daily time sequences, identify and use numbers
  - Sort and categorise things into groups
  - Count
  - Recognise some properties of materials such as hard / soft / rough / smooth
  - Solve problems
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- Use words to describe measurement
  - Collect, organise, display, interpret

### **Using the following criteria for the selection of high quality resources:**

- Ensure we give children lots of opportunities to see and use numbers around the playroom. Visual displays of numbers that are meaningful promote the recognition of the numerals and number order.
- Provide a wide range of resources that children can use to develop their mathematical skills. To support organisation of resources, we have set up a maths area but there are opportunities to promote the development of maths skills in all areas of the playroom.
- Number Rhymes and Songs are plentiful and support counting forwards, backwards, addition and subtraction. Remember it is important to find ways of making the children aware of the concept of number during rhyme activities by having concrete examples available e.g. five toy ducks for the 'Five Little Ducks' rhyme.

### **Children should also be given meaningful reasons for writing numbers. For example:**

- Collecting information, such as how many children have had their snack
- Scoring for games
- Number plates for wheeled toys
- Shopping lists and price labels
- Recipes
- Telephone numbers
- Appointment times in the doctor's surgery
- Menus and price lists in the café



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- Tickets for buses and trains

Any early attempts at writing numbers should be valued and encouraged.

Adults have a crucial role to play in developing children's mathematical thinking and language. Conversations should introduce new vocabulary and create challenges and problems for the children to solve.

The adult role includes:

- Modelling appropriate talk and a range of vocabulary by putting children's actions into words. E.g. 'I can see you are making a long row of cars.....now you're adding one more. How many are you going to add?'
- Modelling the use of numbers and counting in everyday situations.
  
- Writing numerals for a range of purposes.
- Effective questioning to develop, extend and sustain children's play. E.g. 'What shall we do now?' 'What if we tried filling up this bottle?' 'I wonder what will happen if we add one more?'
- Encouraging children to think out loud as they take part in mathematical activities. E.g. 'I wonder if those will fit in there?' 'Will the lid still fit on?' 'What do you think?'
- Recognition of individual learning and skills and planning for both more focused adult- led activities and providing the resources to enable high quality child-initiated play that extends learning.

Children should be encouraged to make links between previous experiences and learning, and new problems or challenges.

Observing children at play and recording observations of children's skills, understanding and previous experiences will help to inform future plans. Once we have identified the next steps in learning for children we can then consider how these might be addressed creatively, and which play opportunities and resources can be offered to support them.

When establishing a creative context for learning we may ask ourselves the following questions:

- What are our mathematical learning intentions to enable children to extend their learning?
- What are the children's current interests or the current outcomes for learning?



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- What mathematical opportunities does this offer? (What could the children measure, count, weigh, make patterns with or buy?)
- What information could they find out and what problems could they solve?)
- What links are there with other areas of the curriculum and previous experiences? (will they be exploring materials or growing things?)
- Will they be listening to a poem, story or song?
- Will they be finding out about other places or people?
- Will this stimulate independent play in a variety of contexts both indoors and outdoors?
- What resources are needed and how might the children use these resources?
- What enquiry and key questions will stimulate play and promote learning?
- Do the activities encourage co-operative learning and talk amongst the children?

### **Involving Parents as Partners**

At Kilcreggan ELCC we aim to ensure parents are aware of how to help develop and reinforce children's skills at home and take an active role in their learning by:

- Regular communication regarding their children's progress and stage of development
- Ensuring written information, in the form of parent guides, on developing skills in all aspects of mathematics, are available
- Organising parent workshops, where possible, on specific aspects of developing and mathematics in young children
- Encourage parents to engage in their child's learning by recognising and making the most of the rich mathematical opportunities that can arise in everyday life.
- Create maths boxes or sacks based around a rhyme for children to take home and share with parents.

### **Tracking and Assessment**



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Central to the progression of skills through Early Level, staff carry out tracking of children's academic and wider achievements. Information is gathered through the careful observation of children during structured and unstructured activities. Staff use Argyll and Bute's Seemis system to record children's progress through the Developmental Milestones twice per year as well as completing the tracking information required for transition into Primary 1. Early Level Benchmarks are used to assess children's progression through the Highland Numeracy and Maths programme.

### **National Care Standards**

1.30 As a child, I have fun as I develop my skills in understanding, thinking, investigation and problem solving, including through imaginative play and storytelling.

1.31 As a child, my social and physical skills, confidence, self-esteem and creativity are developed through a balance of organised and freely chosen extended play, including using open ended and natural materials.

1.32 As a child, I play outdoors every day and regularly explore a natural environment.

2.2 I am empowered and enabled to be as independent and as in control of my life as I want and can be.