

# Lochnorris Primary School



## Mathematics and Numeracy Policy

Reviewed Sept 21

## Introduction

Curriculum for Excellence: Numeracy Across the Curriculum- Principles and Practice paper shares:

*Mathematics is important in our everyday life, allowing us to make sense of the world around us and to manage our lives. Using mathematics enables us to model real-life situations and make connections and informed predictions. It equips us with the skills we need to interpret and analyse information, simplify and solve problems, assess risk and make informed decisions.*

## Numeracy

Being numerate is vital to integrate successfully in everyday life and effectively contribute to society. Opportunities within the world of work are increased by being numerate.

Numeracy is the ability to grasp mathematical concepts to deal with quantities and other situations in daily lives.

## Mathematics

Mathematics is the study of the properties, relationships and patterns in number and shape, and the application of this knowledge to analyse, interpret, simplify and solve problems. It allows us to make sense of the world around us and to manage our lives.

## Rationale

### Aims and Objectives

In Lochnorris Primary School, Numeracy and Maths should be delivered within a learning environment that supports discovery, questioning, relevance, experimenting and most of all enjoyment. Our approach supports the East Ayrshire Numeracy and Mathematics strategy) and is based on a shared understanding of the Lynda Keith approach. This approach strives to ensure that all children develop high levels of numeracy skills through their learning across the curriculum. Through learning and teaching experiences the children will realise that Mathematics is important in our everyday life, allowing us to make sense of the world around us and enabling us to manage our lives. By engaging in cross curricular links and real-life situations children will be given opportunities to make connections and informed predictions. With this in mind, UNCRC Article 28 states that:

“You have the right to a good quality education. You should be encouraged to go to school to the highest level you can.”

It is envisioned that by following the guidance in this document not only will young people in Lochnorris Primary School be in receipt of this right but teachers will be delivering our campus wide vision;

*“Where we belong; where we reach our potential”*

## **Roles and Responsibilities**

### **Staff**

- To plan and deliver high quality teaching and learning, taking account of prior knowledge and skills
- To apply a range of teaching tools such as; active, outdoor and cooperative
- To provide high quality feedback to pupils. This should include a range of written and verbal and should be specific to the learning and provide next steps
- To promote a positive ethos around Numeracy and to provide opportunities to develop a Growth Mindset
- To highlight pupils who require challenge or support

### **Senior Leadership Team**

- To be responsible for Numeracy across the school
- To monitor Teaching and Learning of Numeracy across the school. This will be completed through classroom observations, Forward Planning Feedback and jotter audits

### **Numeracy Lead**

- To ensure all staff are aware of current CLPL opportunities to support the Teaching of Numeracy
- To liaise with EAC Scottish Attainment Challenge Team
- To act as a point of contact to staff if they require support with Numeracy
- To promote Numeracy related events throughout the school calendar

### **Numeracy Development Group**

- To ensure a consistent approach to Numeracy across the school
- To organise Numeracy resources and materials
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### **Parents**

- To promote a positive mindset in regards to Numeracy
- To encourage their child to apply their Numeracy and Mathematical skills in real life context. E.G. Telling the time, following timetables and recipes
- To actively support their child with Numeracy home learning.
- To highlight any concerns they have in regards to their child's ability in Numeracy
- To celebrate successes with their child

### Pupils

- To take responsibility of their own learning and to try your best at all times
- To complete Self/ Peer assessment where appropriate
- To complete tasks set
- To set Numeracy targets for their own learning
- To discuss their learning with peers and staff

### High Quality Teaching and Learning

High quality Teaching should encourage pupils to develop a Growth Mindset and to promote risk taking and problem solving. These skills can be transferred through the curriculum and into everyday life.

Staff must monitor the progression of all pupils and ensure they are suitably challenged and supported when needed.

*All teachers have responsibility for promoting the development of numeracy. With an increased emphasis upon numeracy for all young people, teachers will need to plan to revisit and consolidate numeracy skills throughout schooling.*

### Building the Curriculum 1

The experiences and outcomes promote and support effective learning and teaching methodologies which will stimulate the interest of learners and promote creativity and ingenuity.

The optimal learning environment should support a variety of approaches which include:

- Active learning and planned, purposeful play
- Opportunity to develop problem solving abilities
- Planned opportunities to develop mental agility
- Link numeracy and mathematics to real life contexts

- Collaborative learning should be encouraged and children should be given the opportunity to share their reasoning to their peers
- Where appropriate, the use of digital technologies to support young people

## **STRUCTURE OF LESSONS**

Lessons in Numeracy and Mathematics should contain:

1. A Number Talk challenge to revisit and consolidate one of the four functions (+, -, x, ÷)
2. Recap on previous knowledge
3. Explicit sharing of Learning Intention and Success Criteria generated by children
4. Direct teaching
5. Learning experience and activity
6. Plenary with reflection on Learning Intention and Success Criteria

Numeracy lessons should contain a variety of skills from the East Ayrshire Numeracy and Mathematics Frameworks. For example, a lesson with an addition focus should still contain number word sequences, number structures and work on numerals.

### **Progression**

Through the Experiences and Outcomes within Curriculum for Excellence and our Lynda Keith approach, we aim to provide learners with the opportunity to develop their knowledge and skills through cumulative growth in terms of their understanding and application. On-going collaboration and moderation with colleagues in relation to the progression frameworks encourages a shared understanding of expectations of standards as well as effective learning and teaching within Numeracy and Mathematics.

## **PLANNING**

Teachers plan to establish and consolidate young people's fundamental numeracy skills using imaginative, interactive approaches, so that young people develop a sound understanding of number. Through such approaches, learners will grow in confidence in the recall and use of number structures and multiplication facts, in their understanding of place-value, and in the application of mental strategies. Teachers will reinforce these skills continually throughout the education of each child and young person.

- Backdrop Plans should show some elements of Maths being taught in a context. Some areas will be taught as discrete subjects.
- East Ayrshire Progression Framework planners will be used, for each group, for each area of Numeracy and Maths.
- Numeracy and Mathematics progression frameworks should be highlighted to show coverage.
- Staff will record which areas are to be covered by dotting in the appropriate term colour and then highlighting skill when complete.
- Number Talks will be carried out daily to revisit topics regularly.
- Numeracy and Mathematics will be taught daily where possible.
- There should be opportunity at least once per week to learn problem solving strategies and take part in activities with a focus on word problems and mathematical reasoning.

Through the Experiences and Outcomes within Curriculum for Excellence and our Lynda Keith approach, we aim to provide learners with the opportunity to develop their knowledge and skills through cumulative growth in terms of their understanding and application. On-going collaboration and moderation with colleagues in relation to the progression frameworks encourages a shared understanding of expectations of standards as well as effective learning and teaching within Numeracy and Mathematics. The progression pathway illustrates the progression through areas of numeracy and mathematics which allows links and connections to be made.

## **NUMBER TALKS**

Number Talks are short (approximately 10 minutes), daily exercises aimed at building number sense. Number sense is the ability to play with numbers meaning students can visualize problem solving, perform calculations quickly, and are flexible in their mathematical strategy. Students who have strong number sense solve problems in more than one way and check that their answers make sense. During a number Talk,

students are thinking, asking their peers questions, and explaining their own thinking all while the teacher records the thinking.

## **MENTAL MATHS**

Mental maths is the ability to truly understand maths concepts and solve problems in a logical, methodical way after thinking about it, rather than making notes on paper.

## **RESOURCES**

Most Numeracy and Maths activities should be based on active learning. Each of our classrooms have received a variety of active Maths resources and many resources have been stored into topic boxes within our Maths resource cupboard. However, there is a place for written activities.

Pupils will have access to a range of appropriate resources and materials including:

- Range of textbooks and workbooks such as Teejay to use when appropriate
- ICT (On-line websites such as nRich, Daily Rigour) should be used to reinforce learning
- Whiterose Maths
- Computer software such as EdPax
- MyMaths (Can be used to set challenges, reinforce teaching and set homework tasks)
- Range of other resources – number fans, beads etc. in maths resource cupboard
- SNSA documentation and resources
- Numicon resources
- iPads – Numeracy software
- Mathematical games
- Outdoor environment
- Number Talks

## **Additional Support Needs**

Pupils requiring additional support in numeracy will be fully included, with teacher facilitating the learning at their level. Additional support will be given by the class teacher, EAST when required, classroom assistants and peers to encourage children to achieve success and be confident in their abilities.

## **ASSESSMENT**

Assessment in Numeracy and Mathematics will focus on the learner's abilities to work increasingly skilfully with numbers, data and mathematical concepts and processes and use them in a range of contexts. Teachers can gather evidence of progress as part of day-to-day learning about number, money and measurement, shape, position and movement and information handling.

Assessment for Learning strategies are used on a daily basis. Formative and summative assessment will be used in the learning & teaching process:

- To share learning objectives and success criteria clearly
- To assess understanding through skilful questioning
- To give pupils clear and regular feedback
- To assist learners and teachers to identify the next steps in the learning process which will ensure progression
- To engage in the process of self and peer assessment

The use of specific assessment tasks will be important in assessing progress at key points of learning including transitions. At Lochnorris Primary School these include:

- GL Assessments
- White Rose Maths Assessments
- SNSA (Carried out at P1, P4 & P7)
- Termly Numeracy Assessments (including Holistic assessments)
- East Ayrshire assessment toolkits for working within and confident within a level

## **TRACKING AND MONITORING**

Regular tracking will help to form CfE levels. Teachers will input their judgement of a level into the East Ayrshire Tracking and Monitoring online tool, allowing them to track progress across a level. There will be opportunities for moderation of Numeracy and Mathematics every session. The focus of this will be to ensure there is breadth, challenge and application of learning within a pupil's work.

## **QUALITY ASSURANCE**

It is the responsibility of the Senior Management Team to monitor the Numeracy and mathematics being taught throughout the school, allowing depth, breadth and progression from Early through to Second Levels. This will be done through termly pace and challenge meetings, fab feedback jotter monitoring and classroom observations.