



Elmtree Infant and Nursery School

Maths Policy

This Policy is intrinsically linked with and is informed by other school documents including:

- Teaching and Learning policy
- Marking and Feedback
- Equalities and Cohesion policy
- Foundation Stage policy
- Special Educational Needs policy

This policy outlines the guiding principles by which this school will implement the teaching and learning of Maths in the context of the school's curriculum policy statement and its staffing, health & safety and equal - opportunities policies

National Curriculum

“Mathematics is a creative and highly interconnected discipline that has been developed over centuries, providing the solution to some of history’s most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject.”
National Curriculum 2014.

Intent

Aims and Objectives

At Elmtree Infant and Nursery School mathematics teaches children how to make sense of the world around us through developing a child’s ability to calculate, to reason and to solve problems. It enables children to understand and appreciate relationships and pattern in both number and space in their everyday lives.

The aims of mathematics at Elmtree are:

- to promote enjoyment and enthusiasm for learning of maths.
- to promote confidence and competence with numbers and the number system.

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Review Date:

Author: Maths Subject Leader

- to develop the ability to solve problems with increasing sophistication (including in unfamiliar contexts and real-life scenarios).
- to develop a practical understanding of the ways in which information is gathered and presented.
- to explore features of shape and space, and develop measuring skills in a range of contexts.
- to be able to recall and apply previously acquired concepts, skills, knowledge and understanding to new situations both in and out of school.
- to use a concrete, pictorial and abstract approach.
- to be challenging and open-ended.

Children at Elmtree represent a wide variety of backgrounds, interests and aptitudes for maths. Consequently, our approach is to be inclusive for everyone and to create an environment where everyone can succeed. Children will gain a secure and deep understanding of mathematical concepts through manageable steps. We use mistakes and misconceptions as an essential part of learning and provide challenge through mastery challenges.

Implementation

Our curriculum overview is clearly mapped out using the National Curriculum and is tailored to the Elmtree child. Teachers use a variety of high-quality resources to support children in developing their understanding and mastery of Maths. Our Maths curriculum is designed to ensure that it is challenging and coherently sequenced to enable all children to succeed to a high standard. Each topic is organised into small steps of progression ensuring new knowledge is built upon prior learning. Lessons contain opportunities for reasoning and problem solving to enable children to apply their knowledge and strengthen their memory of new learning.

Teachers using a concrete, pictorial and abstract (CPA) approach to lessons enabling all children to access the lesson content.

CPA:

- Concrete teaching involves manipulatives and hands on learning. This ensures that skills and knowledge are built on year-by-year and sequenced appropriately to maximise learning for all children.
- Pictorial transfers the concrete aspects into images in children's books.
- Abstract uses the number system and removes previous support steps.

Planning:

- Our curriculum overview provides a yearly overview plan for each year-group which ensures the whole curriculum is covered during the academic year and shows progression of skills through each year group.
- the Elmtree Maths overview is in line with the National Curriculum & Early Years Foundation Stage Framework to support planning our teaching. This sets out the aims & objectives, and details what is to be taught to each year group.

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- Weekly plans are then formulated from year overview with more detail about how the lesson will be taught and what the differentiated activities will be.
- Clear objectives (LOs) along with Success Criteria are set for the lesson and shared with the pupils.
- Teachers scaffold according to the needs of the children in the class and Assessment for Learning (AFL) will be used to evaluate the learning and inform the learning sequence.
- Additional adults are planned for and always used to support children with their learning in Maths.
- Additional adults work under the guidance of the teacher with small groups of children or individuals.
- All lessons are to have available practical apparatus in line with the CPA approach.
- Specific Implementation for Early Years & Key Stage 1

Nursery

Nursery have a 5 minute daily 'Maths Meeting' where the EYFS Development Matters maths statements and the Early Learning Goals are used within the Elmtree Maths Curriculum overview to plan age-appropriate inputs introducing the children to simple maths concepts, combined with learning opportunities available in continuous provision linked to the weekly learning objectives.

Staff use the same vocabulary and methods to deliver the Maths curriculum to ensure strong foundations and understanding of key concepts as the children move through the school.

Reception

Teachers in Reception use the Elmtree Maths Overview, along with high-quality resources to plan purposeful and effective Maths lessons. Children develop a secure firm foundation in the development of good number sense. Continuous Provision activities are planned to reinforce and consolidate learning and allows adults to support and extend in the moment.

KS1

All maths lessons in KS1 adopt a mastery approach, with all children accessing the same task, with additional scaffolds and extensions within the lesson e.g. A child may use counters instead of mentally calculating a question. Children who complete the lesson task are then provided with fluency and reasoning 'challenge' questions as an extension task to further deepen their understanding of mathematical concepts.

In all lessons across the school there is:

- consistency in teaching along with high quality planning, adapted to meet the needs of our pupils.
- lessons are sequenced using prior knowledge and are taught in a language rich environment where children are encouraged to explain their choice of methods and develop their mathematical reasoning skills, along with

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introducing the children to age-appropriate mathematical vocabulary e.g. How do you know? I know because..., How did you find the answer? I found the answer by.....

- developmental marking addresses misconceptions in the moment and before the next lesson and allows the children to address their misconceptions independently or with additional support.

Impact

- Marking is in line with the school's Marking and Feedback Policy.
- Regular opportunities are planned to assess the children's knowledge.
- Children are assessed at the end of their year in Reception against the Early Learning Goals.
- At the end of Year Two, children are assessed for Maths using Teacher Assessment.
- Progress is tracked using termly data input and analysis using BromCom and discussed at termly Pupil Progress meetings.
- Teachers use formative assessment during lessons and when marking books, to evaluate the children's success and to ensure planning is based on prior attainment.
- Maths is moderated termly within school and with other schools.
- Baselines and termly data are submitted using BromCom.
- Analysis of assessment data is also used regularly to monitor the children's progress, inform planning and find ways of 'closing the gap' for our disadvantaged learners.
- The school's Marking and Feedback policy allows children's levels of independence to be evident, as instances where pupils have the most secure knowledge and skills can most easily be recognised when they've applied learning independently and in a range of ways, including across different areas of the curriculum. On occasions when such extended depth has yet to be developed, an expected core impact of our curriculum is that pupils are at least ready to move on to the next key stage of learning.

Equal opportunities

- Maths is taught within the guidelines of the school's equal-opportunities policy.
- We ensure that all our children have the opportunity to gain knowledge and understanding regardless of gender, race, class, physical or intellectual ability.
- Our expectations do not limit pupil achievement and assessment does not involve cultural, social, linguistic or gender bias.
- All children receive quality Maths teaching on a daily basis and adaptive teaching is used to support and extend children's learning.
- If pupils are considered to require targeted support, to enable them to meet age-related expectations, this is given using a variety of interventions and individual or group support activities matched carefully to their needs
- Specific teaching strategies are used to maximize access to the curriculum for pupils who have EAL.

- We recognise the particular importance of first-hand experience for motivating children with learning difficulties.
- We exploit opportunities for special contribution to develop children's creativity; we develop this by asking and encouraging challenging questions and encouraging original thinking.

Resources

Each class is resourced with a variety of manipulatives such as, numicon, dienes, shapes, cubes, number tracks, tens frames, two sided counters, clocks.