Easingwold Community Primary School Mathematic policy
Updated June 2024

Rationale

At Easingwold Primary School, Mathematics is a high priority as we believe being numerate, able to reason and having an aptitude for problem solving is a vital part of the curriculum as it develops essential skills for our children's adult lives. We are passionate about teaching Maths and there is a daily buzz within lessons as the children take on new challenges and refine their understanding. As a Maths centred school, the children are encouraged to see Maths and use their mathematical skills across the curriculum in a range of subjects.

Across KS1 and KS2, there is a daily Maths lesson of at least one hour, which incorporates opportunities for retrieval, fluency, reasoning and problem solving. Integrated into this lesson across KS2, is up to 10 minutes of explicit mental maths teaching where children practise fact recall of times tables and number bonds, identify patterns and relationships and learn methods to improve procedural fluency. In addition to this, the children have mental maths sessions during registration time where they can rehearse the quick recall of key facts and practise how to complete mental calculations.

In KS1, alongside the curriculum focused Maths lesson, the children have an additional daily session that focuses upon depth in number. This Mastering Number programme, designed by the NCETM, enables children to develop a real sense of number and procedural fluency.

In reception, the children are taught in short mastery style sessions through the Mastering Number programme in conjunction with the NCETM. The reception children also consistently learn about number through play enrichment.

We aim to:

- Implement the daily Maths lesson sharing clear learning objectives/outcomes with the children.
- Use a range of teaching styles to incorporate
    - Direct teaching - 20/80 rule
    - Group/ paired work
    - Individual work
- Use the 2014 National Curriculum objectives to aid planning using;
    - The supplement of examples
    - White Rose scheme of learning 3.0, nrich, NCETM mastery, I See reasoning problems, Maths – No Problem! textbooks, along with the publication – Teaching Mathematics in the Primary School (DfE July 2020)

- Provide daily opportunities to practise mental skills including counting, rapid recall, newly learned facts and calculation strategies.
- Maintain a good pace and use questioning effectively.
- Use accurate and relevant mathematical vocabulary and terminology and display it in the classroom on the working wall.
- Engage pupils in challenging and deep activities using a range of resources, including ICT. Differentiation is offered through scaffolds and questioning.
- Use carefully chosen appropriate published materials to support their teaching.
- Set homework activities in line with the school policy e.g. learning tables, practising Mathematical facts, TT Rockstars and completing work from their differentiated CGP books.
- To raise standards in mathematics using the age-related expectation of the National Curriculum for Mathematics.

We want children to be encouraged to:

- Enjoy mathematics and see its relevance in real life.
- Develop mental calculation strategies so that their first reaction to a question is 'Can I do that in my head?' or 'What strategy would best suit this problem?'
- Use mathematical vocabulary with confidence.
- Use their knowledge to reason, solve problems, see patterns, make predictions, make conjectures and present information clearly.
- Give oral explanations of their methods.
- Understand what is expected of them on a day-to-day basis.
- Use a range of concrete resources to help them access our Mastery curriculum.
- Challenge themselves when solving HOTS (higher order thinking skills) not MOTS (more of the same).

The role of the mathematics leader is to:

- Lead by example showing a thorough understanding of the subject.
- Offer support to and advise teachers in planning, teaching and assessment.
- Work alongside the head teacher to monitor and evaluate teaching and learning through learning walks, pupil interviews, monitoring of books
- Lead staff in delivering key messages from Hub training and updates.
- Be vigilant for new DfE publications and ensure information is disseminated to staff.
- Assess resource needs and manage the Maths budget in purchasing and organising resources.

Planning

- Long Term Plans

The 2014 Mathematics National Curriculum gives details of the content to be taught along with Teaching Mathematics in Primary Schools and the planning overview from White Rose.

- Medium Term Plans

The White Rose medium term plan outlines the national curriculum objectives to be taught within each pure year group. Teachers use the relevant documents to support the order of their teaching.

- Short Term Unit Plans

Teachers plan using Google slides and following the White Rose Schemes of learning 3.0:

Included are:

- Learning objectives
- Flashback 4
- Misconceptions to address
- Representations (inc. ICT)
- Manipulatives (inc. ICT)
- Use of the 5 key areas of Mastery Maths and small steps to understanding.
- Oral and mental activities (as needed)
- Procedures to be taught
- Lesson sequences for the unit
- Fluency, reasoning and problem solving activities
- Reference to vocabulary and age-related expectations.
- Non-routine examples to be taught explicitly.
- HOTS not MOTS – Higher order thinking skills to stretch and challenge.
- Support – and where necessary differentiation/adult support.

Assessment, Recording and Reporting

- Formative assessment continually feeds into the next steps for each individual child, whether this is during small group work, child-initiated learning (where the practitioner scaffolds learning) or timely and specific intervention. This is also catered for through weekly assessment sheets that adapt to suit the needs of the class. We follow a keep up, not catch up model.
- In Reception, teacher's make initial baseline assessments. Throughout the year, the children are assessed formatively through observational assessment, this then feeds into a summative assessment that is made every term; this is made against the Ages and Stages from Early Years Outcomes/ Development Matters. Formative observational assessment and practitioner knowledge of the child

informs the end of year judgements when completing the EYFSP in summer term.

- In years 1 - 6, the children complete short assessments at the end of each unit, provided by White Rose Maths 3.0. These assessments are marked and any misconceptions are addressed immediately through small group intervention or whole class teaching.
- Recording - The scores of these assessments are added onto a shared document, with clear colour codes to distinguish those on track to meet ARE and those not on track to meet ARE. This document will be a working document as each child moves through school, so each new teacher can track previous progress.
- Reporting - Reporting to parents is done three times a year through two parent's evenings, interim and annual written report. Any cause for concern would be addressed when needed.

Special Educational Needs

The Inclusion Manager is Miss Toni Potter. Children with special educational needs will be included fully in the daily mathematics lesson. The National Curriculum for mathematics is used to identify suitable objectives or tracking back to earlier stages using the Ready to Progress document if appropriate. These can be incorporated into individual educational plans and are always made explicit on teacher's weekly plans.

Support Staff

Support staff are used in Mathematics to assist in providing support for all children. They are included in staff training for Maths where appropriate. They know what the key objectives are for each lesson; the key vocabulary to be developed and have a clear understanding of their role in each part of the lesson. Teaching assistants know how to adapt work, prompts and scaffolds to ensure the children are successful using the MITA (Maximising Impact of Teaching Assistants) principles.

Mathematics and Home

We aim to encourage parents to:

- Develop positive attitudes to Maths and actively support their children with home learning
- Be well informed of their children's progress through annual reports and parent's evenings
- Attend curriculum evenings where calculations/expectations are explained
- Support children with their homework, knowledge of number bonds; times tables and related division facts; and completing their weekly TT grids.
- Support children with the use of ICT learning such as Times Table Rockstars and Mathsframe

ICT and Numeracy

ICT is used in a range of ways to support learning in class. Children use ipads and Chromebooks to access learning, including: nrich, Times Table Rockstars, Maths Frame, calculators and the smartboard to engage with learning.

Equal Opportunities

All children will be given an equal opportunity to fulfil their potential in this subject.

Presentation and Marking

We aim to encourage high standards by:

- neatly presenting pieces of work in exercise books (see appendix 1).
- teacher's marking always sitting within the guidelines of the whole school marking policy.
- children self-marking and peer-marking neatly.

Feedback to pupils about their progress in Maths is achieved through discussion and recorded marking of their work. Improvements and corrections will then be seen with a green check our work pen (COW). Wherever possible this is carried out within the lesson, giving instant feedback.

Effective marking:

- aims to be encouraging and supportive
- links closely to the learning objective
- includes written comments that celebrate achievement, areas of improvement, sets targets to move a child forward
- is often done while a task is being carried out, through discussion between child and teacher
- may be done by pupils marking their own or their peers work
- enables staff to access pieces of work and as to whether their work in their books are reflecting the ability shown in the tests

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Toni Potter and Beth Mossop

Appendix 1- Presentation

It is important right from the beginning to stress good presentation. Children should be encouraged to work neatly down the page wherever possible. The children in years 1 to 6 will be expected to write the date in figures e.g. 7.9.20. From the onset children should be taught setting out maths work using squared number books.

Children should be taught to write 1 digit per square and to include question numbers.

E.g.

1.	**5**	**6**	**+**	**2**	**6**	**=**	**8**	**2**

When children are setting calculations out vertically, the sign should be placed on the left-hand side of the sum, in line with the bottom row of digit(s). If completing longer calculations, children are encouraged to work down the left and then right side of their page. A fold line will support the neatness. The standard of the Maths book should be in line with that of their writing book.

Appendix 2 – Resources

Classroom resources include depending upon needs of the curriculum:

- number lines
- counting stick
- washing line of numbers
- number tracks (EYFS and year 1)
- digit cards
- arrow cards
- 100 squares
- counters
- interlocking cubes
- coins
- dominos
- dice
- calculators
- books on mathematics
- mathematical dictionaries
- number fans
- multiplication grids
- white boards
- Numicon
- Dienes

- rulers

Centrally stored resources include:

- 2D shapes
- 3D shapes
- clocks
- geo boards
- capacity equipment
- tape measures
- timers
- weighing scales
- compasses
- clock stamps
- protractors
- stop watches
- abacus
- money
- weights
- spinners