

Anlaby Primary School Mathematics Policy

Date	Review Date	Subject Leader	Nominated Governor
January 17	January 18	Anne Woodcock Bev Jefferson	Karen Hemmingfield

At Anlaby Primary School we believe mathematics is ' a creative and highly inter-connected 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.' (The National Curriculum in England Framework Document (DfE) 2014)

We have a duty to ensure compliance with the revised 2014 National Curriculum for mathematics and with the end of year expectations for all year groups.

Aims

- To develop an enthusiasm for and fascination with mathematics.
- To teach mathematics through a concrete, pictorial, abstract approach to develop greater fluency, reasoning and problem solving skills across all year groups and for all abilities of children.
- To ensure that all pupils reason mathematically by following a line of enquiry, conjecturing relationships and generalizations, and developing an argument, justification or proof using mathematical language.
- To ensure that all pupils become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- To teach mathematics within other subjects as appropriate, i.e. through science.
- To ensure that all pupils can solve problems by applying their mathematics to a variety of routine and non routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.
- To share good practice within school and work with other schools to share good practice.

Implementation and Organization

What does Mathematics look like at Anlaby Primary School?

At Anlaby Primary School, all teachers believe that all pupils are capable of achieving high standards and challenge is part of everyday mathematics for all pupils and therefore our mathematics curriculum incorporates the key elements of the mastery curriculum:

Fluency, Mathematical Reasoning and Problem Solving. Mastery teaching addresses the needs of all pupils on a daily basis; support is provided through same day intervention for those who did not grasp concepts and challenge is provided through depth of both planned activities and higher order questioning for those for whom concepts were well understood.

Planning for Mastery is developing through years 1 to 6 and is supported by the Maths Subject Leaders, the Yorkshire and Humber Maths Hub, use of the White Rose Medium Term plans and assessment materials, NCETM resources/teaching for mastery, Big Maths resources and the Maths No Problem Books.

Fluency

We aim to ensure that all pupils become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time. Oral Mental Maths is a feature of every day learning to ensure pupils develop the ability to retrieve number facts rapidly; catch-up and differentiated sessions are planned for pupils as required. Times table activities and tests are routine from Year 1 upwards. (Year 1 begin Times Tables Journeys in the Spring Term)

Through the Mastery approach, we provide all children with the opportunity to develop procedural and conceptual fluency. Children are required to reason and make connections between calculations. The connections made improve their fluency.

For example: Don't count, calculate

Young children benefit from being helped at an early stage to start calculating, rather than relying on 'counting on' as a way of calculating. For example, with a calculation such as:

$$4 + 7 =$$

Rather than starting at 4 and counting on 7, children could use their knowledge and bridge to 10 to deduce that because $4 + 6 = 10$, so $4 + 7$ must equal 11.

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Reasoning (mathematical thinking)

Reasoning is used to support mathematical thinking in all year groups. All children are expected to respond using mathematical vocabulary in full sentences explaining their thinking. Through reasoning, children are able to extend their understanding beyond arithmetic.

For example: Consecutive numbers

If I add three consecutive numbers, will I get an odd or an even answer?

Children might use apparatus to explore this.

How can I prove that I am right?

Ideas such as this can be explored with increasing depth as children progress through school and their reasoning skills develop.

Problem Solving:

Children are given opportunities to apply their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions. Planning ensures that problems are designed to deepen children's understanding of essential concepts through 'intelligent practice' or 'variation'.

For further information see the 'What does Maths look like at Anlaby Primary?' document on the website.

Roles and Responsibilities

Governors will:

- Nominate a link governor to visit school regularly, to liaise with the head teacher and the maths coordinators.
- Monitor whole school data and assessment practices.
- Report to the Governing body as required.
- Attend any training linked to the successful implementation of this policy.

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Subject Leaders will:

- Write and monitor a school action/improvement plan for mathematics across the school.
- Develop/update the calculation policy to show progression in calculations across the school.
- Undertake regular audits of resources/equipment.
- Have regular meetings with the link governor to discuss assessment and progress.
- Liaise with the SENCO/Pupil Premium champion, to monitor and address specific needs across the school.
- Monitor whole school planning and assessment practices to ensure continuity and progression.
- Undertake regular learning walks/observations/book scrutinies/discussions with children across the school.
- Provide guidance, support and training for all staff when required.
- Keep up to date with any changes within the curriculum by attending any appropriate INSET etc. and work closely with cluster schools to develop good practice.

Class Teachers will:

- When planning and teaching, ensure that they are setting work that is challenging and responds to the needs of all of the children within their class.
- Develop children's mathematical fluency, reasoning and problem solving skills through lessons that are engaging and show good pace.
- Carry out continuous assessment to provide for progression in learning.
- Work closely with the subject leader on any necessary school development/CPD.
- Develop opportunities for a cross-curricular approach, i.e. in science and DT.
- Attend any appropriate training/INSET sessions.

Parents/carers should:

- Support children by encouraging regular completion of homework and respond to comments made by the class teacher in their child's Learning Log.
- Attend planned parent-teacher consultations.
- Join the school in celebrating success in their child's learning.

Inclusion

In planning and teaching, teachers ensure that they set suitable learning challenges and respond to pupils' diverse needs, making every effort to overcome potential barriers to learning and assessment. The same consideration must be made for individuals and groups of pupils from the SEN pupil to the high achievers.

Monitoring and Assessment

See above - Roles and Responsibilities