

Maths Policy



Policy Review: January 2023

Date for next review: January 2024

Signed Head teacher:

Signed Chair of Governors:

Maths Curriculum Statement



This policy describes our aims and our practice in the teaching of Maths at Yealmpton Primary School.

Intent

Mathematics is important in everyday life. It is integral to all aspects of life and with this in mind we endeavour to ensure that children develop a healthy and enthusiastic attitude towards Mathematics that will stay with them to encourage economic wellbeing. At Yealmpton Primary School we all have a central belief - Everyone can do Maths!

Yealmpton Primary School adopts a mastery approach to the teaching and learning of mathematics which is underpinned by NCETM/Maths Hub led Mastery Specialist Programme, the Education Endowment Foundation recommendations on improving mathematics in Early Years, Key Stage 1 and Key Stage 2 and the 2014 National Curriculum, which states:

"The expectation is that most pupils will move through the programmes of study at broadly the same pace."

"Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content."

"Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on."

'Pupils should make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems.'

Our aim is to deliver a mastery curriculum to enable the children in our school to acquire and leave with a deep, long-term, secure and adaptable understanding of the maths. To achieve this, we aim to:

- Provide a high quality maths curriculum that is both challenging and enjoyable, and builds upon previous learning.
- Provide time for children to learn mathematics and integrate mathematics throughout the day.
- Enable children to develop a rich network of mathematical knowledge and vocabulary.
- Develop mathematical skills and knowledge and recall of basic facts and the four operations.
- Use this knowledge and understanding to carry out calculations mentally.
- Use manipulatives and representations to develop understanding.
- Teach children strategies for solving problems.
- Develop children's independence and motivation.
- Use tasks and resources to challenge and support pupils' mathematics.

Implementation

Our implementation is developed through secure understanding of the curriculum and subject area.

Planning

Long term: National Curriculum

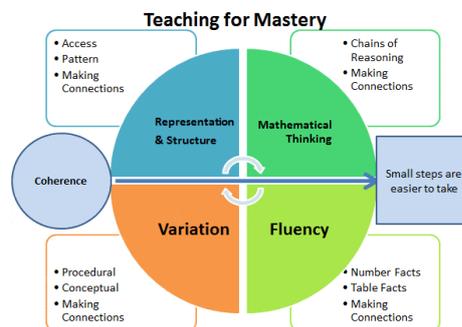
Our long term plan follows the National Curriculum 2014 3 central aims for our children to:

1. **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.
2. **reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language

3. **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.

Medium Term Planning

The sequencing of teaching in reflects the needs of learners. Our planning at Yealmpton Primary School follows the mastery approach which is supported by the use of the Power Maths White Rose Edition Mastery scheme and other resources including NRICH, NCETM Mastery and Assessment. Place value and arithmetic are given priority at the start of each academic year as these are the building blocks for mathematical learning.



Short Term planning

Short term planning is carried out weekly by the class teacher supported by the use of the Power Maths White Rose Edition scheme (one of two DfE-approved textbook schemes) and other resources including NRICH, NCETM Mastery and Assessment.

- The whole class works together on the same content at the same time, to ensure all children can master concepts before moving on, allowing no pupil to be left behind. Rapid graspers are challenged through enrichment not acceleration.
- Lessons are presented in small steps, with a focus on 1 key point to be mastered in the lesson.
- Each lesson begins with a short review of previous learning leading to fluent recall (Power Up) (following Rosenshine's Principles of Instruction)
- Each lesson is focused on one clear small step which all children are expected to master; extension activities enable those children who grasp the objective rapidly to extend their learning by exploring it at greater depth.
- Teacher-led discussion is interspersed with short tasks involving pupil to pupil discussion and completion of short activities with models and worked examples to help the children with their learning.
- Understanding is developed through the concrete, pictorial and the abstract. Representations develop understanding of structure. Children develop their understanding through visualisation not memorization.
- Each lesson includes elements of: fluency, to practise skills; reasoning, to deepen understanding; and problem solving, to apply skills.
- Problem solving is central and opportunities are given for pupils to calculate with confidence, ensuring an understanding of why it works so that pupils understand what they are doing rather than just learning to repeat routines without grasping what is happening.
- Key questions are planned to challenge thinking and develop learning for all pupils. Making comparisons is an important form of developing deep knowledge. The questions "What's the same, what's different?" are often used to draw attention to essential features of concepts. What is a triangle? What it isn't... What it is...
- Difficult points and potential misconceptions are identified in advance and strategies to address them planned.
- Formative assessment is carried out throughout the lesson; the teacher regularly checks pupils' knowledge and understanding and adjusts the lesson accordingly. This forms part of the mastery learning instructional process.
- Key vocabulary is provided to ensure that children are exposed to a language-rich environment and that they develop a strong grasp of subject-specific vocabulary.

- Fluency is also promoted through IT programs such as TT Rockstars and Numbots. This allows children to monitor their own progress, motivate themselves and practice essential elements.

A high-quality Mathematics education 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.

Teaching

We use 'Quality first teaching' linked to teaching standards:

All teachers:

- 'Know where their children are' through the use of summative assessment, prior learning, assessment, maths talk
- 'Understand where their children need to be' through a secure understanding of year group expectations and/or pre key stage expectations and ongoing, formative assessment
- 'Know how they are going to get them there' through the use of a range of strategies to promote independence, mastery and high expectations of ALL.
- Teach whole class lessons addressing learning needs of individual through careful scaffolding, questioning and appropriate rapid intervention.
- Effectively deploy adults, specifically during introductions, plenaries & catch-up sessions
- Plan for progression during and between lessons.

Classroom Norms

1. Everyone can learn mathematics to the highest levels.
2. If you 'can't do it', you 'can't do it yet'.
3. Mistakes are valuable.
4. Questions are important.
5. Mathematics is about creativity and problem solving.
6. Mathematics is about making connections and communicating what we think.
7. Depth is much more important than speed.
8. Maths lessons are about learning, not performing.

Inclusion

All children receive quality mathematics teaching in line with this policy and activities are matched accordingly. In addition, where identified pupils are considered to require targeted support to enable them to work towards age appropriate objectives, pre-teaching and further intervention will be implemented. More able pupils, or rapid graspers are challenged appropriately through enrichment of matched activities planned for in line with our policy for teaching pupils showing greater depth.

The SENDCO and head teacher, in conjunction with the subject leader and class teachers decide which intervention programs will be used in the school on an annual basis (according to the school provision map). Teachers and teaching assistants plan programmes together and monitor progress of these pupils. There will be a third wave of support for pupils who are placed on Individual Provision Plans, which will be additional and different.

Marking

Please refer to the Yealmpton Marking Policy for more detail. The children's work is marked against each small step taught. Children are encouraged to self-assess their work and children are given time to read teachers' feedback and make corrections or improvements.

Assessment

Work will be assessed in line with the new milestone targets from the National Curriculum.

The following records are kept:

- Daily teacher assessments during teaching and marking of children's work.
- Summative/reported through SATs papers - (EYFS, Yr 2, Yr 6) Times Tables (Y4)
- Moderation of Math across the MAT for standardisation (Year 1 - 6) - Termly assessments for each year group (Rising Stars PUMA)
- End of unit assessment for each sequence (Power Maths White Rose)
- Formative - See Marking Policy for daily formative assessment opportunities
- To inform planning and assess progress, teachers will maintain assessment grids tracking progress and understanding across NC objectives.

Homework

Regular and frequent homework is set across the school. All pupils are expected to undertake mathematics homework at least once a week. In KS2, Atom learning is used to create tasks that use Atom's adaptive algorithm to ensure all the questions set for pupils are at their optimal level.

Monitoring and Review.

The monitoring of maths teaching and pupil progress is the shared responsibility of teachers, subject leader and the senior leadership team. Monitoring can take the form of talking with groups of pupils; book monitors across cohorts; planning monitors; lesson drop ins; analysing performance data, assessments and records and observing of lessons by the subject leader/head teacher. The work of the subject leader includes supporting colleagues in the teaching of maths, keeping up to date with current developments as well as providing a strategic lead and direction for the subject. The school's governing body receive regular updates to inform them of the vision for continually driving forward teaching for mastery.

Impact

Pupils will leave us prepared for the next stage in their lives with:

- Quick recall of facts and procedures
- The flexibility and fluidity to move between different contexts and representations of mathematics
- The ability to recognise relationships and make connections in mathematics
- Confidence and belief that they can achieve
- The knowledge that maths underpins most of our daily lives
- Skills and concepts that have been mastered
- Have a positive and inquisitive attitude to mathematics as an interesting and attractive subject in which all children gain success and pleasure.



