

Mathematics

Mathematics Policy

What is our vision?

For all children to develop a sound understanding of all areas of Mathematics, through fun, enjoyable and interactive lessons. All pupils are encouraged to become independent and motivated mathematicians. Our progressive curriculum enables pupils to scaffold, support and challenge their own learning equipping them with valuable numeric, reasoning and problem-solving skills for life.

Curriculum Impact:

The overall aim of Mathematics within the National Curriculum is to provide children with a high-quality mathematics education which in turn provides the children with an understanding of the world, the ability to reason mathematically and a sense of enjoyment and curiosity about the subject. At Farington Primary School we aim to ensure that:

- Children use facile knowledge of number facts to support their learning and functionality in and outside of school.
- Children skilfully draw from a range of mental strategies to solve increasingly challenging calculations and problems.
- Children retain skills and knowledge and build on them progressively over time.
- Children have the opportunity to problem solve through decision making and reasoning in a range of contexts.
- Children explore features of shape and space and develop measuring skills to equip them with life skills.
- Children develop mathematical communication through speaking and listening, practical activities and recording work.
- Children practise and apply skills in the wider curriculum to ensure they are retained.

How do we achieve this?

In the Foundation Stage, children are given the opportunity to develop their understanding of number, measurement, pattern and shape and space through a combination of short, formal teaching as well as a range of planned structured play situations, where there is plenty of scope for exploration.

Teachers throughout school use the planning structure and overviews from First4Maths. Teachers adapt and make reasonable adjustments to the planning based on assessment feedback and the demands and needs of the class. They have the autonomy to use other resources ensuring that appropriate challenge and supportive scaffolds are used to allow our children to reach their full potential.

A progression towards efficient written calculations should be developed and applied consistently in each year-group. The school Mental to Written Calculation Policy should be closely followed.

Prior learning is completed before a new topic/concept is taught to inform teacher's planning for groups and individual pupils.

Assessment for learning should occur throughout the entire maths lesson, enabling teachers/teaching assistants to adapt their teaching/input to meet the children's needs. This feedback should be incisive and regular and, if further support and intervention is needed, this can be put in place early.

Though the nature of lessons will be very different depending on the needs of the class, children should be active; practising skills they haven't yet mastered (perhaps recapping on class targets/correcting errors from a previous lesson); learning something new or learning to apply their knowledge to different contexts. They should be: active very quickly; working at a good pace and being productive; sharing their thoughts and methods and being successful.

They should move from concrete, to pictorial to abstract representations before applying their knowledge moving from fluency to reasoning and problem-solving challenges when appropriate.

Daily counting and mental strategies (number bonds, times tables facts and various strategies for calculation taught) are taught and practised weekly through morning tasks and mental maths lessons, these form our additional '15-minute Maths' element of the school day and are practised in addition to the daily Maths lessons.

All children should access fluency, reasoning and problem-solving activities on a weekly basis and should be encouraged at all times to communicate their understanding of maths so that it clarifies their thoughts.

Termly summative assessments should take place to provide further understanding of the level a child is working at and to inform a more rounded judgement of their abilities.

Scheme of Work:

Mathematics is a core subject in the National Curriculum, and we First4Maths planning and resources as the basis for implementing the statutory requirements of the programmes of study and to ensure that all objectives are covered. Teachers adapt and make reasonable adjustments to the planning based on assessment feedback and the demands and needs of the class. They have the autonomy to use other resources ensuring that appropriate challenge and supportive scaffolds are used to allow our children to reach their full potential. Activities in mathematics are planned so that they build on the children's prior learning. We give children of all abilities the opportunity to develop their skills, knowledge and understanding by providing adapted resources and challenge for all ability groups in all parts of the daily mathematics lesson. Our calculation policy shows a progression of strategies/methods and resources, etc, throughout EYFS, KS1 and KS2. In line with the school policy marking and feedback supports children in making progress in their learning and allows ample opportunities to further stretch the children with differing challenges.

Resources:

Mathematics Resources that we use and have access to at Farington Primary School:

- First4Maths academy – planning, learning objectives, resources, adapted resources, staff CPD
- Calculation policies
- Maths Key Spec
- Maths vocabulary and definitions
- Concrete resources and scaffolds
- Times Tables Rockstar's (https://ttrockstars.com/
- Purple Mash (https://www.purplemash.com/#tab/pm-home)
- Suitable resources and online resources as sourced by teaching staff

Assessment – How do we assess skills and understanding?

We assess children's work and progress in Mathematics in a variety of different ways:

- A range of strategies are used to assess children's knowledge and understanding throughout lessons. Misconceptions will be drawn out and addressed by the class teacher, providing on the spot feedback and support where needed.
- A Marking and Feedback policy is followed by all staff.
- Verbal feedback, self and peer assessment is used throughout lessons.
- Children will also be asked to explain their reasoning behind answers; reasoning mathematically by following lines of enquiry, conjecturing relationships and generalisations, developing arguments, justification or proof.
- Daily '15-minute Maths' sessions allow for assessment and retention of taught skills and fluency.
- Bi-weekly mental arithmetic assessments feed in to teaching/ areas of misconceptions to be addressed.

- We make long-term assessments towards the end of the school year and use them to assess progress against school based and national targets. We can then set targets for the next school year and make a summary of each child's progress before discussing it with parents and collating it in the child's end of year report.
- Termly pupil progress meetings are held with staff by the SLT where children can be further discussed and tracked regarding their attainment and progress.
- We make assessments with the help of on-going teacher assessment as well as the Early Learning Goals, key stage SATs tests, commercial assessment schemes (Testbase) and the multiplication tables check.
- Children's knowledge and recall of multiplication facts is recorded towards the Year 4 times table check and maintained in UKS2.
- Children's work is moderated with class teacher and subject leader regularly throughout the year to monitor progress. This ensures that the expected level of achievement in Maths for each year group is being delivered, applied and accurately assessed.
- Termly testing is completed using Testbase tests and the data is reported to the headteacher and SLT.
- Weekly homework (where applicable) will be used as an assessment tool to assess whether children have understood the weekly work in school and can complete it independently at home.
- Year 6 use previous SAT papers to track progress.

Health and Safety

When using practical resources, we ensure that all children use them safely and they are carefully tidied up afterwards. Younger children should be monitored by an adult if the teacher feels it is necessary when working with small objects. This may be the case during practical/concrete activities.

Inclusion and Safeguarding Considerations

At our school, we teach Mathematics to all children, regardless of their ability, through a broad and balanced curriculum. We provide learning opportunities that are tailored to the specific needs of all children, including those with SEND/learning difficulties and those learning English as an additional language. We provide appropriate, challenging planned work for those children who are accessing the Maths curriculum at a greater depth level, where those children's abilities are further stretched.

Children identified as having additional Special Educational Needs have access to the full range of activities involved in the learning of mathematics. An individual TLP (Targeted Learning Plan) ensures that our teaching is matched to the child's needs with specific 'small step' learning objectives, which are reviewed half termly. For children working below their year groups AREs, the 'Ready to Progress' statements will be the focus of their learning, to ensure that foundational skills are worked towards across the Maths curriculum. For any individuals who are working significantly below their year groups AREs, B-squared assessments will inform of their progress and the objectives that they are working towards. This will inform their bespoke Mathematical curriculum.

Other Points/Considerations:

If additional intervention is required outside of Maths teaching hours this is discussed with subject leader and SLT prior to it taking place. Timetabling of intervention during the school day is agreed with all year groups and agreed with SLT too.

Monitoring and Review:

Mathematics is monitored by the subject leader, who provides regular support and feedback to all colleagues. Monitoring includes lesson observations, which take place throughout the year and are completed by SLT, drop ins, reviews of working walls, learning environment walks and book looks. Internal moderation of books will also take place annually.