

Terling C of E (Aided) Primary School

Mathematics Policy



Flourish and shine in all that we do

“Those who are wise will shine like the brightness of heavens”
Daniel 12:3

Our vision is underpinned by our Christian beliefs. We celebrate the uniqueness of every child within our Christian community while we work to support and challenge our children. We support them to flourish and shine in all they do, preparing them for life’s journey. We build upon our Christian values of respect, trust, courage and truthfulness.

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Mathematics Policy 2023 - 2025

Mathematics Intent

The National Curriculum states that '*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.*

At Terling Primary School, a mastery approach has been adopted in order to ensure that children acquire a deep, secure and adaptable understanding of the subject. The children are taught how to make sense of the world around them by developing their ability to calculate, reason and solve problems. They are taught how to recognise and understand patterns in, and relationships between, numbers in the world around them. It is expected that Mathematics will be utilised as a tool beyond the daily Mathematics lesson and beyond the classroom. It is expected that children will become confident mathematicians, who develop at their own pace, are able to discuss a variety of strategies, share their ideas and take risks. It is also expected that an enjoyment of mathematics is promoted through the enthusiasm and subject knowledge of the teachers.

Implementation

At Terling Primary School, a typical mathematics lesson will ensure all children make progress by taking account of the following:

- Lesson objectives are taken from the National Curriculum statutory guidelines.
- The White Rose schemes of work are generally followed, with reference to the NCETM guidelines on teaching for mastery.
- Activities give children the opportunity to practise fluency in a variety of contexts, reasoning and problem solving.
- High quality lessons that are challenging and enjoyable.
- Children are provided with a range of mathematical opportunities, which enable them to make the connections necessary to experience working at greater depth.
- Children are encouraged to experiment, take risks and learn from mistakes.
- Children are taught to be independent learners with inquisitive minds, who have secure foundations and an interest in self-improvement.
- Cross-curricular links are developed across the school's themes, the local area and current affairs.

CPA

Children are encouraged to physically represent mathematical concepts in a variety of ways. Objects and pictures are used to demonstrate and visualise abstract ideas, alongside numbers and symbols.

Concrete: children have the opportunity to use concrete objects and manipulatives to help them represent mathematical problems and concepts.

Pictorial: children then build on this concrete approach by using pictorial representations, which can then be used to reason and solve problems.

Abstract: with the foundations firmly laid, children can move to an abstract approach, using numbers and other representations with confidence.

Planning

Lessons are planned and sequenced so that new knowledge and skills build on what has been taught before. Teachers follow the White Rose Maths termly overviews and schemes of work but are also informed by the NCETM's guidelines on teaching for mastery. Staff also refer to the Calculation Policy when teaching formal methods, understanding that sometimes children may find their own efficient methods. A CPA (concrete, pictorial, abstract) approach is taken to deepen the children's understanding.

In KS2, a focus on times tables is incorporated into weekly planning, with children being given opportunities, both in and outside of school, to become confident with quick recall of facts. The school subscribes to Times Table Rockstars, which children can access from home.

Teaching

A variety of teaching styles are incorporated into lessons in order to boost children's development. The overriding aim of each lesson is to develop children's knowledge, understanding and skills and to give them the ability to apply what they have learned in a range of different contexts. Teaching focusses on developing children's ability to calculate mentally, alongside the use of written, formal methods. Fluency is practised and opportunity to apply new skills is given in a variety of reasoning and problem solving challenges.

Class teaching is supported by the Maths Working Wall, which is updated regularly to reflect the work going on in class. Appropriate images, models and vocabulary is displayed to encourage children to become independent learners.

Progression of Skills

Teachers follow the White Rose Maths progression documents, which are based on the topics in the National Curriculum:

- Number and Place Value
- Addition and Subtraction
- Multiplication and Division
- Fractions (including decimals and percentages)
- Ratio and Proportion
- Measurement
- Geometry
- Statistics
- Algebra

Early Years Foundation Stage

All children in the Foundation Stage have daily opportunities to develop their mathematical understanding, primarily through play, to meet the objectives stated in Development Matters. The two strands of mathematics covered in the EYFS are *Numbers*, and *Shape, Space and Measure*. Teachers follow the White Rose Maths termly overviews and schemes of work.

Mixed Year Group Teaching

A number of different strategies are implemented to address the challenges of mixed year group teaching. In KS1, year groups are taught separately in small groups due to a system of continuous provision at the beginning of the school year; this changes, however, as the year progresses. In KS2, a combination of over teaching (ie teaching both year groups *all* objectives *every* year), combining lesson objectives and small group teaching. The method used is dependent on the topic being taught, the needs of the cohort and the availability of additional staff members.

Impact

By the end of Year 6, it is expected that children:

- Are fluent in the fundamentals of mathematics.
- Can reason mathematically by following a line of enquiry, conjecturing relationships and generalisations.
- Solve problems by applying their skills to a variety of routine and non-routine problems.

To facilitate this, the Mathematics Subject Leader, the Head Teacher and the Consultant Headteacher take responsibility for the monitoring of the Mathematics curriculum and the standards achieved by the children. The Mathematics Subject Leader and Head Teacher will monitor progress once every half term. Monitoring will take the form of:

1. Lesson observations and feedback.
2. Learning walks and pupil voice conversations.
3. Book scrutinies.
4. Data analysis.
5. Internal moderation; external moderation with CHPS and the NFoS.

Data is collected at least termly and reported to the Head Teacher. All teachers contribute to a termly pupil Progress Meeting (or more often if required), where data is analysed. Pupils Causing Concern are considered at these meetings and appropriate strategies and next steps are discussed to enable progress to be made by all children.

Pupils with special educational needs (see also SEN policy)

All children have the right to access and enjoy mathematics. In order to ensure that children with special educational needs achieve to the best of their ability, it may be necessary to adapt the delivery of the mathematics curriculum for some pupils. It may also be necessary to use objectives from other year groups to support a child's learning and progress.

Equal opportunities (see also equal opportunities policy)

We will ensure that all children are provided with the same learning opportunities regardless of social class, gender, culture, race, disability or learning difficulties. As a result, we hope to enable all children to develop positive attitudes towards others. All pupils have equal access to computing and all staff members follow the equal opportunities policy.