

Mathematics Policy

Purpose

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.

We derive our policy from our Mission Statement 'Roots to Grow, Wings to Fly, Faith to Flourish'. We encourage children to build skills and develop the confidence to use them independently.

Aims

The national curriculum for mathematics aims 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
- reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- 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.

Teaching and learning styles

The main emphasis throughout the school is on learning and understanding Mathematical concepts through the use of a concrete – visual – abstract approach, with problem solving and reasoning at the core of every lesson. We develop a range of mental and written strategies to solve problems and to know the appropriate strategy to apply in different situations.

During lessons we encourage children to ask as well as answer mathematical questions. They have the opportunity to use a wide range of resources such as base 10, Dienes, Numicon, number lines, number squares, digit cards and small apparatus to support their work. Mathematical dictionaries are available in all classrooms. Children in Upper Key Stage 2 use calculators to explore patterns in calculations, and are taught to estimate and check their answers for 'reasonableness' and accuracy.

Mathematics curriculum planning and organisation

The National Curriculum 2014 is used as the basis for planning the programme of study in mathematics. The subject is taught using a scheme called 'Inspire Maths'. It is our day to day reference point and enables us to set appropriately high expectations for all pupils in our school through a mastery-based approach to mathematics.

Each class teacher is responsible for the mathematics in their class, in consultation with and with guidance from the mathematics subject leader. The class teacher oversees the planning and delivery of mathematics where it is led by teaching assistants. Throughout the school, children are grouped by age and ability, working at a level which is broadly in line with the age related expectations for their year group, for a daily mathematics lesson five times a week (approx. 1 hour in KS1 and KS2 and a daily carpet session within EYFS with learning provided for pupils through continuous provision and adult led tasks).

Long and medium term plans are provided within the scheme as a series of units to be delivered throughout the year. The coverage is mapped against National Curriculum 2014 objectives and sufficient time is then allowed for consolidation and assessment, as well as a focus on those areas of National Curriculum 2014 not addressed as part of Inspire Maths.

Daily lessons are planned using the school's agreed methods of adapting and annotating within a text book while referring to the Inspire Maths guidance and supporting documents.

Each lesson will include some teacher led activities (often using a textbook or interactive whiteboard, combined with practical tasks and games), some guided practice questions (usually completed in maths journals) and some independent 'practice book' work. Children are also encouraged to record their ideas in response to open ended problem solving and thinking skill activities in their maths journals.

In the Foundation Stage, the mathematical aspects of the children's work are related to the objectives set out in the EYFS statutory framework, which underpin the curriculum planning for children aged three to five. All the children are given ample opportunity to develop their understanding of number, measurement, pattern, shape and space through varied activities that allow them to enjoy, explore, practise and talk confidently about mathematics. In the Foundation Stage, Mathematical understanding is initially developed through stories, songs, games and imaginative play as well as 'Numicon' and other apparatus for counting and sorting.

Progression of Written Calculations

Progression of written calculation is guided by the Written Calculation policies (see **Appendix A**) and each individual teacher's professional judgement.

Special Educational Needs, Disability and Intervention

Equal opportunities are a fundamental principle in this school and the mathematics programme is in line with the school's statement of equal opportunities for all our children as their right of entitlement.

Special Educational Needs are accounted for in the SEND policy. In brief, School Education Plans are drawn up for those children on the special needs register with the guidance of the SENDCO and reviewed on a termly basis. All teaching staff are aware of the targets set and support children to achieve these in their work. Separate intervention sessions are timetabled for children who need additional support in mathematics.

Within each mathematics lesson, resources and visual guidance are used to support pupils as they all work to complete the same core tasks, with further challenges to enable children to develop their understanding in different contexts. The children's performance within lessons is monitored and children receive targeted intervention where gaps in understanding are found.

For able, gifted and talented children, teaching staff plan activities that provide appropriate challenges: looking for opportunities to extend and enrich the mathematical curriculum offered to able pupil.

Marking

Work in mathematics should be closely monitored by the teaching staff. The marking policy provides guidance on how staff should mark within mathematics. Essentially, marking and feedback should usually take place within class sessions, however this won't always be written.

Research has shown that when pupils mark their own work, they recognise their mistakes more readily and can begin to devise their own next steps in learning. When this happens, pupils will mark in purple pen and also write any corrections in purple.

Where appropriate, adult-led next steps are indicated in green and children are asked to work on these during the next lesson.

Assessment and recording

Teachers are expected to make regular assessments of each child's progress and to record these systematically. Assessment in mathematics takes the form of long-term (summative), medium-term and short-term.

Summative assessment includes a baseline assessment in EYFS followed by moderated judgements against the Early Years Outcomes for Number and Shape, Space & Measure and end of Key Stage testing in KS1 and KS2 (SATS).

Year 4 pupils will also be tested on their times tables knowledge through the introduction of a new statutory Government assessment.

Medium-term assessments are used to measure progress against key objectives from the National Curriculum 2014. We use the class record of the key objectives (KLIPS) as the recording format for this.

Summative assessment materials are used at the end of each term to track progress against school and national targets.

Short-term formative assessments are used to adjust daily plans. These short-term assessments are closely matched to the teaching objectives.

Resources and training

It is the responsibility of the maths Subject Leader to make sure that resources are sufficient to enable engaging and challenging lessons to be taught. This should be done through regular monitoring of resources against curriculum overviews and discussions with staff to identify areas of specific need.

All teachers have maths resources within their classrooms. Additionally, centrally used resources are housed in the cupboard outside Key Stage 2.

If specific subject training is required, the head/subject leader will arrange staff meeting time for peer training or organise for the member of staff to attend a training session.

Monitoring and review

Monitoring of the standards of children's work and of the quality of teaching in mathematics is the responsibility of the mathematics subject leader. The work of the mathematics subject leader also involves supporting colleagues in the teaching of mathematics, being informed about current developments in the subject, and providing a strategic lead and direction for the subject in the school. Their findings set an area of focus for the future and feed into the School Action/Development Plan.

A named member of the school's governing body is briefed to oversee the teaching of numeracy. This governor meets regularly with the subject leader to review progress and observe lessons in both key stages.

Homework

Children in EYFS and Year 1 do not receive written homework tasks. Year 2 are expected to learn times tables, but may receive homework later in the school year, as they begin to prepare to move to Key Stage 2.

Each week, children in Key Stage 2 are allocated tasks online using an online maths programme and may be sent various tasks home each week.

Tatham Fells CE (VC) Primary School Mathematics Policy

Signed (Headteacher): Fiona Ip

Signed (On behalf of the Governing Body): Helen Wilkinson

Date: January 2022

Review date: January 2025

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Appendix A