STOW-on-the-WOLD PRIMARY SCHOOL

heart hand mind

Mathematics Policy

Approved by:	Full Governing Body	**Date:** 5th February 2024	
Last reviewed on:	1st February 2024	**Signature:**	
Next review due by:	1st February 2025		**Chair of Governors**

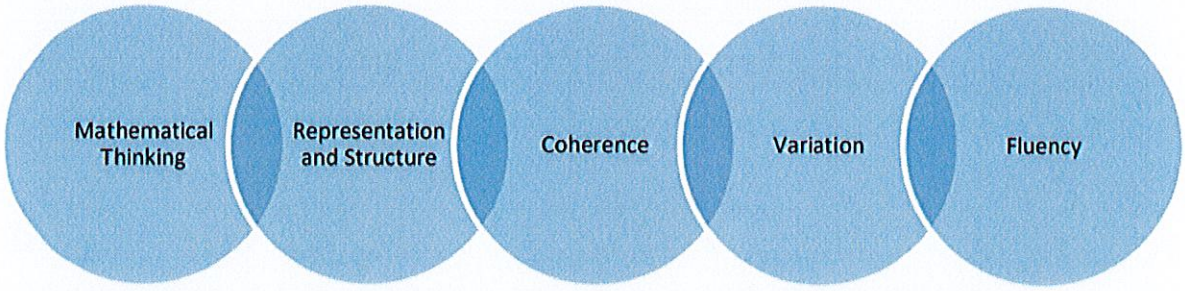
Mathematics Policy

Introduction

This policy aims to establish a positive learning environment for mathematics focusing on fluency, reasoning and problem solving in varied and exciting ways. It aims to provide children with the means of making sense of the world in which they live. Mathematics is not learning a set of isolated facts and techniques; it is a language which children can use to help interpret the world around them. By building on the children's own life experiences, mathematics encourages their reasoning skills to grow and to apply this to real life and intriguing problems. Within our teaching of mathematics at Stow-on-the-Wold, we aim to develop the mental fluency of mathematical skills in order to further prepare our pupils and develop their confidence with everyday use. Above all, at Stow-on-the-Wold Primary we aim to make maths enjoyable, rich and memorable for the children we teach.

This policy document, having been presented to and agreed upon by the whole staff and the governing body, is available to all individual members of the teaching staff and for governors, parents or any other interested parties; e.g. the LA, support staff, visiting teachers; from the school office.

Big Ideas



Our teaching for mastery is underpinned by the NCETM's 5 Big Ideas. Opportunities for **Mathematical Thinking** allow children to make chains of reasoning connected with the other areas of their mathematics. A focus on **Representation and Structure** ensures concepts are explored using concrete, pictorial and abstract representations, the children actively look for patterns as well as specialise and generalise whilst problem solving. **Coherence** is achieved through the planning of small connected steps to link every question and lesson within a topic. Teachers use both procedural and conceptual **Variation** within their lessons and there remains an emphasis on **Fluency** with a relentless focus on number and times table facts.

Statutory Requirements

The National Curriculum order for mathematics describes in detail what pupils must learn in each year group. Combined with the Stow-on-the-Wold Curriculum, Calculation and Fraction Policies, this ensures continuity and progression and high expectations for attainment in mathematics.

Aims

We aim to provide the pupils with a mathematics curriculum and high-quality teaching to produce individuals who are numerate, creative, independent, inquisitive, enquiring and confident. We also aim to provide a stimulating environment and adequate resources so that pupils can develop their mathematical skills to the full.

Our pupils should:

- have a well-developed sense of the size of a number and where it fits into the number system
- know by heart number facts such as number bonds, multiplication tables, doubles and halves
- use what they know by heart to figure out numbers mentally
- calculate accurately and efficiently, both mentally and in writing and paper, drawing on a range of calculation strategies
- recognise when it is appropriate to use a calculator and be able to do so effectively make sense of number problems, including non-routine/'real' problems and identify the operations needed to solve them
- explain their methods and reasoning, using correct mathematical terms
- judge whether their answers are reasonable and have strategies for checking them where necessary
- suggest suitable units for measuring and make sensible estimates of measurements
- explain and make predictions from the numbers in graphs, diagrams, charts and tables
- develop spatial awareness and an understanding of the properties of 2d and 3d shapes.

Inclusion Statement

Every child is given the opportunity to be included in all aspects of school life and in all areas of the curriculum. Teaching and learning in the school ensures that all children are set suitable learning challenges. A broad range of teaching styles are adopted in response to diverse learning needs. We make every effort to overcome potential barriers to learning and assessment for individuals and for groups of children. We aim for Stow-on-the-Wold Primary School to be an ideal learning environment for nurturing and developing the whole child.

Equal Opportunities

We have high expectations for all children. Our aim as a school is to ensure that all children have equal access to a rich and rewarding curriculum for Maths, and that they experience this curriculum in ways that are appropriate for their needs, regardless of gender, ethnicity, or any other determining factors. This school is actively promoting equal opportunities by tracking groups causing concern. Consequently, we make use of a suitable range of learning activities, teaching strategies, educational materials and ICT aids to meet the needs of every individual learner. Every effort will be made to ensure that the methods and materials used are free from prejudice or bias against any particular group. Resources will actively promote an awareness of the diverse nature of the world around us. Children for whom English is an additional language are supported in their use of English and will be given opportunities to make use of their home language to assist their learning and to add to the resources of the classroom.

We also provide carefully structured approaches for 'more able' children, with increased opportunities for deepened reasoning and problem solving as well as opportunities to further 'wrestle' with maths in different contexts. Children are challenged with 'reasoning bubbles', designed to challenge understanding and mathematical thinking, and a plethora of problems and puzzles carefully designed to further implement and embed skills.

Special Educational Needs

Situations may arise in which individuals need to additional support with concepts in maths. This may be done though small group or one to one support, the use of manipulatives and practical apparatus, careful grouping and positioning in the classroom, visual aids or specific interventions. The need for additional support in a lesson or an area of maths, this will become apparent through teachers' use of an on-going observation and assessment or assessment prior to a child coming to our school. Where children are thought to need additional help, teachers go through a referral procedure consistent with the Code of Practice on the Identification and Assessment of Special Educational Needs. Parents are informed of any decisions made. Children with EHCPs and/or My Plans for learning are supported as instructed by their individual statements. It is for class teachers to decide how to best target their support in liaison with the SENCO.

Teacher Planning and Organisation

Long term planning

The National Curriculum for Mathematics 2014, Development Matters and the Early Learning Goals (Number, Shape Space & Measure) provide the long-term planning for mathematics taught in the school. There are also long-term plan overviews to show what each class will be learning throughout the year.

Medium term planning

All years use White Rose Maths planning support to formulate their medium-term planning documents. White Rose Maths provides teachers with a practical teaching approach to National Curriculum statements. The National Curriculum statements are carefully partitioned into age related maths objectives. The objectives divide learning into manageable steps giving staff and children a carefully sequenced approach to knowledge. They also ensure teaching stays in the required key stage.

Short Term Planning

The above plans of learning support daily lesson planning. Lessons are planned using a common planning format and are monitored at intervals by the mathematics subject leader. EYFS planning is based on the medium-term plans and delivered as appropriate to individual children with thought to where the children are now and what steps they need to take next. All classes have a daily mathematics lesson where possible. In key stage one lessons are 45-60 minutes and in key stage two at least 60 minutes. Teachers of the EYFS ensure the children learn through a mixture of adult led activities and child-initiated activities both inside and outside of the classroom. Mathematics is taught through an integrated approach.

Objectives are delivered using our 'Do it, Twist it, Solve it and Deepen it' approach which allows children to learn through fluency, reasoning and problem solving, key aims of the National Curriculum.

Lessons are built to support the ideal of depth before breadth. They support pupils working together as a whole group and provide plenty of time to build reasoning and problem-solving elements into the curriculum to challenge and deepen learning. They support a mastery approach to teaching and learning and have number at their heart.

Problem Solving and Reasoning

As part of our mastery teaching at Stow-on-the-Wold, the children's depth of knowledge is challenged with opportunities to problem solve and reason. Teachers promote reasoning through regular questioning, games, group work and reasoning bubbles in their books.
In conjunction with our maths lessons we also plan and teach focused problem solving and reasoning opportunities.

Mathematical reasoning contributes to and draws from many subjects across the curriculum. Reasoning and problem solving at Stow-on-the-Wold uses real life contexts and practical equipment to enable the children the ability to wrestle with the maths.

Fluency

As well as the timetabled maths lessons, additional time is planned for the children to have regular opportunities to practice fluency skills which is the foundation for all maths. The following activities are timetabled accordingly and are conducted slightly differently in each class to adapt to children's learning needs.

- 10 in 10 (written and mental calculation practice)
- 22, 66 and 99 Club (multiplication and division practice)
- Times Tables Rock Star (times tables practice)
- Maths online games
- Maths games
- Times table booklets (Year 3 onwards)

Cross Curricular Opportunities

At Stow-on-the-Wold Primary School, we know that maths is not just a 'one hour lesson' that we do each day. Maths impacts on every subject and on our everyday life. Maths helps us in a variety of ways and we use these skills, concepts and understanding to support our learning in other subjects. Staff and children are encouraged to utilise maths skills across the curriculum to further develop mathematical understanding and to support learning in other areas.

Pupils' Records of work

Children are taught a variety of methods for recording their work and are encouraged and helped to use the most appropriate and convenient. Children are encouraged to use mental strategies and their own jottings before resorting to more formal written methods. Children's own jottings and practical equipment to support their work is encouraged throughout all year groups.

Resources

Each class has a stock of core resources that are age appropriate. Additional mathematical equipment and resources are stored centrally in the KS2 cupboard.

Marking

Marking of children's work is essential to ensure they make further progress. Work is marked against success criteria, in line with the school marking policy, and includes next steps. Children are

encouraged to self-assess their work. Responses to marking are made as close to the work as possible, ideally at the start of the next lesson. Some pieces of work in mathematics can be marked by children themselves, exercises involving routine practice with support and guidance from the teacher. Marking during the lesson is encourage for immediate feedback.

Assessment

Assessment is an integral part of teaching and learning and is a continuous process. Teachers make assessments of children daily through;

- regular marking of work
- analysing errors and picking up on misconceptions
- asking questions and listening to answers
- facilitating and listening to discussions
- practice papers/ tests
- making observations
- challenging and reasoning questions/ statements

These ongoing assessments inform future planning and teaching. Lessons are adapted readily and short-term planning evaluated in light of these assessments. All assessments and teaching inform teachers understanding of a child's ability in maths and this is recorded in an online APP document on Insight. At the end of each taught unit of mathematics, teachers fill in the online data on Insight, to show if children have met the specific objectives. This is checked regularly by the subject leader to know how the progress in maths is and to evaluate what next steps or focuses could be.

Homework

Homework is set where appropriate and matches the needs and abilities of the pupil. Work can take various forms including the use of the online resource. Times tables and other fluency skills should be practised regularly. Other online resources such as Diagnostic Maths and Times Table Rock Stars is also encouraged.

Role of the Maths Subject Leader

- To lead in the development of maths throughout the school
- To monitor the planning, teaching and learning of mathematics throughout the school.
- To help raise standards in maths
- To provide teachers with support in the teaching of mathematics
- To provide staff with CPD opportunities in relation to maths within the confines of the budget and the School Improvement Plan
- To monitor and maintain high quality resources
- To keep up to date with new developments in the area of mathematics

Monitoring and Review of this Policy

This policy was drawn up by the Maths Subject Leaders Mrs Rebecca Pearce and Mrs Hannah Lewis, through the consensus of opinion of all teaching staff as a result of extensive discussion.

Its implementation is seen as the responsibility of all staff. Its use and effectiveness will be supported and monitored by the Maths Subject Leader, on behalf of the Head Teacher and Governors.

Rebecca Pearce and Hannah Lewis – Maths Subject leaders