

School Policy for Mathematics



Uffington
Church of England
Primary School

Our Vision

We are a family-orientated school where everyone is welcome, a place where we strive to provide the best possible education in a caring Christian environment; an education that allows everyone to flourish and have the confidence to make a positive contribution. We seek to develop the individual strengths of everyone within our school community, where each unique personality can be recognised and valued.

Our Christian values underpin everything we do: Thankfulness, Kindness, Forgiveness, Fairness, Friendship, Trust, Hope and Inclusion are key priorities for all pupils and adults in our school.

Introduction

The acquisition and application of mathematical concepts and skills are of vital importance in a modern world.

The primary school Mathematics curriculum should provide a means of exploring the environment, develop the powers of logical thought and be relevant, meaningful and useful in everyday life.

Uffington Church of England Primary School considers the acquisition of mathematical skills to be of fundamental importance and we give the teaching of all aspects of mathematics a high priority.

Entitlement

Mathematics is a core subject of the National Curriculum and is a statutory part of the school curriculum.

We aim to provide five hours of mathematics teaching per week with opportunities planned for children to develop and apply their mathematical skills across the curriculum wherever possible.

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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 have 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.

Objectives

- To plan and teach lessons based upon the programmes of study outlined in the National Curriculum.
- To use a mastery approach to plan lessons which are accessible to all while making provision for the different levels of understanding within the group, e.g. through differentiated questioning and offering support and challenge as required.
- To ensure that each child has a secure knowledge of number bonds, multiplication tables, patterns and relationships, enabling swift mental calculations and oral response.
- To foster understanding through the use of a range of manipulatives and mathematical representations.
- To teach using precise mathematical language to promote understanding and develop children's ability to express mathematical ideas using the correct terminology.
- To teach children how to record their working in different ways appropriate to the task.
- To give children regular opportunities to apply their mathematical skills and understanding through problem-solving and investigative activities.
- To give appropriate support to children with Special Educational Needs within the classroom and, if necessary, from other agencies.
- To support the less able through the use of appropriate intervention strategies and programmes.
- To extend those working at greater depth through more challenging problem-solving and investigative activities.
- To use a range of web-based resources, apps and programmable toys to support and reinforce learning in Mathematics.
- To use mathematical games to enhance learning.

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- To set homework tasks for all children appropriate to age and ability, and to encourage parents and children to practise number skills on a regular basis.

Teaching for Mastery

Coherence

Teaching is designed to enable a coherent learning progression through the curriculum, providing access for all pupils to develop a deep and connected understanding of mathematics that they can apply in a range of contexts.

Representation and Structure

Teachers carefully select representations of mathematics to expose mathematical structure. The intention is to support pupils in 'seeing' the mathematics, rather than using the representation as a tool to 'do' the mathematics. These representations become mental images that students can use to think about mathematics, supporting them to achieve a deep understanding of mathematical structures and connections.

Mathematical Thinking

Mathematical thinking is central to how pupils learn mathematics and includes looking for patterns and relationships, making connections, conjecturing, reasoning, and generalising. Pupils should actively engage in mathematical thinking in all lessons, communicating their ideas using precise mathematical language.

Fluency

Efficient, accurate recall of key number facts and procedures is essential for fluency, freeing pupils' minds to think deeply about concepts and problems, but fluency demands more than this. It requires pupils to have the flexibility to move between different contexts and representations of mathematics, to recognise relationships and make connections, and to choose appropriate methods and strategies to solve problems.

Variation

The purpose of variation is to draw closer attention to a key feature of a mathematical concept or structure through varying some elements while keeping others constant.

Conceptual variation involves varying how a concept is represented to draw attention to critical features. Often more than one representation is required to look at the concept from different perspectives and gain comprehensive knowledge.

Procedural variation considers how the student will 'proceed' through a learning sequence. Purposeful changes are made in order that pupils' attention is drawn to key features of the mathematics, scaffolding students' thinking to enable them to reason logically and make connections.

The Five Big Ideas – NCETM 2017

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Monitoring Mastery in Mathematics

Effectively delivering a mastery approach starts with a shared understanding of what is important in the teaching of mathematics in our school. Therefore, at Uffington School, there is an expectation that teachers will:

- Start lessons with a review of yesterday's learning.
 - Use an introductory problem to give that day's learning context.
 - Use a ping pong style of teaching: alternate instructions from the teacher with activities for the children (talk, act, talk, act).
 - Set a clear learning objective and related success criteria: these may be introduced at the beginning of the lesson or later on, but must be shared with pupils.
 - Link the learning objective to a stem sentence that the children repeat throughout. Use the stem sentence as a speaking frame for the children to embed the key learning.
 - Plan for all lessons to have an element of pupil talk, either in pairs or as part of a small group.
 - Ensure that all lessons involve the use of concrete apparatus and / or pictorial representations.
 - Encourage children to solve problems in different ways and to explain their methods and reasoning.
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Assessment and Recording

- Day to day assessments are made through marking and observations by class teachers and teaching assistants.
- Work in Mathematics is marked according to the Marking and Feedback Policy.
- Class teachers keep a record of individual assessments throughout the year; these records indicate the level of attainment against the programmes of study for each year group and may be annotated with additional notes.
- Individual assessments against the programmes of study for each year group are made at the end of each term. Outcomes are used to set individual targets for future learning.
- The Foundation Stage Profile is used to record progress in the Mathematical Development element of the Early Years Foundation Stage curriculum in the Reception class.
- Statutory Assessment (SATS) takes place:
 - at the end of Key Stage 1 (Year 2)
 - at the end of Year 4 (Multiplication Tables Check)
 - at the end of Key Stage 2 (Year 6)

Progress and attainment in Mathematics are reported to parents at Parents' Evenings and in the Individual Annual Report.

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Assessment for Learning

- The learning objective and success criteria are shared with the children at the beginning of the daily mathematics lesson.
- The plenary includes an opportunity for children to assess their work against agreed success criteria and to reflect upon on their own learning during the lesson.
- Children may be encouraged to complete 'next steps challenges' to demonstrate what they have learned and extend their mathematical reasoning.

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This policy has been agreed by the staff and Governing Body and will be reviewed on a biennial basis.

Policy revised to meet the needs of the new National Curriculum	March 2014
Policy reviewed	January 2023
Next review	January 2025

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