'Growing together,
Learning forever'

Woodstone Community Primary School

Mathematics Policy

Date: September 2022

Date for review: September 2024

Curriculum Vision Statement

Mathematics is a creative and highly inter-connected 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.

Through our Mathematics curriculum the children at Woodstone will develop a love of the subject, an appreciation of the beauty and power of Maths and a curiosity about mathematical concepts within the world around them.

They will understand the fundamental part that Mathematics plays in our everyday lives and its importance as a universally acknowledged subject. They will develop skills in logical thinking, problem solving and be encouraged to spot patterns and make comparisons.

Our children will develop a deep understanding of the number system and be able to use this to solve problems and search for answers. They will become fluent, confident and skilled Mathematicians who are able to reason about their thoughts and make meaningful connections. They will have opportunities to apply Mathematical concepts outside of the classroom and across different areas of the curriculum. They will enjoy a rich and challenging Mathematics curriculum and leave as confident, skilled and resilient Mathematicians.

Introduction

At Woodstone Primary school we ensure that every child achieves success and is able to develop their skills and acquire knowledge in accordance with their level of ability. Mathematics is both a key skill within a child's education and a fundamental life skill. The National Curriculum for Mathematics (2014) describes in detail what pupils must learn in each year group from Years 1 to 6. Combined with our Calculation Policy and Mathematics progression map, this ensures that mathematical concepts and knowledge are built on over time and that teachers have high expectations for attainment in Mathematics. Children in Reception explore the threshold concepts of counting, number sense, patterns, number operations, finger gnosis, sets, measurement, shapes, spatial relationships and data.

Purpose

- Mathematics equips pupils with powerful set of tools to understand and change the world. These tools include logical reasoning, problem solving skills and the ability to think in abstract ways.

- Mathematics is important in everyday life. It is integral to all aspects of life and with this in mind we endeavour to ensure that children develop a positive and enthusiastic attitude towards Mathematics that will stay with them.

Aims

To encourage pupils to:

- Develop a positive attitude to Mathematics through a structured, progressive and engaging curriculum which fosters and celebrates each child's contribution and achievements.

- Develop the ability to think clearly and logically; justify their ideas with confidence, flexibility and independence of thought.
- Be fluent in the fundamentals of Maths, including through varied and frequent practice with increasingly complex problems, so that they develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- Develop an understanding of the connectivity of patterns and relationships within Mathematics.
- Develop the ability to apply knowledge, skills and ideas in real life contexts outside the classroom, and become aware of the uses of Mathematics in the wider world.
- Develop the ability to use Mathematics as a means of communicating ideas.

Mathematics Mastery

At Woodstone, we deliver Mathematics through a 'mastery' approach. At the centre of the mastery approach to the teaching of Mathematics is the belief that all children have the potential to succeed. They should have access to the same curriculum content and, rather than being extended with new learning, they should deepen their conceptual understanding by tackling challenging and varied problems. Similarly, with calculation strategies, children must not simply rote learn procedures but demonstrate their understanding of these procedures through the use of concrete materials and pictorial representations.

Time allocation

Mathematics is taught as a discrete lesson for one hour, five days a week in Key Stage 1 and 2. As links arise, Mathematics is also taught in other lessons across the curriculum to help enable pupils to consolidate and apply concepts taught in discrete lessons to real contexts.

We teach Mathematics in our Reception class through a daily, adult-led input of approximately 30 minutes using the Mathematical Development aspects of the EYFS curriculum as the basis of our planning. Throughout the day, the Reception 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.

Subject Organisation

We use the objectives from the National Curriculum 2014 to support planning and to assess children's progress. The Programmes of Study form a yearly overview which shows overall content of each year group. We follow the White Rose Maths Hub Scheme of Learning which breaks down the learning in each year into blocks that encourage an integrated approach to fluency, reasoning and problem solving. Knowledge is organised into knowledge categories, each of which details the threshold concepts or 'big ideas' which children must master as each stage of learning in order to successfully move on to the next stage.

Teaching and Learning

The White Rose scheme of learning breaks learning down into 'chunks' which ensures children are introduced to new concepts in small steps. Teachers use a 'ping-pong' approach in lessons where learning is heavily scaffolded through the use of modelling early on in the learning process. As children's understanding of the new concept develops, the learning becomes less scaffolded to allow children the opportunity to practise and then apply the new concept. We strive to ensure all children 'keep up not catch up' and have high aspirations for all learners. For this reason, all children will move together through the small steps of learning within the lesson with additional activities to

deepen learning for children who have grasped the concept quickly. We use the appropriate mathematical terminology in our teaching and children are also expected to use it in their verbal and written explanations. We use stem sentences to support children's mathematical reasoning to help them to explain their thinking clearly and concisely. We follow a concrete, pictorial, abstract approach and a wide range of mathematical equipment and models are used, as set out in our Calculation Policy.

Assessment and Monitoring

- Formative Assessment (AfL) –

Assessment is an integral and continuous part of the teaching and learning process and much of it is done informally as part of day to day classroom practice. Teachers integrate the use of formative assessment strategies such as: effective questioning, opportunities for group discussion, carefully planned activities which consolidate and illustrate children's understanding, clear learning objectives and effective feedback. Formative assessment takes place during and after a lesson and informs future planning and teaching.

- Summative Assessment –

More formal methods are used to determine the levels of achievement of children at various times during the school year. Teachers may use the White Rose Maths end of block and end of term assessments to monitor pupils' progress. Statutory End of Key Stage Assessment is carried out at the end of Key Stage 1 and Key Stage 2. Children in Year 4 also undertake a statutory multiplication tables check.

Marking and Feedback

Work is marked in accordance with the school's marking policy. Children's written work may be marked by themselves during the lesson, or marked by the class teacher on completion of a lesson or a task. A whole class feedback sheet is then completed and further intervention provided to children who need additional support or challenge.

Inclusion

We teach Mathematics to all children, whatever their ability and individual needs. We strive hard to meet the needs of those pupils with special educational needs, those with disabilities, and those for whom English is an additional language, and we take all reasonable steps to achieve this. Class teachers, with the support of the SENCO, will look at a range of factors including classroom organisation, teaching materials, teaching style, scaffolding and modelling and the use of small steps to support all children in achieving the learning intentions of the lessons. Assessment against the National Curriculum allows us to consider each child's attainment and progress against expected levels. This ensures that our teaching is matched to the child's needs.