



Policy for Mathematics

Formally adopted by the Governing Board/ Trust of:-	Greenshoots Federation
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Chair of Governors/Trustees:-	Tim Jermyn
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MATHEMATICS AT GREEN SHOOTS FEDERATION

Rationale

Mathematics equips pupils with the uniquely 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. 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.

At Green Shoots Federation we use the National Curriculum for Mathematics (2014), supported by the White Rose maths scheme, as the basis of our mathematics programme. We are committed to ensuring that all pupils achieve mastery in the key concepts of mathematics, appropriate for their age group, in order that they make genuine progress and avoid gaps in their understanding that provide barriers to learning as they move through education. Assessment for Learning, an emphasis on investigation, problem solving and the development of mathematical thinking and a rigorous approach to the development of teacher subject knowledge are therefore essential components of the Green Shoots Federation approach to this subject.

Vision and Shared Culture

Our vision for mathematics across the federation is that all children, regardless of background or entry point, are empowered to develop into and identify themselves as confident mathematicians. We believe a confident and fluent mathematician:

- demonstrates excitement about mathematics in the world around them through an inquisitive and enquiring disposition.
- is able to identify the most efficient way to solve a problem and justify their choices.
- is flexible in their approaches to calculating and solving mathematical problems.
- is resilient when facing mathematical challenges.
- is able to read and understand mathematical problems identifying the process needed to solve them.
- is able to explain their methods and reasoning using correct mathematical vocabulary.
- is accurate in their use of mathematical strategies and vocabulary.
- is able to judge whether their answers are reasonable and have strategies for checking them where necessary.
- is able to make connections across different areas of mathematics.
- should have a well-developed sense of the size of a number and where it fits into the number system

To nurture the development of confident and fluent mathematicians, we believe it is important that our mathematics provision offers:

- a well-resourced curriculum that enables the development of deep conceptual understanding and mastery of the objectives listed in the National Curriculum.

- the opportunity to develop deep conceptual understanding and automaticity in basic additive and multiplicative number facts
- a progressive and coherent curriculum that has a strong emphasis on the three aims of the National Curriculum: fluency, reasoning and problem solving.
- carefully planned opportunities for mathematical discussion for both pupils and staff.
- opportunities to develop and practice mathematical skills and understanding outside of daily maths lessons.
- opportunities to challenge and develop mathematical mindsets.
- strong leadership that ensures practitioners are outstanding role models with excellent subject and pedagogical knowledge.
- high expectations of both pupils and staff.
- regular opportunities for careful and rigorous assessment of progress and attainment.

Provision

Pupils are provided with a variety of opportunities to develop and extend their mathematical skills, including:

- Group work, including intervention groups
- Paired work
- Whole class teaching
- Individual work including 1:1 support

Pupils engage in:

- the development of mental strategies
- written methods
- practical work
- investigational work
- problem solving
- mathematical discussion
- consolidation of basic skills and number facts
- maths games

We recognise the importance of establishing a secure foundation in mental calculation and recall of number facts before standard written methods are introduced. We use accurate mathematical vocabulary in our teaching and children are expected to use it in their verbal and written explanations.

Mathematics contributes to many subjects and it is important the children are given opportunities to apply and use Mathematics in real contexts. It is important that time is found in other subjects for pupils to develop their numeracy skills, e.g. there should be regular, carefully planned opportunities for measuring in science and technology, for the consideration of properties of shape and geometric patterns in technology and art, and for the collection and presentation of data in history and geography.

We endeavour at all times to set work that is challenging, motivating and encourages the pupils to think about how they learn and to talk about what they have been learning. Additional enrichment opportunities are provided for pupils to further develop mathematical thinking e.g. through cooking, music, and maths investigations and games.

Teachers plan problem solving and investigational activities every week to ensure that pupils develop the skills of mathematical thinking and enquiry.

Teaching Approaches

Teachers use a range of teaching strategies to engage the children in maths and ensure progress is made by all children within a class; no set formula is used. A typical lesson would include:

- Both teaching led input and pupil led activities,
- A balance between whole class, guided grouped and independent work, (groups, pairs and individual work)
- effectively differentiated activities/objectives and appropriate challenge.

Sometimes the focus for the session is new learning, at other times pupils may be practising, to master the application of a concept they have learned earlier. The focus of the session may vary for different children depending on their learning needs.

At times there may be opportunities to develop skills and understanding of mathematics through additional activities, some of which may take place at home. The school has invested in the 'Times Tables Rockstars' website to give children the opportunity to continue their development of mathematical fluency at home.

Teachers plan learning that is differentiated to meet the needs of all pupils, whether they have a specific learning difficulty in maths or whether they are particularly able.

Assessment

Formative Assessment

Teachers integrate the use of formative assessment strategies such as effective questioning, clear learning objectives, the use of success criteria and effective feedback and response in their teaching.

Children are expected to edit their work, based on the comments in their book, using green pen.

Summative Assessment

Pupils are assessed against NC objectives every half term. The school's progress tracking system is updated termly.

National Curriculum tests are used at the end of KS1 and 2; teachers use past and sample papers to inform their assessments as they prepare pupils for these assessments.

All assessments and teaching informs teachers understanding of a child's ability in maths and this is recorded in an APP document.

The school's Assessment and Marking Policies inform high quality feedback and pupils' response to it in Mathematics.

Early Years Foundation Stage (EYFS)

We follow EYFS curriculum guidance for Mathematics. However, we are committed to ensuring the confident development of number sense and put emphasis on mastery of key early concepts.

Resources

A central bank of resources is kept for all teachers to access. Classes also have some individual class based resources, for example place value sliders and protractors.

Some of the websites we use to support our teaching are:

Times Tables Rockstars

Classroomsecrets.co.uk

Role of the Subject Leader

- Ensures teachers understand the requirements of the National Curriculum and helps them to plan lessons.
- Leads by example by setting high standards in their own teaching.
- Prepares, organises and leads CPD and joint professional development.
- Works with the SENDCO and SLT to support teaching and learning.
- Observes colleagues from time to time with a view to identifying the support they need.
- Keeps parents informed about Mathematics issues where appropriate
- Reports to Governors about Mathematics in Green Shoots Federation.
- Deploys support staff to address mathematics related needs within the school.

- Monitors and evaluates mathematics provision in the school by conducting regular work scrutiny, learning walks and assessment data analysis.

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