



GREENLEAS PRIMARY SCHOOL

MATHEMATICS POLICY

INTRODUCTION:

Mathematics pervades all aspects of our lives and helps us to make sense of our world. This policy document is a statement of the aims, principles and strategies for the teaching and learning of Mathematics at Greenleas Primary School. This policy promotes the basic and wider understanding of mathematics and hopes to instil our vision of giving children a love, a practical understanding and a curiosity of the subject and developing our children into fluent, resilient mathematicians.

Maths Intent:

At Greenleas Primary, Mathematics is a fundamental part of each day. We believe that Maths teaches us how to make sense of the world around us. We aim to provide children with the skills in order to develop the ability to calculate, to communicate, to reason and to solve problems using a range of mental and written strategies. This enables children to explore, understand, and appreciate relationships and patterns in both number and shape in their everyday life. We wish to promote enjoyment, and enthusiasm for learning through practical activity, cross-curricular learning, exploration and discussion. We want children to develop logical thinking and reasoning skills through a natural curiosity and investigative approach. Children should communicate using appropriate mathematical language and to understand the importance of mathematics in everyday life. At Greenleas Primary, these skills are embedded within Maths lessons and developed consistently over time through a maths mastery approach.

In teaching this way, we aim to promote confidence, resilience and competence with numbers and the number system through children working hard and pushing themselves to achieve. We wish to provide opportunities for children to challenge themselves, to develop communication skills, independence and co-operation when solving problems in order to take responsibility for their learning. As a result of teaching and learning in mathematics, our aim is that pupils will be able to meet the key aims of the National Curriculum for maths. We wish for all children to:

- become **fluent** in the fundamentals of mathematics so that they develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- be able to **solve problems** by applying their mathematics to a variety of problems with increasing sophistication, including in unfamiliar contexts and to model real-life scenarios
- **reason mathematically** by following a line of enquiry and develop and present a justification, argument or proof using mathematical language.

We are committed to developing children's love of maths and teaching children to make connections and to relate maths to real life experiences. We want to promote confidence and competence in all areas of numeracy.

Implementation:

We implement our approach through high quality teaching, delivering appropriately challenging work for all individuals. We use the concrete, pictorial, abstract approach to support conceptual understanding and to make links across topics and encourage pupils' to explain their findings using mathematical language. Children represent their answers and their mathematical thinking in different ways, including journaling in their maths journals. We want children to develop good number sense and conceptual understanding about their maths and we teach separate fluency sessions to embed this. The staff at Greenleas have worked hard to understand the factors that lead to high standards and have developed a common approach to teaching mathematics throughout the school.

We teach the National Curriculum, supported by a clear skills and knowledge progression. This ensures that skills and knowledge are built on year by year and sequenced appropriately to maximise learning for all children. We

use a range of planning resources including those provided by the White Rose Hubs, NRICH and Number Sense. EYFS understand that developing a strong grounding in numbers is essential so that all children develop the necessary building blocks to excel mathematically. Children are taught to count confidently and develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers. They use a range of resources to make the chosen number in a range of ways and look for opportunities to see patterns. This is linked to things they might see/hear about in everyday life. There is a designated maths area where children can create and solve problems independently.

Mathematical topics are taught in blocks, to enable the achievement of 'mastery' over time. We continuously strive to better ourselves and frequently share ideas and things that have been particularly effective.

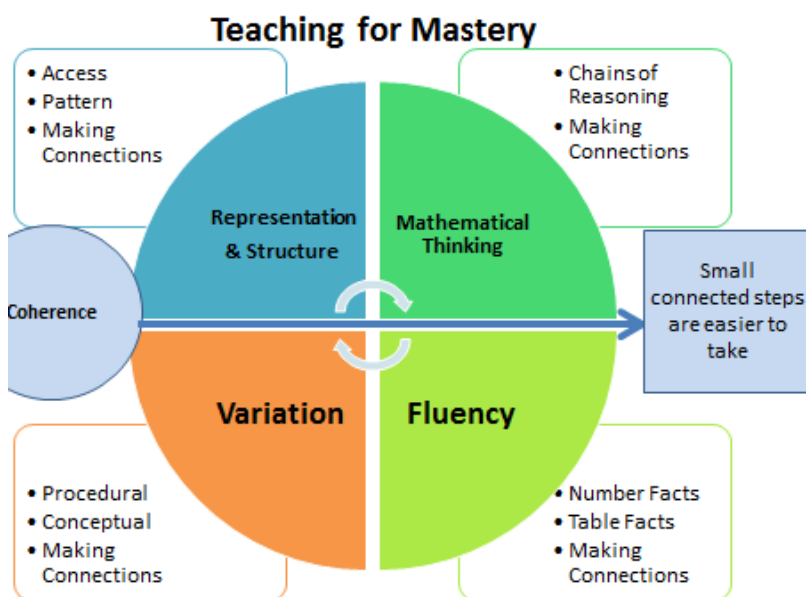
Support is determined during each lesson to ensure secure understanding based on the needs of the child. Challenge is visible throughout the whole session, where children are asked to reason and prove their understanding at a deeper secure level. Children are presented with sophisticated problems, as well as exploratory, investigative tasks, within the lesson as appropriate.

Through our teaching, we continuously monitor pupils' progress against expected attainment for their age, making formative assessment notes where appropriate and using these to inform our discussions in termly Pupil Progress Meetings and update our summative school tracker.

Teachers reinforce an expectation that all children are capable of achieving high standards in Mathematics. Teachers use precise questioning in class to test conceptual and procedural knowledge and assess children regularly to identify those requiring intervention, so that children keep up.

The large majority of children progress through the curriculum content at the same pace. Teaching is underpinned by methodical curriculum design and is supported by carefully crafted lessons and resources to foster deep conceptual and procedural knowledge. The maths curriculum is taught discretely as a daily lesson, however application of skills are linked across the whole curriculum where appropriate and the children are taught to understand that Mathematics is not an isolated subject, but an important life skill.

What is teaching for mastery?



FLUENCY INVOLVES:

- Quick recall of facts and procedures
- The flexibility and fluidity to move between different contexts and representations of mathematics.
- The ability to recognise relationships and make connections in mathematics

REPRESENTATION & STRUCTURE

Mathematical structures are the key patterns and generalisations that underpin sets of numbers - they are the laws and relationships that we want children to spot. Using different representations can help children to 'see' these laws and relationships.

VARIATION

Procedural variation - This is a deliberate change in the type of examples used and questions set, to draw attention to certain features.

Conceptual variation - When a concept is presented in different ways, to show what a concept is, in all of its different forms.

MATHEMATICAL THINKING INVOLVES:

- Looking for pattern and relationships
- Logical Reasoning
- Making Connections

Impact:

The school has a supportive ethos and our approaches support the children in developing their collaborative and independent skills, as well as empathy and the need to recognise the achievement of others. We adopt a can-do attitude. To prepare pupils to be efficient, effective mathematicians, a deep understanding of number sense, arithmetic skill, reasoning and problem solving is promoted throughout their education. Children are reasoning with increased confidence and accuracy and are equipped with transferable mathematical skills to apply across the curriculum and apply their knowledge to a range of complex problems. Regular and ongoing assessment informs teaching, as well as intervention, to support and enable the success of each child. These factors ensure that we are able to maintain high standards, with achievement at the end of KS2 above the national average and a high proportion of children demonstrating greater depth.

Assessment:

Assessment is an integral and continuous part of the teaching and learning process. It is the responsibility of the class teacher to assess all the pupils within their group. These assessments inform the planning and teaching at each level and also inform target setting and tracking.

- Assessment for learning should occur throughout the maths lesson, enabling teachers to adapt their teaching input to meet the children's needs. Children should self-assess against the learning objective and success criteria, giving them a sense of success. The children should know when they are meeting their targets.
- Pupil's work should be marked in line with the Marking Policy, giving children a chance to learn from their misconceptions or incorrect methods.
- Summative formal assessments are made at least once a term to provide further understanding of a child's progress.
- Tracking (Target Tracker) is used in order that children who are not making good progress can be identified and targeted for support in one form or another. e.g. Teacher target groups and intervention clever counting groups.

Equal Opportunities:

The math's policy firmly supports the equal opportunities philosophies of the school and all children will have access to the math's curriculum.

Monitoring and review:

Monitoring of the standards of children's work and of the quality teaching in mathematics is the responsibility of the mathematics subject leader alongside the members of the senior leadership team. This is done through book looks, analysis of data, observation of lessons, learning walks, pupil/staff interviews and informal sharing of good practise .

The work of the mathematics subject leader also involves:

- Supporting colleagues in the teaching of numeracy.
- Being informed about current developments in the subject and ensuring their dissemination.
- Providing a strategic lead and direction for the subject in the school
- Reporting on the achievements and standards and the quality of the provision in maths across the school.
- Completing a mathematics audit of resources.
- Ensuring moderation throughout the school.
- Reviewing the math's policy and monitoring its implementation.

Homework:

We recognise that parents make a significant difference to children's progress in Maths and actively encourage the partnership. The homework policy and individual department homework information makes clear the expectations. Our school website contains some useful links to multiplication games to support children in becoming proficient in their tables. All key stage 2 children have a Timestable Rockstar log in and battles are regularly set for children to challenge themselves and Purple Mash is used to support homework in KS1 and Diagnostic maths quizzes in UKS2. There are also links on the website to games and activities for parents to support their child's learning further at home.

Reporting to parents:

Reporting to parents is done on a formal basis three times a year. There are two Parents' Evenings in the Autumn and Spring terms where targets are set and reviewed and a written report of a child's achievement and targets for development is completed during the summer term. Teachers however are always available for discussions with parents at mutually convenient times during the school_year.

Revised and adopted by the Governing Body January 2023.