Greatstone Primary School

MATHEMATICS POLICY

Aims

At Greatstone Primary School, our maths curriculum is designed to provide all children with the opportunity to think mathematically; have a fluent recall of maths facts; enable them to reason and prepare them for the wide variety of problem-solving opportunities that they will encounter in their lives.

We aim to foster positive attitudes, fascination and excitement of discovery through the teaching and learning of mathematical concepts. We encourage children to develop a 'can do' attitude. We want our pupils to confidently reason about their mathematics, using a suitable range of mathematical language, recognising its importance for communication and deep thinking. We encourage the children to develop and increase their ability to communicate maths to others in a variety of ways (written, pictorial, graphic and verbal).

We use a wide range of models, visual manipulatives and practical resources to develop a deep conceptual understanding alongside procedural fluency. We have implemented the current legal requirements of the Foundation Stage (EYFS) and the National Curriculum.

We also aim to develop an awareness of maths in the world beyond the classroom and give the children the opportunity to apply their skills to problems taken from their everyday lives, in Science and Computing lessons and beyond.

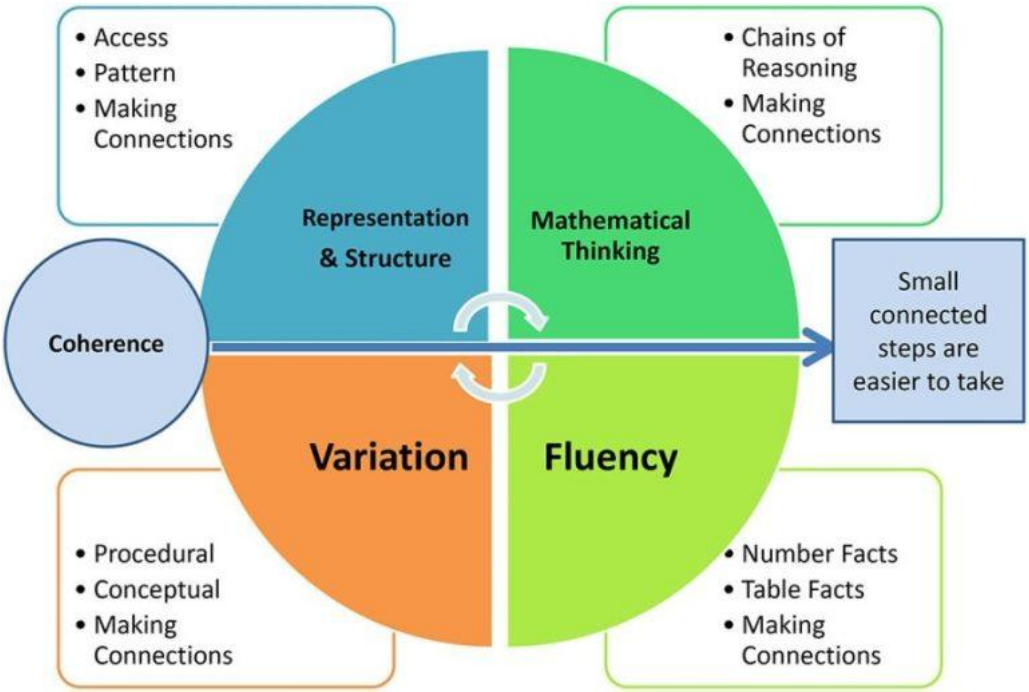
Mathematics curriculum planning

We embrace the aims of the National Curriculum: fluency, accuracy, precision, reasoning and problem solving. A 'mastery' approach to teaching mathematics is used to ensure deep, long-term, secure and adaptable understanding of the subject. We believe that mastery of mathematics is a tool for life and teachers reinforce an expectation that all pupils are capable of achieving high standards in mathematics.

For our day-to-day planning we use the NCETM small steps to guide us. The school's Calculation Policy details the approach and learning progression in the main operations of addition, subtraction, multiplication and division, and is a working document that all staff are expected to apply. Further planning guidance and resources can be found on the Maths Padlet, a working document which all staff have access to.

Approaches for the Teaching and Learning of Mathematics

We teach maths according to the five big ideas for teaching for mastery: coherence, representation and structure, variation, mathematical thinking and fluency.



Maths is taught daily: one main lesson and a short additional Mastering Maths (Year 1, 2 and 4) or arithmetic session (year 3, 5 and 6).

Teaching at all levels should include opportunities for:

- demonstration and meta-cognitive modelling by the teacher
- use of a concrete, pictorial and symbolic (CPS) approach across all year groups
- carefully chosen examples and representations to highlight key concepts (variation)
- explicit teaching of mathematical vocabulary
- use of stem sentences to develop reasoning and structure thinking
- opportunities for all pupils to think, talk and explore maths together
- fluency, reasoning and problem solving included every week
- pace that allows for depth, not speed - secure before accelerate.
- focus on connections between concepts, not isolated procedures.

Early Years Foundation Stage

At Greatstone school we teach mathematics in our Foundation Stage where we relate the mathematical aspects of the children's work to the objectives set out in the Early Years Foundation Stage Profile, which lead on to the Early Learning Goals We give all the children ample opportunity to develop their understanding of number, measurement, pattern, shape and space, through varied activities in maths rich environments that allow them to enjoy, explore, practise and talk confidently about mathematics. In addition, children follow the Numberblocks programme in Nursery and Mastering Maths programme for Reception.

Presentation of Maths Work

Children are encouraged to present their written calculations in pencil as neatly as possibly by putting one digit in a square. A ruler must be used for the drawing all lines. The emphasis of neatly produced work is important as poor presentation and careless setting out can lead to incorrect calculations.

In books:

- Learning title should be clearly shown and underlined.
- Use of representations (number lines, bar models, arrays, etc) as appropriate.
- Evidence or reasoning and written explanations
- Pupil misconceptions are addressed, not ignored.
- Work reflects progression within a small step or concept

Maths Learning Environment

At Greatstone we aim to create a rich and stimulating maths environment that promotes learning and independence through Maths Working Walls in each classroom. Maths Working Walls and resource areas in the classroom will:

- Support the children with their maths.
- Contain information relevant to current teaching (key vocabulary, models/images, scaffolds).
- Include maths resources clearly labelled and accessible for the children.
- Be clear/large enough for children to read.
- ArithmeKIT to address learning gaps that are a teaching focus.

Marking of Work

The marking of the children's work must be kept in line with the school's 'Feedback and Marking' Policy. The purpose of marking in maths is primarily diagnostic. It communicates to a child whether they have successful and serves to inform a teacher's planning in terms of any misconceptions.

Assessment for learning

Assessment for learning is embedded into each lesson and teachers use assessment for learning techniques and strategies daily in order to identify pupils' strengths and difficulties, inform the next steps for each child's learning and improve the learning outcomes for each child. Short–term planning is constantly reviewed and modified on the basis of these assessments.

Summative assessment

We make summative judgements of each child's achievement. The evidence for these assessments comes from day-to-day class work and from Pre/Post learning tasks. We identify and target those children not making expected progress and intervene accordingly.

Pupils' progress is discussed in Pupil Progress Meetings three times a year. Children who haven't made progress are put on a Data Concern form and these children are a focus in teachers' planning. We pass all assessment and tracking information on to the next teacher at the end of the year, so that they can plan for the new school year.

Equal Opportunities

The mathematics curriculum is planned to ensure equal access to a mathematical education regardless of ethnic and cultural origin, gender or ability. Through our mathematics teaching we provide learning opportunities that enable all pupils to make good progress. We strive hard to meet the needs of disadvantaged and vulnerable children, including those pupils who generate Pupil Premium, those with special educational needs, those with disabilities, and those learning English as an additional language. We take all reasonable steps to achieve this.

When progress falls significantly outside the expected range, the child may have special educational needs. Our assessment process looks at a range of factors such as classroom organisation, teaching materials, teaching style, and scaffolding so that we can take some additional or different action to enable the child to learn more effectively. Ongoing assessment for learning and summative assessment allows us to consider each child's attainment and progress against expectations. This ensures that our teaching is matched to the child's needs.

Intervention through EHPC will lead to the creation of an Individual Education Plan (IEP) for children with special educational needs. The IEP may include, as appropriate, specific targets, strategies and intervention programmes relating to mathematics, such as the Number Stacks or Literacy Gold's Times Tables Tutor.

Home/school links

Greatstone aims to raise the profile and understanding of our approach to maths with parents, and they are encouraged to be actively involved in supporting children's learning in school in a number of ways:

- Key Instant Recall Facts (KIRFs) are sent home termly as homework, with a range of suggested activities for home learning.
- Parent Workshops are organised with relation to the curriculum and supporting children's mathematical learning.
- There are links to maths websites and other useful documents and resources on the school website.

We have an open door policy for parents to come and talk with us after school. We give parents the opportunity to discuss their child's progress and attainment during parents evenings . We also write a summary of each child's progress and achievement in the Annual Report for parents.