

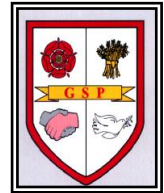
GREAT SANKEY PRIMARY SCHOOL



Mathematics Policy



Great Sankey Primary School Mathematics Policy



Why Teach Mathematics?

Maths is a key life skill. It 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 involves confidence and competence with numbers and measures, an understanding of the number system, a repertoire of computational skills and an ability to reason and problem solve in a variety of contexts. A high-quality mathematics education therefore provides a foundation for understanding of 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.

Aims of the National Curriculum

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 develop 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.

Mathematics is an interconnected subject in which pupils need to be able to move fluently between representations of mathematical ideas. The programmes of study are, by necessity, organised into apparently distinct domains, but pupils should make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. They should also apply their mathematical knowledge to science and other subjects.

(National Curriculum July 2014)

Our School Aims

Maths at Great Sankey Primary school is taught in a way that enables children to understand that world that we live in and encourage them to understand relationships, patterns and changes in quantity, space, shape and measure through their everyday lives. Our Maths curriculum aims to establish a positive learning environment which focuses on three key mathematical concepts: fluency, problem solving and reasoning. Here at Great Sankey Primary our aim is:

- to encourage all children to develop an enthusiasm for and a confidence in mathematics
- to help children to understand the importance of developing mathematical skills as an essential part of everyday life
- to provide a rich and challenging learning environment that stimulates mathematical thinking and learning
- to develop children's ability to use a wide range of mathematical skills and articulate their understanding of concepts with confidence
- to lead children to be able to apply their maths skills and knowledge across the curriculum and in real life situations

Teaching and Learning

Children are taught mathematics for one hour each day, depending on their age. The children begin their lessons with the 'Fast Five' to aid their recall of previous topics covered. The expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. However, decisions about when to progress are always based on the security of pupil's understanding of a topic and their readiness to progress to the next stage. Pupils that grasp new concepts and topics rapidly are challenged through being offered rich and sophisticated problem solving and reasoning questions to ensure that they have mastered a concept before moving on. Those who are not sufficiently fluent with earlier material should consolidate their understanding through additional practice, before moving on.

Maths teaching and learning at all levels should include opportunities to develop children's fluency of a concept before moving on to look at applying their understanding in a variety of different contexts. When children are secure in their understanding, they should then have the chance to apply their knowledge to reasoning and problem-solving tasks to show that they have mastered the concept. Teachers can access a variety of sources to provide tasks for fluency, reasoning and problem solving e.g. White Rose Documents, NRICH tasks, NCTEM Mastery documents. Coverage information about what specific classes are learning is available to view within our 'Calculation Policy'.

Concrete scaffolding resources should be available for all children to readily access during lessons and children should be aware of their location within the classroom.

Maths in Early Years Foundation Stage (EYFS)

Our EYFS classrooms provide a rich and stimulating environment for children to immerse themselves in maths. These carefully planned areas change on a regular basis and encourage children to develop their mental maths and practical skills. Practitioners in the Early Years classrooms are skilled enough to ensure that spontaneous teaching of Maths happens as part of the daily provision. Children can explore key aspects of Mathematics including counting, sorting, matching, seeking patterns, making connections, recognising relationships, working with number, shapes, space and measures. Mathematical understanding is also developed through stories, songs, games and imaginative play, so that all children enjoy using and experimenting with mathematical concepts and become confident and enthusiastic problem-solvers. Activities and experiences are planned against the EYFS Curriculum and children's progress in Mathematics is assessed against the Early Learning Goals.

Assessment

Assessments for learning occur throughout maths lessons, enabling teachers to adapt their teaching to meet the children's needs. Feedback from teachers to children is provided whenever possible at the point of learning to maximise the impact of feedback and allow children to respond. Where appropriate children will respond to teachers' feedback in purple pen. This should be documented in books referring to the schools' marking policy. Children should be given time to read and review their work following marking.

Assessment of pupil work and progress is ongoing by the class teacher and informs future planning. Future lesson planning should consider class success evaluated through key questioning, marking, observations and reflections made during and following the lesson. Teachers use the White Rose Planning / Assessment Documents along with termly standardised NFER tests to make a judgement about children's progress in maths throughout the year. In Years Two and Six, past SATS test papers are used in the Spring term to prepare children for their End of Key Stage Assessments in the Summer term.

The Multiplication Tables Check (MTC) became mandatory for all pupils in Year 4 during the 2021/22 academic year. In order to prepare pupils for this dedicated time is set aside each day for the quick recall of known multiplication facts. Pupils also complete low-stake tests in their multiplication tables practise books and have access to their own Times Table Rock Stars account.

Tracking is used so that children who are not on track to achieve Age Related Expectations can be targeted for support either within class or through intervention programs. Class teachers and SLT meet termly to discuss the progress of children in Maths each term, ensuring that children are supported appropriately.

Displays

At Great Sankey, each class displays relevant mathematical information which supports pupils' learning in class. We recognise the importance of displays in the teaching and learning of mathematics and maths displays are appropriate to the age of the class. Our

working walls are a reflection of a child's learning journey throughout a particular mathematical topic. Relevant mathematical vocabulary is always on display and children are encouraged to take ownership of this to further consolidate their understanding of different mathematical concepts. Links are drawn between the fluency and problem-solving and reasoning aspects of the curriculum. Our children are presented with a visual representation of how they can apply the 'basics' of a particular mathematical concept in order to tackle the higher level problem-solving and reasoning questions.

Links across the curriculum

Our aim is to develop maths through well-matched, chosen topics, themes and ideas in all subjects so pupils understand and appreciate the importance of mathematics in every day contexts. Maths will be prominent in recording and evaluating science investigations, measuring and developing products in Design and Technology and in competitive games in PE sessions. Technology will be used in various ways to support teaching whilst accelerating and motivating children's learning. iPads and laptops allow the children to access a range of online activities to further develop or consolidate learning, including 'Numbots' (for embedding fluency of number bond facts) and 'Times Table Rock Stars' (for embedding fluency of multiplication and related division facts). Each year we celebrate 'World Maths Day', which is a themed day to engage and stimulate pupils' learning in maths. This year, the children took part in an escape room themed day during which they had to complete a series of problem solving and reasoning activities in order to discover the code which would allow them to escape from the classroom.

Research

We are currently taking part in the Teaching for Mastery Sustaining Programme for the Maths North West Hub, which is supported by NCETM. This aims to develop our Mastery approach across EYFS, KS1 and KS2 and ensure the principles of teaching for mastery are firmly embedded right across the school. A subject leader network is attended by the subject leader each half term to share good practice and receive updates and guidance within the evolving world of maths. Within the academy we have also established a dedicated Primary Maths Hub which involves all of the primary schools within TCAT. Subject leaders from each school meet on a half termly basis to share good practice and discuss current research around the subject.

Equality & Diversity

At Great Sankey, we endeavour to maintain an awareness of and to provide equal opportunities for all our pupils in mathematics. We are committed to providing a teaching and learning environment conducive to learning. Each child is valued, respected and challenged regardless of ability, race, gender, religion, social background, culture or disability. We strive to ensure that all tasks set are appropriate to each child's level of ability and have high expectations of all children. We believe that their work should always be of the highest possible standard and we celebrate the different experiences, interests and strengths that influence the way in which they learn.

