Cutnall Green First School
Mathematics Policy

Why Teach Mathematics?

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.

Aims of the revised 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.

(Revised National Curriculum July 2014)

Aims of teaching maths at Cutnall Green First School

"Love, Learn, Live"

The teaching of mathematics at Cutnall Green First School is geared towards enabling each pupil to develop their learning without labelling them by ability. We endeavour to not only develop the mathematics skills and understanding required for later life, but also an enthusiasm and fascination about maths itself. We recognise the importance of developing factual, procedural and conceptual knowledge.

We aim to increase pupil confidence in maths so they are able to express themselves and their ideas using the language of maths with assurance.

We are continually aiming to raise the standards of achievement of all children at Cutnall Green. This has been developed through our role as a Strategic Partner in the GLOW Maths Hub and the teaching school, which gives all staff access to cutting edge CPD. In addition to this, we are actively involved in Working Groups and Action Research Projects, whereby our teachers work alongside staff from other schools to share ideas, develop their practice and continually strive to improve the quality of learning and teaching.

The revised National Curriculum and EYFS Curriculum

The revised National Curriculum for Mathematics describes what must be taught in each Key Stage as well as defining a programme of study for each year group. In Early Years, the curriculum is guided by the Early Learning Goals and the 40-60 months Statutory Framework.

Planning

Planning is undertaken as:

Yearly Overview - Planning is based on the programmes of study in the new curriculum and teachers track coverage of key learning in their year group, to ensure children learn the appropriate skills for their age and stage.

Short term - At Cutnall Green we place an emphasis on number sense and value, as this is vital to accessing all aspects of the Mathematics Curriculum. All teachers plan flexibly, to ensure that learning from that day is reviewed and that this feeds into the next day's learning.

Cross-curricular links

Mathematics is taught mainly as a separate subject but every effort is made to link maths with other areas of the curriculum. We try and identify the mathematical possibilities across the curriculum at the planning stage. We also draw children's attention to the links between maths and other curricular work so children see that maths is not an isolated subject.

In the Early Years, these links are more evident because of the less formal timetable.

Teaching methods and approaches

Staff at Cutnall Green have adopted the whole school Visual Calculation Policy, which takes into account the criteria of the revised National Curriculum. This ensures progression in calculation across year groups.

Lessons have a flexible approach to ensure the pitch and pace suits the children. Teachers use their own judgement in how to approach teaching a concept and will incorporate group, paired or individual work as appropriate. In EYFS the children work in small and large groups depending on the focus for the week. Maths activities are accessible at all times during child initiated learning.

Pupils engage in:

- The development of mental strategies
- Written methods
- Practical work
- Investigational and Problem Solving work
- Mathematical discussion and reasoning using precise mathematical language.
- Consolidation of basic skills and routines

At Cutnall Green we recognise the importance of establishing a secure foundation in mental calculation and recall of number facts before standard written methods are introduced. Following further reading around the England-China Teacher Exchange programme, we have introduced an additional daily 10 minute session across KS1 and KS2, which aims to increase fluency in all times tables, number bonds and counting, through recitation and application in a variety of formats.

We endeavour to set work that is challenging, motivating and encourages the pupils to talk about what they have been doing.

Display

We recognise the importance of displays in the teaching and learning of mathematics. Every class displays relevant mathematical information which is consistent throughout the school. This is appropriate to the age of the class. These may include number lines, number grids, vocabulary and other display materials that provide a visual support for the children's mental processes and current learning.

Assessment

We aim to provide feedback to children through feedback for learning so that they have specific advice about improvements to their work. This might be verbal feedback or written feedback, whereupon children are given time to read and review their work. (See separate Feedback for Learning Policy for more information.)

To aid teachers' assessments, we use Rising Stars assessments to provide diagnostic information, together with PUMA Assessments (Progress in Understanding Maths) to provide a standardised assessment of each child's attainment. A combination of formative and summative assessments enables teachers to determine the strengths and challenges for each child in their class. They are then able to identify whether each child is on track to meet age related expectations by the end of the year, initiating timely interventions for those that are not on track, as appropriate.

Reporting

All parents receive an annual written report on which there is a summary of their child's effort and progress in mathematics over the year. In KS2, this is led by the children, who identify their own successes and challenges throughout the year.

At the end of KS1 and KS2, each pupil's level of achievement against national standards is included as part of their annual written report.

Resources

Resources for the delivery of the maths curriculum are stored both centrally and in classrooms. Everyday basic equipment is kept in classrooms. Additional equipment and topic-specific items are stored in other areas.

Cutnall Green uses a variety of published materials to facilitate the teaching of mathematics but recognises the need for the teaching of maths to be 'scheme assisted not scheme driven'.

Materials are constantly updated, as new and relevant items become available. The maths subject leader orders new resources after consultation with the staff.

Equal opportunities

As a school we endeavour to maintain an awareness of, and to provide for equal opportunities for all our pupils in mathematics. We aim to take into account cultural background, gender and Special Needs, both in our teaching attitudes and in the published materials we use with our pupils.

Children with special educational needs

All children receive high quality inclusive teaching. Where possible, we aim to fully include SEND pupils in the daily mathematics lessons so that they benefit from the emphasis on oral and mental work and by listening and participating with other children in demonstrating and explaining their methods. There are high expectations for **all** pupils. Resources are provided to encourage children to learn independently and support their learning. Specialist resources, such as Numicon are also used, where appropriate.

Where necessary, teachers will, in consultation with the SENCo and members of the SLT, draw up programmes of support for a child. If a child's needs are particularly severe, they will work on an individualised programme written in consultation with the appropriate staff.

When planning, teachers will try to address the child's needs through simplified/modified tasks. Support staff are deployed effectively.

This policy will be reviewed in full by the Governing Body on a yearly basis.
This policy was reviewed and updated in ***February 2016***.
Next review date: ***February 2017.***