

Goosewell Primary School

Mathematics Policy

The Philosophy of Mathematics

Mathematics is of vital importance in the education of children in that it offers a powerful means of communication. Through maths we can further our experiences through the acts of describing, organising, explaining and predicting in order to make sense of the real world. Children are given the experience to think logically and deal with abstract concepts and skills that are used across the whole curriculum.

This policy will help us achieve the following school's aims:

- Support everyone to have high expectations of ourselves and take responsibility for our learning and behaviour- always trying to do our best.
- Develop creative thinkers and independent learners.
- Identify and develop a range of life skills and interests.
- Encourage risk taking without fear of failure.
- Learn using a wide and interesting variety of opportunities both within and beyond the school.
- Encourage parents/carers to continue to actively support their child's learning.
- Ensure we have a school where everyone has a voice that is listened to.
- Learn in a colourful, creative and fun place.

Rationale

The aims for our curriculum match the aims of the National Curriculum.

To ensure that all pupils:

- become **fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasing 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.

Our aim is to inspire children by giving them a lively sense of interest and enjoyment in Mathematics, with an understanding of its practical and creative use in everyday life.

We endeavour to provide opportunities that:

- Enthuse children towards maths through (inter)active teaching with clearly explained ideas and strategies.
- Build a firm, broad foundation of mathematical knowledge, skills and understanding.
- Develop a positive attitude towards Mathematics; increasing confidence and enjoyment.
- Ensure children commit knowledge to memory and develop good mental strategies (through Quick Maths/Big Maths).
- Allow for daily practise of basic skills, techniques and strategies.
- Involve children in discussing and describing strategies to solve a range of problems.
- Enable children to share their thinking and learn from each other's responses.
- Expose ways of working that challenge children of all levels.
- Create an environment where it is safe to make mistakes which can be learnt from.
- Enable children to work with maths that has practical applications that directly relate to other areas of the curriculum.

Planning and teaching

Mathematics is an essential part of every child's learning. Teachers are provided with a medium term plan taken from NC14 and Rising Stars. The Calculation Policy is also given to all staff to ensure a consistent approach to the teaching of calculations and the use of practical resources. They will then create weekly plans using these objectives and a variety of resources held in school and from suitable websites found on the internet. These learning experiences provided by the teachers have a balance between investigative work, problem solving, pure mathematical activities and use many concrete representations.

Children are grouped in a variety of ways. From Years 1-5 the class may be split into a suitable number of ability groups or children may work in mixed ability pairs or groupings. This often depends on the area of Mathematics being taught. Each group will work on the same objective but the task may be differentiated by the level of support a group may receive or the type of resources they may be using. In Year 6 the year group is split into four sets – one group working at below ARE, two groups working at ARE and one working to develop greater depth of ARE and to provide increased opportunities for children to apply their knowledge in a range of sophisticated problems. Setting enables greater differentiation and can therefore address more complicated gaps in learning further up the school.

Foundation Stage follow the latest EYFS guidance, providing children with opportunities to develop and improve their skills whilst working towards the Early Learning Goals. This is implemented through a mix of adult-led and child-initiated activities, with a focus on practical experiences and encouraging children to talk about their learning. We aim to nurture positive attitudes by matching the activity, support and resources to the child to bring about successful learning, enabling the children to develop confidence in Mathematics, especially when confronted with a challenge.

Special needs and equal opportunities

Children with SEN are involved in all maths lessons planned from NC14. Further provision and support is provided by the selection of materials from previous year groups NC14 objectives where necessary to help children achieve their full potential. Individual Education Plans are created so as to break down concepts into small steps. Skills are practised and reinforced through practical tasks using appropriate apparatus.

Assessment

Children's progress is monitored on a regular basis through a variety of methods. At the beginning of each new Maths unit, children complete a "Cold Maths" activity to ascertain their understanding prior to learning. At the end of that unit, they then carry out a "Hot Maths" activity to see how they have improved. This enables teachers to plan more effectively and tailor lessons to meet individuals or group needs more successfully.

Target marking takes place every lesson based on a 'Can I' learning objective. Gap Tasks are set to enable misconceptions to be addressed and learning to be supported or extended as required.

In Terms 2, 4 and 6 teachers are required to complete assessments on SPTO marking children as WT, MA or A for each objective.

Summative assessments are made at the end of the school year. Online GL Assessments are completed by Years 3-5. Foundation Stage Profiles are completed and the relevant strands are scored to provide information on an individual's Maths ability.

Interventions

Effective use of school data and pupil profiling enables class teachers to identify children who are not fulfilling or exceeding their potential. Year groups can then offer different intervention programmes. There are targeted and immediate intervention programmes that take place across all year groups. Targeted programmes have the same children going out for a set amount of sessions each week and immediate programmes happen as and when required with children who have been selected by their class teacher. Immediate informal feedback is given by intervention teachers. Written feedback will be created towards the end of Terms 2, 4 and 6 which will be collated and fed back to teachers, SLT and Governors. This will include written feedback from the child, their class teacher and the intervention teacher.

Use of Teaching Assistants

During Maths lessons Teaching Assistants may work with a specific group or move around supporting children independently. This extra adult help provides support and challenge for the children to make maximum progress within Maths. The TAs could work in or out of the classroom environment.

Resources

A range of practical resources are used across all year groups to support learning. Visual representations are used to develop the children's conceptual understanding that will enable them to move more rapidly and efficiently towards the formal written methods expected. Teachers are consulted annually to establish resource needs and orders are placed using the available budget to meet these needs and so develop the subject across the school. Various websites are regularly suggested for teachers to refer to as well.

Monitoring and review

Maths monitoring is carried out throughout the year in line with the School Development Plan. This could comprise of lesson observations, work scrutiny and pupil conferencing to ensure effective teaching, learning and progression is made. The Maths team will support and develop the skills of all staff through various INSET sessions. The school works closely with a Maths Cluster team to analyse national and school data to understand and reflect on Mathematics practice at Goosewell and other local schools. This information is used to identify areas of development in order to maximise the potential of all children.

The maths team give regular termly feedback to Governors to discuss developments within maths at Goosewell and to share data. Year group leaders also share maths data with link Governors 3 times throughout the year.