

Ingatestone and Fryerning Church of England Voluntary Aided Junior School

Mathematics Policy

Ratified: Autumn 2026



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 new 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.

Aims of teaching maths at Ingatestone and Fryerning

We endeavour to develop the mathematics skills and understanding required for later life.

We endeavour to generate enthusiasm and fascination about maths itself.

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 recognise the importance of developing factual, procedural and conceptual knowledge.

We are continually aiming to raise the standards of achievement of all children. This has been developed through our involvement with the Essex and Herts Matrix Maths Hub. In addition to this, we have been involved with the England - China Teacher Exchange Programme. Our maths

lead and head of school visited Shanghai to gain an understanding of the teaching methods for maths which could be used and adapted in the English system.

The new national curriculum and key performance indicators

The 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. We use the Key Performance Indicators to assess the progress of the children.

Planning

Planning is undertaken at three levels:

Long term planning is based on the programmes of study in the new curriculum and the key performance indicators. We use 'White Rose Maths', and 'Power Maths' as our main resource, supporting this with 'Target Your Maths' and 'Essential Maths'.

Medium term planning is carried out half-termly. Teachers select their focused key performance indicators and objectives from the new curriculum. We are building on the development of mastery in maths.

Short term planning is carried out weekly. These plans include key performance indicators, resources to be used, any differentiation, vocabulary and questions.

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.

Teaching methods and approaches

Staff at Ingatestone and Fryerning have worked together to develop a [calculation policy](#) that takes into account the criteria of the new National Curriculum.

Developing our whole school approach to Maths Mastery, as much as possible the whole class is kept together and opportunities are given to allow a greater depth daily.

As we are a one and a half form entry school, we move to maths groups for these sessions.

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.

Pupils engage in:

- The development of mental strategies
- Written methods
- Practical work
- Investigational work

- Problem-solving
- Mathematical discussion using precise mathematical language.
- Consolidation of basic skills and routines

At Ingatestone and Fryerning C of E Junior School we recognise the importance of establishing a secure foundation in mental calculation and recall of number facts before standard written methods are introduced. Following our participation in the England-China Teacher Exchange programme, we have introduced an additional daily 10 minute session . "Ten Minute maths" aims to increase fluency in all times tables and number bonds, through their 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. A working maths wall is in place in each classroom and all teachers have had training on this.

Assessment

We aim to provide feedback to children through marking so that they have specific advice about improvements to their work. Children are given time to read and review their work following marking, using a 'Purple Polishing Pen'. Children are encouraged to highlight the Learning objective when they have finished their work to show their level of understanding and to add a comment if possible. They are also encouraged to respond to teachers' comments. See separate Marking Policy for more information.

Teachers also assess children against the Key Performance Indicators and Mastery Statements using the following descriptors:

Working Towards Age Related - Yet to be secure in the end of year expectations

Working Within Age Related - Secure in the majority of the end of year expectations

Working At Age Related - Secure in almost all or all the end of year expectations

Working At a Greater Depth - Secure in almost all or all the end of year expectations and is able to use and apply their knowledge and skills confidently

At the end of Year 4 all children are assessed in their Times Tables. This is a statutory Multiplication Timetables Check.

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. This is led by the children who identify their own successes and challenges throughout the year.

At the end of 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.

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 programme 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 or modified tasks. Support staff are deployed effectively.

Homework

Each child has access to a bespoke learning platform- Maths Whizz. They are expected to complete 60min weekly of Maths Whizz time. Alongside this, children are expected to practise their times tables regularly using Times Tables Rockstars as a resource.

Mastery in Mathematics

Mastering maths means acquiring a deep, long-term, secure and adaptable understanding of the subject. At any one point in a pupil's journey through school, achieving mastery is taken to mean acquiring a solid enough understanding of the maths that's been taught to enable him/her move on to more advanced material.

The essential idea behind mastery is that all children need a deep understanding of the mathematics they are learning so that:

- future mathematical learning is built on solid foundations which do not need to be re-taught;
- there is no need for separate catch-up programmes due to some children falling behind;
- children who, under other teaching approaches, can often fall a long way behind, are better able to keep up with their peers, so that gaps in attainment are narrowed whilst the attainment of all is raised.

There are generally four ways in which the term mastery is being used in the current debate about raising standards in mathematics:

1. **A mastery approach:** a set of principles and beliefs.

This includes a belief that all pupils are capable of understanding and doing mathematics, given sufficient time. Pupils are neither 'born with the maths gene' nor 'just no good at maths'. With good teaching, appropriate resources, effort and a 'can do' attitude all children can achieve in and enjoy mathematics.

2. **A mastery curriculum:** one set of mathematical concepts and big ideas for all.

All pupils need access to these concepts and ideas and to the rich connections between them.

There is no such thing as 'special needs mathematics' or 'gifted and talented mathematics'.

Mathematics is mathematics and the key ideas and building blocks are important for everyone.

3. **Teaching for mastery:** a set of pedagogic practices that keep the class working together on the same topic, whilst at the same time addressing the need for all pupils to master the curriculum and for some to gain greater depth of proficiency and understanding. Challenge is provided by going deeper rather than accelerating into new mathematical content. Teaching is focused, rigorous and thorough, to ensure that learning is sufficiently embedded and sustainable over time. Long term gaps in learning are prevented through speedy teacher intervention. More time is spent on teaching topics to allow for the development of depth and sufficient practice to embed learning. Carefully crafted lesson design provides a scaffolded, conceptual journey through the mathematics, engaging pupils in reasoning and the development of mathematical thinking.

4. **Achieving mastery of particular topics and areas of mathematics.** Mastery is not just being able to memorise key facts and procedures and answer test questions accurately and quickly.

It involves knowing 'why' as well as knowing 'that' and knowing 'how'. It means being able to use one's knowledge appropriately, flexibly and creatively and to apply it in new and unfamiliar situations. The materials provided seek to exemplify the types of skills, knowledge and understanding necessary for pupils to make good and sustainable progress in mastering the primary mathematics curriculum.

A pupil really understands a mathematical concept, idea or technique if he or she can:

- describe it in his or her own words;
- represent it in a variety of ways (e.g. using concrete materials, pictures and symbols - the CPA approach)

- explain it to someone else;
- make up his or her own examples (and non examples) of it;
- see connections between it and other facts or ideas;
- recognise it in new situations and contexts;
- make use of it in various ways, including in new situations.

Lesson expectations

You will see an emphasis on fluency in every maths lesson, focusing predominantly on times tables.

You will see ALL children moving through the same objectives.

You will see a high level of mathematical vocabulary used by the class teacher and the pupils.

You will see questioning of children's understanding throughout the lesson. Giving time for children to explain and reason their understanding.

You will see teachers addressing misconceptions alongside the teaching.

You will see rapid graspers challenged through variation. Depth will be addressed through questioning and variation.

You will see same day intervention for those children who need further teaching on an objective.