



Castilion Primary School Maths Policy



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Mathematics Vision Statement

At Castilion Primary School, we believe that *every child is capable of success in mathematics* and that, with time, high-quality teaching and the right support, all pupils can achieve a deep understanding of the subject. We aim for pupils to not only be confident in their mathematical knowledge but also to apply it effectively in a range of new and unfamiliar context

Our vision is for all children to:

- Access a maths curriculum that is **engaging, inclusive and challenging**, where enjoyment and curiosity are nurtured.
- Develop **fluency, reasoning and problem-solving skills**, underpinned by a secure sense of number and confident use of number facts.
- Become **resilient, independent learners** who embrace challenge, take risks **and show perseverance.**

We will achieve this through:

- A **coherent, carefully sequenced curriculum**, using the White Rose Maths scheme of work and the principles of mastery to build knowledge.
- A strong focus on **factual, procedural and conceptual understanding** (“I know that...”, “I know how...”, “I know why...”).
- Using **concrete, pictorial and abstract representations** to ensure all learners can access and deepen their understanding.
- Embedding opportunities for **mathematical talk and reasoning**, supported by consistent use of precise vocabulary.
- Providing **support and challenge**, so all learners, including those with SEND and the most able, can thrive.

Our Maths Mission

At Castilion Primary School we will endeavour to provide the highest possible quality of mathematical education and will meet the requirements specified in the National Curriculum. We believe in moving children through the programme of study at a pace that allows them to fully secure their understanding. Our curriculum is bold, provides breadth and balance and be relevant and differentiated to suit the needs of all children in the modern world. It should be flexible, motivating all pupils, thus encouraging success at all levels. Teachers carefully monitor progress and make informed decisions about when pupils are ready to move on. Children who show a strong grasp of concepts are encouraged to explore more complex and enriching problems, while those needing more time and support receive additional practice to consolidate their learning before progressing.

All children will be taught to develop their mathematical skills to the best of their ability. The school will aim to provide a high standard of mathematical education and will promote knowledge, skills and understanding at all levels by inspiring children’s mathematical curiosity and developing their procedural fluency, guiding their exploration of problems and through scaffolding the application of reasoning skills. The target is for all children to reach their age-related expectations in maths to prepare them for the world around them.

The National Curriculum 2014

“Mathematics is a creative and highly interconnected 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 for 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.’

At Castilion Primary School, we aim 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, recognising relationships, making 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
- to encourage an enthusiastic and inquisitive attitude to mathematics
- to develop pupils' numeracy and mathematical fluency, reasoning and problem solving in all subjects so that they understand and appreciate the importance of mathematics.
- to teach children to apply arithmetic fluently to problems, understand and use measures, make estimates and sense check their work.
- to enable children to apply their geometric and algebraic understanding, and relate their understanding of probability to the notions of risk and uncertainty.
- to help children understand the cycle of collecting, presenting and analysing data. .
- to equip children with strategies to enable them to apply mathematics to real and unfamiliar situations within and beyond the classroom
- to develop an appreciation of the intrinsic value and fascination of mathematics as well as its usefulness in life

We aim to place problem solving and investigative skills at the heart of our mathematics teaching. We recognise that collaboration and communication are crucial life skills and should be developed in our mathematics teaching.

Purpose of mathematics in our school is to develop

- to develop a positive and confident attitude to mathematics
- to make an active contribution to their own learning, by developing the skills of independence and enquiry
- to develop competence and confidence in mathematical knowledge, concepts and skills.
- to develop an understanding of the ways in which information is gathered and presented
- to become thinkers and problem solvers
- to develop a clear understanding of the language of mathematics
- to develop logical thinking and reasoning, enabling them to record work clearly and in a variety of ways
- to develop the skills, knowledge and understanding needed in daily life
- an appreciation of mathematical pattern and the ability to identify relationships.
- an ability to solve problems, to reason, to think clearly and logically with confidence and to work systematically and accurately.
- an understanding of mathematics through a process of enquiry and experiment.
- initiative and an ability to work both independently and in cooperation with others.
- an ability to communicate mathematics verbally and in written form.
- an ability to use and apply mathematics across the curriculum and in real life.

Intent:

- ❖ have a well-developed sense of the size of a number and where it fits into the number system
- ❖ know by heart number facts such as number bonds, multiplication tables, doubles and halves
- ❖ calculate accurately and efficiently, both mentally and in writing and paper, drawing on a range of calculation strategies
- ❖ recognise when it is appropriate to use a calculator and be able to do so effectively
- ❖ make sense of number problems, including non-routine/'real' problems and identify the operations needed to solve them
- ❖ explain their methods and reasoning, using correct mathematical terms in oral and written form
- ❖ judge whether their answers are reasonable and have strategies for checking them where necessary
- ❖ suggest suitable units for measuring and make sensible estimates of measurements
- ❖ explain and make predictions from the numbers in graphs, diagrams, charts and tables
- ❖ develop spatial awareness and an understanding of the properties of 2d and 3d shapes

Implementation of Maths Policy

Foundation Stage

Our Foundation Stage teachers use the White Rose maths for EYFS. The children have the opportunity to talk and communicate in a widening range of situations and to practise and extend their range of vocabulary and mathematical skills. The children explore, enjoy, learn about and use Mathematics in a range of personalised situations. Mathematics is planned on a weekly basis and assessed using the criteria from Development Matters. Mathematics is taught both as a discrete subject and within the whole Early Years Curriculum as part of continuous provision to give children opportunities to use their mathematical skills in real life situations. Daily counting, songs and rhymes form part of our daily routines.

Within our daily continuous provision there are lots of opportunities for children to explore, develop and consolidate their mathematical understanding. This is based around topics, often based on books, or to support the development of particular areas identified. We use Tapestry to monitor progress of our pupils' holds in reception. Evidence of children's progress is gathered through photographs, pictures and recordings of their mathematical play, as well as formal examples of adult led maths tasks.

The National Curriculum for Mathematics

Teachers plan according to the New National Curriculum Programme of study and the Primary Mathematics Framework. Teachers use this guidance, along with the White Rose Maths Hub, for their year group to produce planned units of work outlining objectives to be covered and expected outcomes for each lesson.

The National Curriculum sets out the statutory entitlement to learning for all pupils in each Key Stage. The programmes of study sets out what children should be taught. There is a balance of **fluency**, **reasoning** and **problem solving** within math lessons based on the principles of mastery

In Year 1/ 2 will be covering cycle B for 2024-2025 and cycle A for 2025-2026 children are taught in streamed sets, to allow teaching and learning to be adapted to best match the needs of the class and the individuals within it, using concrete, pictorial and abstract representations.

In Year 2-6, children are taught in streamed sets, to allow teaching and learning to be differentiated to best match the needs of the class and the individuals within it, using concrete, pictorial and abstract representations.

Year 3-4 will be covering cycle B for 2024-2025 and cycle A for 2025-2026

Year 5-6 will be covering cycle A 2024-2025 and cycle B for 2025-2026

All classes to use WRM mixed aged class plan.

Strategies for Delivering Mathematics:

Please refer to our Calculation policy or the Amadeus Primary Academies Trust YouTube Channel.

<https://www.youtube.com/@amadeusprimaryacademiestru9797/videos>

Teaching Approaches

Teachers use a range of teaching strategies to engage the children in maths and ensure progress is made by all children within a class; no set formula is used. A week's maths lessons would include:

- Regular counting both within and outside a maths lesson.
- Target Maths
- New Learning - Both teaching input and pupil activities
- A balance between whole class, guided grouped and independent work, (groups, pairs and individual work
- Modelling with an adult
- Effectively differentiated activities/objectives and appropriate challenge.
- Embedded reasoning and problem solving using a range of resources such as, Nrich, White Rose Hub, NCETM resources.
- Continual assessment using Pixl QLAs
- Weekly maths homework sets.

The focus on the development of pupil's spoken language is a crucial element in every mathematics lesson. In order to become able mathematicians, children need to develop the ability to discuss and justify mathematical strategies and concepts in both verbal and written form. Children need to be able to communicate and explain their reasoning as well as use the correct mathematical vocabulary appropriately. Teachers summarise and define key

mathematical vocabulary to be used within the lesson to promote mathematical development language Teachers are expected to model and promote the use of mathematical vocabulary, thus allowing pupils to develop their own mathematical vocabulary and reasoning skills. Pupils should be able to read and spell mathematical vocabulary, at a level consistent with their word reading and spelling knowledge.

SEND

Children with special educational needs in mathematics are supported to enable them to achieve the learning objective. (see the Special Educational Needs Policy and the Equal Opportunities Policy for details)

Assessment

Formative Assessment

Teachers integrate the use of formative assessment strategies such as effective questioning, clear learning objectives, the use of success criteria and effective feedback and response in their teaching. Within each lesson

Summative Assessment

Using half termly tests, pupils are assessed against the relevant NC objectives every half term. The school's progress tracking system, SONAR, is updated regularly. Progress meetings are held on a half term basis – refer to the Assessment Policy.

End of year tests are used at the end of KS1 and 2; teachers use past and sample papers to inform their assessments as they prepare pupils for these assessments.

Target Maths

Teacher monitor PIXL testing results and use question level analyses to assess arithmetic skills across the school. This has allowed for a more effective means to analysing gaps in learning and thus producing more targeted teaching.

- **Target Maths is taught for 10 minutes daily.**
- **Target Maths is based on PiXL gap analysis for all learners. *Revisiting prior knowledge and explicitly teaching mental and written calculation linked to gaps in learning identified from QLA (Question Level Analysis).***
- **Target Maths for those children with SEND, who may be operating below their current year groups expectations, will include specific key year group objectives from the relevant prior year group, targeting next step learning to enable them to reach towards age-appropriate learning.**

Monitoring

Monitoring of the standards of teaching and learning in mathematics is the responsibility of the mathematics subject leader, the Headteacher and the class teacher. The main aspects of the mathematics subject leader involve:

How will pupils' learning be assessed?

During lessons:

- Teachers will monitor the progress of individual and groups of pupils to address misconceptions and deepen learning;
- Teachers will ensure that numeral formation is accurate and that presentation is in-line with the presentation policy;
- Pupils will assess their work at the end of every lesson. This is to be indicated in years one and two with smiley faces year 3 to 6 with a tick [in purple pen] next to the learning objective if the pupil feels they have understood the objective and a dot if the pupil feels they haven't understood the objective. This will be monitored for accuracy and corrected, if necessary, in green pen by the teacher;
- Teachers will use specific verbal and/or written feedback to address basic skills and/or misconceptions;
 - Teachers will use their assessment within the lesson and pupil outcomes to make a judgement against the learning objective.
 - Teachers will use ongoing assessment for learning to adapt teaching and learning approaches between lessons: Re-teach, defer or move on.

At the end of every lesson:

- Teachers will use their assessment within the lesson and pupil outcomes to make a judgement against the learning objective.
- Teachers will use ongoing assessment for learning to adapt teaching and learning approaches between lessons: re-teach, defer or move on;
 - Teachers will provide whole class feedback, where required, at the start of each lesson. Pupils are expected to respond to feedback;
 - Reasoning questions will be marked by the teacher and/or whole class feedback will be provided daily which moves the pupil's learning forward.

Weekly:

- Teachers will use a range of self and teacher marking in books to improve pupils' progress;
 - Teachers will test pupils' knowledge of number-bonds and multiplication tables logging the results.
 - Full arithmetic tests will take place weekly;

Marking

Please refer to our school' Effective Feedback and Marking Policy.

Cross curricular

Opportunities are used to draw mathematical experiences out of a range of activities in other subjects, such as in PE, Science and Geography, to enable children to apply and use Mathematics in both real life and academic contexts and make links.

Inclusion

All children receive quality first teaching on a daily basis and activities are differentiated accordingly. Where identified, some pupils are considered to require targeted support to enable them to work to age appropriate objectives through Narrow the Gap (NtG) time. This should be clearly identified in the children's book. Intervention strategies are mentioned on Personal Learning Plan's and discussed with parents. Able pupils are planned for in line with our policy for teaching more able pupils. The needs of children with English as an additional language will be met through planning and support. This is supported by our EAL Policy.

Policy Owner Maths Subject Leader