

John Blandy Primary School



Mathematics Policy September 2025

Belong. Believe. Brilliant

Intent

At John Blandy, we recognise that mathematics is essential to everyday life both here and now as well as beyond children's school years and that it is our role, to prepare children for these next steps. We recognise that maths has clear links to science, technology and engineering and where appropriate we forge these links (STEM).

Teachers in Reception follow the NCETM Mastering Number scheme of learning which supports teaching the objectives from the Development Matters for Foundation Stage ensuring that children are working towards the 'Early Learning Goals for Mathematical Development'.

In Years 1-4, teachers plan and teach following the mastery approach supported by the work of the NCETM.

'Mastering maths means pupils of all ages acquiring a deep, long-term, secure and adaptable understanding of the subject. The phrase 'teaching for mastery' describes the elements of classroom practice and school organisation that combine to give pupils the best chances of mastering maths. Achieving mastery means acquiring a solid enough understanding of the maths that's been taught to enable pupils to move on to more advanced material.' (NCETM, 2025).

In UKS2 for this academic year only, we will continue to plan and teach lessons following the structure of the White Rose scheme. From September 2026, our children in UKS2 will also use the NCETM mastery materials.

We use the NCETM mastery materials which incorporate the National Curriculum 2014, and support the teaching of mixed age classes in KS2. There is clear sequencing and progression of both mathematical knowledge and skills. We also use the regular retrieval practice by regularly completing a range of fluency sessions outside of the maths lesson. In KS1 this follows the Mastering Number scheme set out by the NCETM and in KS2 this includes number facts, times table recall and arithmetic recap (including mental maths).

We aim to provide high-quality maths education for all children so that they can:

- **become fluent in the fundamentals of mathematics**, so that they:
 - have a well-developed sense of number values;
 - know by heart key number facts, e.g. times-tables and related division facts, number bonds – in line with the latest programmes of study;
 - apply knowledge of the above to work out connected facts.
- **reason mathematically**, so that they:
 - are able to follow a line of enquiry;
 - provide generalisations and proof of findings around their investigations;
 - are able to justify their thinking, e.g. as to why a particular calculation strategy is the most efficient.
- **can solve problems by applying their mathematics**, so that they:
 - encounter a variety of both routine and non-routine problems;
 - are able to select specific maths skills and/or operations;
 - persevere with a line of enquiry, breaking down increasingly complex problems into a series of smaller steps;

- Use a range of techniques and practical equipment to solve mathematical problems eg: Bar Model.

(National Curriculum 2014)

At John Blandy, we believe that the root to inspiring mathematicians is to make lessons engaging using concrete, pictorial and abstract approaches, encouraging learners to gain a deeper understanding and to investigate and explore whilst developing their skills of patience and resilience.

“Manipulatives and representations can be powerful tools for supporting pupils to engage with mathematical ideas.” (EEF- Maths Guidance Report 2017)

Implementation:

At John Blandy, we believe that all children develop a greater understanding in maths by building upon prior learning. In order to achieve this, we use information from previous settings, as well as using our own in-house formative and summative assessment to help build on foundations of maths.

As a school, from Year 1 through to Year 6, we follow the structure of the 'I do, we do, you do' approach. We have lessons that are clearly sequenced and learning is broken down into small steps. The thread of number weaves within the teaching of any of the mathematical themes, building on previous learning and deepening their understanding.

As a school we recognise that children learn in a variety of different ways. We encourage children to make connections and identify patterns and relationships within all aspects of maths. Within the Early Years, Mastering Number and Numberblocks are used resources to help support the teaching of maths. At times, for instant recall of facts such as number bonds, number facts and times tables, rote learning may be used, and this can be incorporated through fun games and activities to engage pupils.

Our teaching strategies aim to deepen children's learning in maths, using a variety of mathematical representations including:

Concrete – Children have the opportunity to use concrete mathematical manipulatives such as counters, tens frames, cubes, rekenreks, Dienes, Numicon and number beads to help children explain and understand mathematical concepts. In the concrete stage, children might use actual cookies (or, in a lesson, multi-link, cubes, Numicon or counters to represent them) to solve the problem.

A child might be given the following problem: Sam bakes 20 cookies. If he gives away 8 cookies, how many would he have left?

Pictorial – children then build on this concrete approach by using pictorial representations, which can then be used to reason and solve problems. In the pictorial stage, instead of physical objects they use drawings to represent each cookie (they might draw cookies or blocks or counters or dots to represent them).

Abstract – With the foundations firmly laid, children can move to an abstract approach using numbers, symbols and key concepts with confidence. In the abstract stage, they are able to solve the problem using conventional mathematical notation: $20 - 8 = 12$, writing out a number sentence.

These elements will cement knowledge so pupils fully understand what they have learnt.

Within teaching, often these 3 representations sit side-by-side, enabling the children to make links. As teachers, we provide children with opportunities to investigate and explore mathematical concepts with open-ended challenges, where there may be more than one answer. We encourage children to develop a mathematical literacy, encouraging children to provide clear explanations and reasons, creating rounded mathematicians.

Coverage:

In order that our children get a broad and balanced mathematical curriculum, we will ensure that the following domains are covered each year:

- Number:
 - number and place value
 - addition and subtraction
 - multiplication and division
 - fractions, including decimals and percentages
- Measurement
- Geometry:
 - properties of shape
 - position and direction
- Statistics
- Ratio and proportion (Year 6)
- Algebra (Year 6, although the foundations will be taught from Key Stage 1)

Our school is committed to fostering positive attitudes towards the subject, whilst ensuring that all pupils develop deep conceptual understanding (in part, through exposure to a range of models and images) and mastery across the domains listed above, and in line with their age group. Teachers will identify and address perceived 'gaps' in conceptual understanding.

Planning and Teaching

In KS1 and LKS2, for this academic year, our teachers will plan using the small steps set out by the NCETM. In UKS2, for this academic year, our teachers will plan using the small steps set out by the White Rose Hub. Both of these 'schemes' relate closely to the National Curriculum 2014. ICT will be used to support the teaching and learning of maths, where appropriate, and seen to enhance learning.

In order to ensure that there is a deepening and broadening of mathematical skills and concepts, teachers use documents such as NCETM, Nrich and the White Rose Hub to ensure that the skills of reasoning are integrated into daily planning and teaching. There is a significant focus on

oracy this year to ensure that the children can talk the maths and share their reasoning verbally as well as proving the maths in their work.

At the start of each lesson, teachers will provide feedback to the children and recap on previous learning before moving onto the day's objectives to ensure that there is clear sequencing enabling children to understand how the day's lesson builds on previous learning.

Teaching will be interactive and incorporate modelling and clear steps to help support children's learning following the 'I do, we do, you do' approach. Questioning will be used to provide challenge as well as being used to ascertain children's knowledge and understanding.

Impact

It is essential that as teachers we continuously reflect upon the teaching and learning and identify next steps for learners. At John Blandy, this is achieved through the use of both formative and summative assessments.

Formative assessments take place through day-to-day teaching, questioning and marking of the pupils' work. Children are also assessed informally against Ready to Progress criteria (found at the front of their maths books). RtPC relate to mathematical areas of learning ensuring that they are relevant to the pupils and achievable.

Formative assessments allow teachers to make a Teacher Assessment of pupils on a day-to-day basis but also more formally during Terms 2, 4 and 6.

Summative assessments will take place in terms 2 and 5, using Testbase materials (in years 3 to 5). This will also enable teachers to not only assess the children's mathematical knowledge and understanding, but will identify gaps, guiding teachers in their future planning. Children in Year 1 will not be formally assessed. Pupils in Years 2 and 6 will use practice papers or previous test papers from National Tests in order to teachers formatively assess pupils.

The role of the maths co-ordinator will be to analyse data, making note of term-on-term progress as well as in year progress and key stage progress. Through data analysis groups of children will be tracked to ensure that all groups make good progress or better within mathematics.

SEND

In order to meet the needs of every child, planning will show clear adaptations for those needing support with their learning (eg SEND children).

These adaptations will be seen in different forms, such as: support during a lesson for individual or groups of children, use of manipulatives to support learning, and in some cases personalized provisions.

Intervention programmes such as specific intervention programmes (Numicon intervention programme – Breaking Barriers, Mastering Number, Power of 2 and Plus 1), and booster groups are used to help ensure that gaps within learning are supported, enabling all children to achieve their full potential within mathematics.

Monitoring

We will ensure that:

- maths provision and impact on learners is evaluated and reviewed regularly via the School Development Plan and aligned maths action plan. As part of this process, the maths subject-coordinator (alongside other senior leaders) will regularly each term triangulate evidence from a range of monitoring activities (e.g. planning monitoring, looking at learning, learning walks/observations and pupil voice) to determine next stages of development.
- CPD needs of our staff, including the maths subject leader and teaching assistants, are regularly reviewed and planned as appropriate. The expectation is that staff attending CPD will be given planned opportunities to cascade key messages, or share through lesson study.

Governing Body

Time is set aside during Governing Body meetings for the subject leader to share information regarding their subject with the Governors, giving them a greater understanding of how we plan, teach and assess mathematics. Close links have been formed with the Governing body through link governors. Link governors are welcomed in to observe maths teaching, time is set aside to discuss the lesson afterwards. Staff and the full governing body receive feedback in light of meetings and observations.

The policy is intrinsically linked with and is informed by other school policies, including:

- Calculation Policy
- Teaching and Learning Policy
- Marking and Feedback Policy
- Early Years Policy
- Special Educational Needs Policy
- Equalities Policy