

St Matthew's Bloxam C of E Primary School



Mathematics Policy 2025

Intent

The National Curriculum states:

"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 and Objectives:

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.

(National Curriculum July 2014)

Implementation

At St Matthew's Bloxam we aim to:

- deliver maths in line with new National Curriculum guidelines
- ensure the delivery of maths is filled with cross curricular opportunities
- create a lively, exciting and stimulating environment in which the children can learn maths
- promote the concept that acquiring maths knowledge and skills provides the foundation for understanding the world around the children
- develop competence and confidence with numbers and the number system and other mathematical knowledge, concepts and skills
- encourage children to use mathematical vocabulary to reason and explain
- allow time for partner talk in order to stimulate and develop a curiosity for maths
- challenge children to stretch themselves and take risks in their learning
- encourage a positive attitude towards mathematics

Our approach:

Our long term planning follows the EYFS Framework and the National Curriculum. We use a combination of White Rose and Power Maths across school as well as the documents from the NCETM Mastering Number programme.

Both Power Maths and White Rose follow a sequence of carefully planned small steps which help children to develop a deep understanding of a topic. Pupils use manipulatives to help them master concepts rather than learning procedures by rote.

Children Year 1 and 2 are part of a Mastering Number project developed by the NCETM, which aims to secure firm foundations in the development of good number sense. Reception and KS1 lessons are also based on the White Rose Hub scheme.

Children in KS2 use Power maths, which is a DfE approved scheme based on the principles of how Mathematics is taught in many high performing jurisdictions in East Asia and is aligned with the 2014 National Curriculum.

As acknowledged by the National Centre for Excellence in the Teaching of Mathematics (NCETM) and the Maths Hub programme – 'The use of well-designed and tested textbooks is critical for the successful implementation of teaching for mastery. A good textbook is both an aid for the teacher in planning lessons and for the children during lessons and working on their own.' Children complete their work either in a practice book or in a squared maths book.

At St Matthew's we use a variety of curriculum resources, including the National Curriculum Programs of Study, Nrich, NCETM and TTRS which help to reinforce key concepts and further develop subject knowledge.

It is important that children are allowed to explore maths and present their findings not only in a written form but also visually using the CPA approach: concrete, pictorial, abstract. This will allow the children to experience the physical aspects of maths before finding a way to present their findings and understandings in a visual form, before relying on the abstract numbers.

In September 2017 we joined a Maths Teacher Research group which was run by the Central Maths Hub. The aim of the programme was to support our school on its journey to maths mastery. We still take part in this each year and are now in the sustaining phase.

Planning and Assessment

Our aim is to provide lessons which challenge, enthuse and motivate children. Children are given the opportunity to engage in fluency, reasoning and problem solving activities to demonstrate their understanding. In order to inform planning and to assess children's progress, teachers carry out a range of summative and formative assessments.

Children in Years 2-6 practise their times tables in school on a regular basis. They also have the opportunity to use Times Table Rock Stars to complete times table challenges. They are given a 'check' every half term, which helps teachers monitor progress.

As well as times table assessments, children also complete termly White Rose assessments, these are matched to the sequence of Power Maths and White Rose planning. Teachers use these assessments, as well as their knowledge of the child in class to make a judgement on a child's progress and attainment. This supports teachers in identifying next steps and informing planning.

Whole class teaching-

Our staff have high expectations of all children, irrespective of ability, and encourage them to be successful and achieve their full potential. Our aim is to ensure **challenge** for all. Children are encouraged to have a growth mindset about their ability to do mathematics. Encouraging children to 'have a go' is seen as paramount. Tricky bits' and common misconceptions are identified during the planning process and children will be supported through these.

Power maths

At the heart of the programme is the idea that all children can achieve and be successful mathematicians with the right growth mindset. It promotes five child friendly characters, each with their own positive skillset, to inspire and motivate children.



We endeavour to teach mathematics to whole classes. Lessons are crafted based on formative assessment of what students already know and all children will explore the same mathematical concepts within a lesson. At the planning stage, teachers consider what scaffolding may be required for children who may struggle to grasp concepts in the lesson and suitable challenge questions for those who may grasp the concepts rapidly. Decisions are not made about who these children may be prior to the lesson.

At times, there are children who cannot access the learning for that particular year group. Alternative provision is put in place to ensure they are able to access the curriculum at a suitable point which also provides challenge.

Differentiation of tasks is done in various ways:

- Open ended questioning and activities which allow more able children to offer more sophisticated mathematical responses
- Recording e.g. allowing some children to give verbal responses and photographing their learning
- Resourcing e.g. Use of cubes, 100 squares, number lines, mirrors and other mathematical equipment to support some children throughout the lesson (although all children will have access to manipulatives initially.)

Power maths lesson structure-

- Each lesson will start with a whole class '**power up**'. This will either be from the Power Maths scheme or it will be created by teachers themselves. This is designed to support fluency in all key number facts.
- Instead of 'Let me teach you...' as a starting point, children are encouraged to explore a problem themselves to see what they already know. At the beginning of each lesson in our school this exploration is referred to as '**discover**'. Lesson objectives are not shared with the children at the beginning of the lesson, because we want the children to reason for themselves.
- The '**share**' part of the lesson is where children share, reason and learn from misconceptions through whole class discussions.
- In the '**think together**' part of the lesson, scaffolding is carefully reduced to prepare children for independent practice. Children consider solutions as a class, with partners and independently.
- Designed to be completed independently, this **practice** uses conceptual and procedural variation to build fluency and develop deeper understanding of underlying mathematical concepts. A challenge question and links to other areas of maths, encourages children to take their understanding to a greater level of depth.

- At the end of the lesson, the children are given an opportunity to review, reason, and **reflect** on learning. This also helps teachers to gauge depth of understanding.
- When possible, same day catch up will take place for those children who have struggled to grasp the concept within that lesson. In mathematics new learning is built upon previous understanding, so in order for learning to progress and to keep the class together, pupils need to be supported to keep up and areas of difficulty must be dealt with as and when they occur.

Questioning.

Teachers use questioning throughout every lesson to check understanding – a variety of questions are used; How do you know? Can you prove it? Are you sure? Is that right? 'What's the value? What's the same/different about? Can you explain that? What does your partner think? Can you draw a representation of this?

Questions are also used to challenge children who have grasped the concept. Children are expected to listen to each other's responses and may be asked to explain someone else's ideas in their own words, or if they agree/disagree etc.

NB: Due to the episodic style of the lessons with frequent questioning, lessons may appear to move slower than in the past. There will be more talking and less recording in books. The recording that does take place however, shows greater depth of understanding and intelligent practice. We do not want children to attempt independent recording until we believe they are secure with the concept. We do not want them to practise errors, therefore teachers may decide to have a guided group working with them in a lesson.

Inclusion:

In line with the School's SEND Policy each child has an equal entitlement to all aspects of the maths curriculum. Therefore, in delivering maths, care will be taken to ensure that a variety of learning styles are accessed and teaching methods adopted. Intervention groups take place both within the maths lesson and outside; these sessions may be delivered by the teacher or teaching assistant and may involve individual or small group work.

Impact

- Our children are happy learners who can enthusiastically talk about their learning in maths.
- Through discussions and observations, it is clear to see children have a love for maths throughout school.
- Children make links between different areas of the curriculum.
- Children can use the correct mathematical language and vocabulary.
- Children demonstrate a quick recall of facts, including times tables.
- Children show resilience when tackling problems and show a growth mindset.
- Children show a high level of pride in their work.
- Children use pictorial representations to evidence their understanding of maths.
- Progress and Attainment in maths is good.
- Children develop the knowledge and skills to use in the wider world.

Monitoring

This policy will be reviewed every three years by the Senior Leadership Team. At every review, the policy will be shared with the governing board.

All teaching staff are expected to read and follow this policy. The Senior Leadership Team is responsible for ensuring that the policy is followed.

Review

This policy will be reviewed in 3 years' time (Summer 2028) or before if there is a significant change in Government policy.