



Saxilby Church of England School

Saxilby C of E Primary School Mathematics Policy (February 2021)

This policy is underpinned by the Christian ethos and values of the school. At Saxilby Church of England Primary School we seek to support every individual to achieve their best and recognise that each one of us has our own talents which should be nurtured. Our Church School status means children develop a deep, spiritual understanding and we all support each other as one big extended family. We base our work around our four pillars of hope, community, wisdom and dignity. The Christian values of courage, peace, compassion, forgiveness, friendship and trust are vibrant strands woven within the very fabric of this school's culture.

1. Rationale

We aim to develop and nurture our children, so that they become confident mathematicians for the future. We want them to know and understand the purpose, relevance and importance of mathematics in everyday life. Our intention is for every child to be number confident so that they can make a valued contribution for themselves, the wider community and the world around them.

Mathematics at our school has been based on the new (2014) Mathematics Curriculum for year groups 1 to 6. The new curriculum programmes of study are used to give a balanced and broad curriculum to all of our pupils, this includes the statutory and non-statutory aspects of the curriculum. Children who are in Young Explorers and Early Years Foundation Stage follow the EYFS Statutory Framework.

2. Purpose of study

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 in most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, and a sense of enjoyment and curiosity about the subject.

3. Aims

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 have conceptual understanding and are able to recall and apply their knowledge rapidly and accurately to problems
- 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.

The programmes of study are organised in a distinct sequence and structured into separate domains. Pupils should make connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems.

They should also apply their mathematical knowledge to science and other subjects.

4. General Aspects

In our school Mathematics is taught to all children irrespective of gender, race, creed or ability. It is important to us that all children are provided with equal access to all curriculum areas.

5. Equal Opportunities

All children have the right to equal opportunities. Teachers' expectations of every child and their performance should be the same.

6. Guidelines – these are our Non-negotiables

There is a dedicated mathematics lesson for all children at this school.

A typical lesson, will have the following components:

- Oral mental calculation activities to support fluency in maths (about 5-10 minutes). This takes the form of whole class work to rehearse, sharpen and develop mental and oral skills
- A counting activity that supports the development of number and place value relevant to age related expectations
- 5-a-day with a focus on previous mental calculations and skills taught.
- A daily recap of times tables facts from Y2 to Y6
- The main teaching activity (about 20-30 minutes) learning objectives shared with the children, new first quality teaching to take place, differentiated activities with children working individually, in pairs or in groups. We follow the Concrete-Pictorial-Abstract approach at Saxilby Primary School.
- An end to the class lesson. A time to sort out misconceptions, summarise ideas and key facts and to identify next steps.

7. Planning

At Saxilby we have adopted the coverage suggested by the NCETM. These have been developed with the guidance from the new curriculum to give the teacher a balanced programme of study. White Rose Maths Hub have produced schemes of learning which matches this guidance, as well as working in partnership with Pearson who have produced the Power Maths series.

Teachers will use the overviews to create weekly/daily differentiated planning for their current cohort.

Plans should also contain the learning intentions, vocabulary and assessment for learning questions that can be used along with frequent misconceptions. A key part of each Maths lesson is the using and applying of maths skills and concepts.

Teachers have access to:

- Overviews for relevant year groups
- Saxilby C of E Primary School Calculation Policy
- NCETM grids to exemplify Learning Intentions
- NCETM grids with progress step for each learning outcome
- NCETM grids with examples of key reasoning tasks and AfL questions to assess thinking
- White Rose Maths Hub schemes of learning following fluency, reasoning and problem solving
- Power Maths books to provide additional methods of modelling/visual representations

8. Mathletics and Times Tables Rock Stars

A web based programme called Mathletics is used to set a weekly homework for children. Parents can track progress and each week a 'Mathletics' champion is chosen for each class. This is a child who has tried particularly hard that week. Mathletics is linked to current learning and is differentiated according to the child's ability.

Times Tables Rock Stars is a carefully sequenced programme of daily times tables practice. Each week concentrates on a different times table, with a recommended consolidation week for rehearsing the tables that have recently been practised every third week or so.

9. Marking

All marking is completed in-line with the school's Assessment and Marking Policy.

9. Assessments

Assessments are completed with daily/weekly marking, this informs future planning and delivery of the mathematics curriculum.

Assessments of attainment and progress are completed following a unit of work with all data being given to the maths leader for analysis. The assessments take place approximately 1- 2 weeks following the teaching and learning and are added to the tracker for that strand of maths. Teachers use an overview grid based on the NCETM structure to support them with this.

Pupils in Year 6 may complete test papers as part of their preparation but this is with the agreement of the Maths leader. This also supports the planning and preparation that teachers need to complete to reach age related expectations.

10. Mastery in Mathematics

At Saxilby, 'Mastery' is taken as all children reaching age related expectations and having the ability to reason and problem solve using fluent calculating. This is achieved through the delivery of the curriculum, with assessment being at the forefront of learning. Mostly, children will be working on similar tasks during independent work, and the differentiation will come through the amount of scaffolding the child has to access their learning.

The Concrete Pictorial Abstract (CPA) approach is a system of learning that uses physical and visual aids to build a child's understanding of abstract topics. Pupils are introduced to a new mathematical concept through the use of **concrete** resources (e.g. fruit, Dienes blocks etc). When they are comfortable solving problems with physical aids, they are given problems with pictures – usually **pictorial representations** of the concrete objects they were using. Then they are asked to solve problems where they only have the **abstract** i.e. numbers or other symbols. Building these steps across a lesson can help pupils better understand the relationship between numbers and the real world, and therefore helps secure their understanding of the mathematical concept they are learning.

Some pupils may demonstrate exceptional performance within certain areas of their schooling. Saxilby Church of England Primary School is committed to developing a school ethos that supports and celebrates the learning needs of all children. Provision for more able children is an integral part of the whole school teaching programme. If a teacher feels a child has achieved the deepest understanding, knowledge and skill in the age related expectations, the teacher will raise this through line management supervision to moderate judgements and explore deeper learning opportunities before considering entering the age related expectations (ARE) of the year above.

11. Reporting to Parents

Parent/careers are invited to attend appointments with their child's teacher each term.

Targets are shared and discussed with the child and parent, identifying strengths and any areas of weakness that need to be addressed.

12. Parent Support

The Calculation Policy is available on the school website.

Policy Review

The policy was reviewed: February 2021

Next review due: September 2021