

St Mary's Catholic Primary School



*'With Jesus, we learn together
through faith and love'*

Mathematics Policy

Formulated on: 6th June 2023

Ratified by Governing Committee:

_____ (Chair of Committee) _____ (Date)

Ratified by Full Governing body:

_____ (Chair of Governors) _____ (Date)

'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.' NC 2014

All pupils can achieve in mathematics! At St. Mary's Catholic Primary School, it is our belief that pupils are not learning to be mathematicians but that they are mathematicians.

Our vision is to produce confident mathematicians who know and understand the purpose, relevance and importance of Maths in their everyday life. Children will be number confident and able to make a valued contribution for themselves, community and the world.

Aims

The aim of this policy is to clearly communicate to staff, parents, governors, visitors and pupils how the teaching and learning of mathematics is delivered at St Mary's Catholic Primary School.

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.
- 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 knowledge 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.

Mathematics is an interconnected subject in which pupils need to be able to move fluently between representations of mathematical ideas. The programmes of study are, by necessity, organised into apparently distinct domains, but pupils should make rich 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.

The expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. However, decisions about when to progress should always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on.

Organisation

LONG TERM PLANNING:

Teachers refer to White Rose for their long-term plan. This breaks down from the National Curriculum programme of study into units covered each term.

MEDIUM TERM PLANNING:

Teachers follow the White Rose plan and create their own teaching strategies and resources.

SHORT TERM PLANNING:

All teachers follow a termly overview plan and are encouraged to design lessons using a range of resources, including, but not limited to, the White Rose Maths Scheme of Learning. Teachers use the school template to plan in Interactive active whiteboard (IWB) which includes learning objective, starter activity, main teaching differentiated work and AFL.

A typical Maths lesson provides the opportunity for all children, regardless of their ability, to become confident and capable learners. We are committed to building on prior learning and enabling our children to demonstrate a deep, conceptual understanding of each topic that they can develop over time. Reasoning and problem-solving skills are explicitly taught to enable children to become independent learners who are prepared to take risks. Class teachers provide high quality Maths lessons ensuring that there is emphasis on direct whole-class teaching, groups/partner work and independent work. We use a range of approaches (concrete, pictorial and abstract methods) following the White Rose scheme of work, teaching mathematical concepts through small steps. Staff are expected to teach and model correct mathematical language, which scaffolds children's reasoning and explanation skills - sentence stems are used to develop this.

In EYFS (Nursery and Reception) we follow the EYFS framework. Teachers ensure the children learn through a mixture of adult led activities and child-initiated activities both inside and outside of the classroom. The children have a wide range of structured play resources available to them throughout the year - this is known as "continuous provision". The adults model the use of these resources and the appropriate mathematical language as they support the children in their play.

Our overarching aims are for children to:

- Make good progress towards the Early Learning Goals
- Be confident in communicating their ideas
- Develop a positive attitude towards Maths and be willing to 'have a go'

In Years 1 and 2, the focus of Maths is to ensure the children develop confidence and mental fluency with whole numbers, counting and place value. This often involves working with numerals, words and the four operations (+ - x ÷). The children should be precise in using and understanding place value and know number bonds to 20.

The children also develop their ability to recognise, describe, draw, compare and sort different shapes. The children will use a range of measures to describe and compare

different quantities (such as length, mass, capacity/volume, time and money).

In Years 3 and 4, the focus is to ensure the children become increasingly fluent with whole numbers and the four operations (including number facts and place value). Pupils begin to develop efficient written and mental calculations with increasingly large whole numbers. They begin to develop their ability to solve a range of problems, including simple fractions and decimal place value. The children develop mathematical reasoning to help them analyse shapes and their properties and confidently describe their relationships. By the end of Year 4, children should have memorised their multiplication tables up to and including the 12 times table and be able to show precision and fluency in their work. Pupils in Year 4 are prepared for the Multiplication Tables Check (MTC).

In Years 5 and 6, the focus of Maths is to ensure that children extend their understanding of the number system and place value to include larger integers. Pupils should be able to make connections between multiplication and division with fractions, decimals, percentages and ratio. Children should develop their ability to solve a wider range of problems, including increasingly complex properties of numbers and arithmetic, and problems that demand the use of efficient written and mental methods of calculation. Children are introduced to algebra as a means for solving a variety of problems. The children's understanding and knowledge in geometry and measures consolidates and extends the knowledge they have developed in number; children should be able to classify shapes with increasingly complex geometric properties, using the vocabulary they need to describe them with accuracy and confidence.

The role of the Subject Leader and Curriculum Team:

The Maths lead is responsible for:

- Ensuring teachers are familiar with progression map and schemes of work to help them to plan lessons. Provide support and advice to staff
- Supporting staff in creating an effective learning environment
- Supporting teachers in planning lessons and providing enrichment opportunities
- Supporting the professional development needs of staff teaching Maths
- Evaluating pupil progress
- Action planning- setting targets and indicating how these can be achieved
- Leading moderation exercises with staff through book looks
- Establishing & monitoring assessment systems in school
- Liaising with Maths subject leaders from across our network of Catholic schools
- Meet with the governors and discuss the subject area

Assessment, Record keeping and Monitoring:

Assessment of mathematics is ongoing across the year. Teachers assess pupil progress, on a daily basis, against the National Curriculum Programmes of Study. They do this through live marking, informal classroom observations, oral questioning and scrutiny of work. The purpose of these lessons is to check the knowledge and understanding of particular children in the class against Key Learning Objectives.

Summative tests are administered at the end of each term. These together with statutory SATs at the end of KS1 and KS2 and baseline assessments in Early Years provide useful information on progress and individual need.

A whole school tracking system is used to closely monitor children's progress throughout the school. Teacher assessments are entered termly and are closely analysed to identify children working at greater depth or who are at risk, appropriate intervention is then put in place to close gaps.

We see the relationship with parents as very important in supporting their children's mathematical skills. There is a dedicated Maths page on our school website which provides specific documents for parents outlining what is covered in each year group and ways they can support at home. Parents also receive an end of year report which provides information on their child's outcomes and progress.

The Mathematics subject leader has the overall responsibility of monitoring the standard of pupil's work, the quality of the teaching and evaluating impact. The work of the subject leader involves supporting colleagues in the teaching of mathematics, being aware of current developments in the subject, and providing a strategic lead and direction for the subject in the school so that it remains high profile.

The school leadership team (& subject leader) will observe mathematics lessons and give feedback, staff will be directed to relevant CPD to develop their skills and support and improve their practice. Work scrutinies take place termly to monitor progress and standards and for the purpose of moderation. The school participates in external moderation.

A Maths folder has been set up by the Maths Subject leader and placed on the school network for all staff to access. It provides support with planning, assessment and resources for staff.

Inclusion

Maths lessons are planned to ensure that there are no barriers to every pupil achieving. Pupils are given access to specialist equipment and different approaches as required. Children with additional needs are supported by using practical resources and differentiated activities where needed. They are also further supported by additional support staff whenever possible. Where applicable, children's provision maps will incorporate suitable objectives from the National Curriculum or the EYFS curriculum. In addition to quality first teaching, interventions also take place and focus on those children who may need more specific targeted input.

Teachers take account of the needs of pupils whose first language is not English. Monitoring of progress takes account of the pupil's age, length of time in this country, previous educational experience and ability in other languages.

Curriculum planning will ensure that all pupils have an equal opportunity to take part in the full scheme of work and its associated practical activities regardless of gender or cultural background.

Gender stereotypes are challenged when they arise and the context in which Maths is taught and monitored to ensure the interests of boys and girls are maintained.

Contexts used in teaching will also be sensitive to different ethnic backgrounds and both gender and cultural differences will be reflected positively in the teaching materials used.

Equal Opportunities:

We are committed to treat every person with equality of esteem and the respect and dignity due to a child of God.

At St Mary's we believe that all human beings are equal in the eyes of God regardless of their race, gender, disability, religion, belief or age. Due to this we aim to ensure that all members of our school have equal opportunities to learn, develop and grow with dignity in a community of mutual respect. We are committed to valuing and celebrating the diversity within our community.

(Please see Diversity and Equality Policy)