



St Pius Xth RCVA Primary School Mathematics Policy

Aims and Objectives

Mathematics teaches us how to make sense of the world around us through developing a child's ability to calculate, reason and to solve problems. It enables children to understand and appreciate relationships and pattern in both number and space in their everyday lives. Through their growing knowledge and understanding, children learn to appreciate the contribution made by many cultures to the development and application of mathematics.

Our principal aims, in Mathematics, are 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 about 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

We do this through:

- promoting enjoyment and enthusiasm for learning through practical activity, exploration and discussion
- promoting confidence and competence with numbers and the number system
- developing the ability to solve problems through decision-making and reasoning in a range of contexts
- developing a practical understanding of the ways in which information is gathered and presented
- exploring features of shape and space, and develop measuring skills in a range of contexts

- understanding the importance of mathematics in everyday life
- developing a variety of other skills, including those of enquiry problem solving, ICT, investigation and how to present their conclusions in the most appropriate way

Teaching and Learning Style

The school uses a variety of teaching and learning styles in mathematics lessons.

We do this through a daily lesson that has a high proportion of whole-class and group teaching. During these lessons we encourage children to ask as well as answer mathematical questions. They have the opportunity to use a wide range of resources to support their mathematical development. Children use ICT in mathematics lessons where it will enhance their learning, as in modelling ideas and methods. The children are given the opportunity to engage in a wide variety of problem-solving and reasoning activities. Wherever possible, we encourage the children to use and apply their learning in everyday situations. Arithmetic thinking is at the core of what we teach and all pupils are encouraged to develop the computational links between different aspects of their mathematical learning.

St. Pius Xth Primary School facilitates mixed ability teaching through a range of strategies including:

- using differentiated group work
- setting tasks of increasing difficulty
- organising the children to work in pairs on open-ended problems or games
- providing resources of different complexity according to the ability of the child
- using classroom assistants to support the work of individual children or groups of children

Mathematics Curriculum Planning

Mathematics is a core subject in the National Curriculum and we use it as the basis for implementing the statutory requirements of the programme of study for mathematics.

Our curriculum planning in mathematics is in three phases (long-term, medium-term and short-term). The National Curriculum for Teaching gives a detailed outline of what we teach in the long term.

Our medium-term mathematics plans, which are adopted from the National Curriculum define what we teach. They ensure an appropriate balance and distribution of work across each term.

Each class teacher creates the weekly lesson plans for the teaching of mathematics. These weekly plans list the specific learning objectives for each lesson and give details of how the lessons are to be taught. The class teacher keeps these individual plans.

Early Years

We teach daily mathematics in our Reception class. As the Reception class is part of the Early Years Foundation Stage of the National curriculum, we relate the mathematical aspects of the children's work to the objectives set out through Problem-solving, Reasoning and Numeracy'. We give all the children ample opportunity to develop their understanding of number, measurement, pattern, shape and space through varied activities that allow them to enjoy, explore, practise and talk confidently about mathematics.

The Contribution of Mathematics to Teaching in English, Science and Computing

English

Mathematics contributes significantly to the teaching of English in our school by actively promoting the skills of reading, writing, speaking and listening. For example, we encourage children to read and interpret problems in order to identify the mathematics involved. The children explain and present their work to others. Children enjoy stories and rhyme that rely on counting and sequencing, they encounter, use and develop mathematical vocabulary, explore graphs and charts when using non-fiction texts and are supported when using sentence starter prompts to explain the reasoning strategies they have used when problem solving.

Science

Science is integral to our pupils' ability to demonstrate their knowledge and understanding of maths in the real world. It actively promotes the skills of reasoning and problem solving.

Computing

Children use and apply mathematics in a variety of ways when solving problems using ICT. Pupils are able to use software to communicate results and produce graphs/tables when explaining their results or when creating repeating patterns, such as tessellations. When working on control, children use standard and non-standard measures for distance and angle. They use simulations to

identify patterns and relationships. Children are encouraged to present their work through a range of computing medium and the use of visualizers greatly enhance pupils teaching and learning experiences across the curriculum.

Teaching Mathematics to SEND Children

Mathematics forms part of the school curriculum; it provides a broad and balanced education to all children. Through our mathematics teaching we provide learning opportunities that match the needs of each individual child. Teachers provide learning opportunities matched to the needs of every child, work in Maths takes in to account the targets set in SEN Support Plans.

Assessment and Recording

We assess the children's work in mathematics from three aspects (long-term, short-term and medium-term). We make short-term assessments which we use to help us adjust our daily plans. These short-term assessments are closely matched to the teaching objectives.

Teachers make medium-term assessments to measure progress against the key objectives, and to help us plan the next phase of learning.

In addition, teachers assess children's progress termly using the school assessment framework. This data enables teachers and senior leaders to set SMART targets. Children also undertake the national SATS tests in Year 2 and Year 6.

Moderation in maths is carried out by the subject leader/Headteacher who oversees regular moderation of work through staff meetings, book scrutiny and lesson observations, carried out at key points in the year. This is further enhanced through external moderation through the Catholic cluster of schools each term.

Resources

Audits of resources are conducted at yearly intervals and the needs of the subject are met accordingly. This is additionally incorporated into the school development plan and thereby remains a key priority throughout the year.

Monitoring and Review

Teaching and learning is monitored through lesson observations, learning walks and book and planning scrutinies carried out at regular intervals throughout the school year.

Review Date: Spring 2020

Subject Lead: Maresa Grogan

Designated Governor: Mark Eade