

# St Gerard's Catholic Primary School



## Mathematics Policy 2021-2023

*“With Christ at our side, and St Gerard as our guide,  
we live love, learn and pray together.”*

**Reviewed: November 2021**



## St Gerard's Catholic Primary School Mathematics Policy

### **School Mission Statement**

Our Mission at St Gerard's is to provide a loving, caring atmosphere enabling each individual to develop intellectually, socially and spiritually. As a Catholic school, the foundation of all we do is based upon Christ and His Gospel values of Love, Peace and Justice. We will strive to ensure that the members of our community are happy and fulfilled in their lives at school.

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In this policy the Governors and teachers set out their intentions about Mathematics. We set out our rationale for, and approach to Mathematics in the school.

### **Intent**

At St. Gerard's Catholic School, we strive towards ensuring that all our pupils develop a positive attitude towards Mathematics.

Mathematics is a life skill, it helps us to make sense of our world, providing a precise means of communication using numbers, symbols, and shapes. It is a powerful, universal language used to explain, predict, and represent events and tackle problems in everyday life.

The national curriculum for mathematics aims to ensure that all pupils:

- 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.
- To ensure that all pupils reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.
- To ensure that all pupils 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.

### **Aims & Objectives**

The mathematics teaching at St. Gerard's Catholic Primary School aims to enable each pupil to develop within his or her capabilities; not only the mathematic skills and understanding for later life, but also an enthusiasm and fascination about mathematics itself.

Our general aims are:

- To develop a positive attitude towards mathematics. To develop confidence and competence in mathematical knowledge, skills and understanding through the processes of teaching, learning, enquiry and experimentation.
- To develop an ability to problem solve, reason, think logically and work systematically with accuracy.
- To develop initiative and an ability to work both co-operatively and independently.
- To develop an ability to communicate, use and apply mathematics across the curriculum and in real life.

### **Impact**

Children will become fluent in the fundamentals of mathematics. Through varied and frequent practice with increasingly complex problems over time, pupils will have the conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.

- Children will be able to reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, developing an argument, justification or proof using mathematical language.
- Children will solve problems by applying their mathematics in a variety of problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering to seek solutions.
- Quick recall of facts and procedures.

A mathematical concept or skill has been mastered when a child can show it in multiple ways, using the mathematical language to explain their ideas, and can independently apply the concept to new problems in unfamiliar situations.

### **Implementation**

At St. Gerard's Catholic Primary School, we are adapting a mastery approach to learning. Children are taught in mixed ability groupings, and all children access the same curriculum.

We have adopted the 'White Rose Mathematics' curriculum. This is a cumulative curriculum, so that once a topic is covered it is revisited and built upon many times in many contexts across the learners' journey through the school.

Teachers begin lessons by revising and reviewing knowledge of concepts and skills to ensure they are embedded. Children are introduced to new concepts in small, logical steps.

Where children struggle, same day interventions and pre-teaching takes place to support learners. Where children are confident, they are challenged by reasoning and problem solving. We do not move on through the curriculum until children have grasped the concepts taught.

In KS1 and lower KS2, children are taught using the Concrete, Pictorial and Abstract approach to guide children through their understanding of mathematical processes:

- Concrete – children can use concrete objects and manipulatives to help them understand and explain what they are doing.
- Pictorial – children then build on this concrete approach by using pictorial representations, which can then be used to reason and solve problems.
- Abstract – With the foundations firmly laid, children can move to an abstract approach using numbers and key concepts with confidence.

Where possible, links are made with other subjects across the curriculum as well as making connections outside of the classroom and to life experiences and enterprises, developing the children’s Cultural Capital.

**Resources**

Resources for the delivery of mathematics are stored both in classrooms, Google Drive and in designated areas in the school. Although we have adopted the ‘White Rose Mathematics’ curriculum, we may use a variety of published materials to facilitate the teaching of mathematics. We recognise the need for the teaching of mathematics to be ‘scheme assisted not scheme driven’.

**Display**

We recognise the important role classroom display has in the teaching and learning of mathematics. Each class has a mathematics working wall, displaying mathematical vocabulary and relevant materials that provide a visual support for children’s mathematical thinking.

**Homework**

Mathematics homework is set in accordance with the homework policy. In addition, teachers can give a homework activity weekly in the form of an investigation, to practice key skills or learn number or multiplication facts.

Times Tables homework is expected daily for KS2 online as shown below, and KS1 when ready. Paper versions are available to support disadvantaged families.

<b>Year 3</b>	3s, 4s, and 8 times tables	Monday - Thursday 5 Garage/Studio Sessions (5 mins a night)
<b>Year 4</b>	6s, 7s, and 9 times tables	Monday - Thursday 5 Garage/Studio Sessions (5 mins a night)
<b>Year 5</b>	All times tables	Monday - Thursday 10 Garage/Studio Sessions (10 mins a night)
<b>Year 6</b>	All times tables	Monday to Thursday 10 Garage/Studio Sessions (10 mins a night)

## **Teaching Methods and Approaches**

The teaching of mathematics at St. Gerard's Catholic Primary School provides opportunities for:

- *Group work*
- *Paired work*
- *Whole class teaching*
- *Individual work*

Pupils engage in:

- *Written methods*
- *Practical work*
- *Investigational work*
- *Problem-solving*
- *Mathematical discussion*
- *Consolidation of basic skills and routines*

At St. Gerard's Catholic Primary School, we recognise the importance of establishing a secure foundation in mental calculation and recall of number facts before standard written methods are introduced.

A variety of teaching styles will allow for children's individual learning styles to be catered for.

Children must be taught the appropriate language linked to the concepts they are being taught. This should occur at all levels. Children must know and be encouraged to use the vocabulary in the right context.

We endeavour to set work that is challenging, motivating and encourages all pupils to talk about what they are learning.

## **Assessment, Record Keeping and Reporting**

At St Gerard's Catholic Primary School, we are continually assessing our pupils and recording their progress. We see assessment as an integral part of the teaching process and endeavour to make our assessment purposeful. This allows us to match the correct level of work to the needs of the pupils, thereby benefitting the pupils and leading to increased progress.

## **Methods of Assessment**

Mathematics can be assessed in a variety of ways:

- *Observations of a child or group on task*
- *Discussion with children about their task*
- *Work in books*
- *Children's own evaluation of their work*
- *Mental arithmetic tests*
- *Arithmetic and Reasoning tests*

These assessments:

- *Inform future planning*
- *Inform potential changes to groupings in class*
- *Highlight and identify which pupils may need further intervention and support*
- *Provide summative information*
- *Provide information for parents*
- *Provide information for governors and school leaders*

### **Assessment is carried out on three levels**

**Short-term assessments** are an informal part of every lesson and are closely matched to the teaching objectives. The marking comments are recorded as part of the evaluation for each child.

**Medium-term assessments** are carried out each term. The purpose of these assessments is to review and inform. Children's progress against the key mathematics learning objectives is recorded and the relevant progress tracking tools are updated.

**Long-term assessments** are carried out in the summer term, when pupil's attainment is measured (against school and national targets) in accordance with how each child has performed against their age related mathematics learning objectives. This is collated by reviewing teacher assessments, evidence measured against the NC mathematics learning objectives and any relevant test scores. All of this will show whether a pupil is Emerging, Developing or Secure at Age Related Expectation.

All parents receive an annual written report in which there is a summary of their child's effort and progress in mathematics over the year.

At the end of Key Stage 1 and Key Stage 2, each pupil's level of achievement is included as part of their annual written report.

### **Marking**

Work will be marked in accordance with the school marking policy. 'Gap Tasks' will be set in order to help pupils secure a particular skill or challenge and extend their learning in relation to a particular skill.

### **ICT**

Children have access to calculators, interactive whiteboards, iPads and computers. ICT is used to enhance the teaching and learning of mathematics where appropriate.

### **Cross-Curricular Links**

Mathematics contributes to numerous other subjects across the curriculum, often in practical ways. At St. Gerard's Catholic Primary School, we aim to deliver mathematics as a direct link with the whole curriculum, therefore making the subject relevant to the children in many ways, encouraging them to make links between mathematics and other subject areas.

The implementation of this policy is the shared responsibility of all staff.

A named member of the school's governing body has the responsibility to oversee the teaching of mathematics: **Ann Nicholls**

This policy will be reviewed at least every 2 years.