



## **St. Peter's Catholic Primary School**

### **Mathematics Policy**

#### **Introduction**

Our approach to mathematics at St Peter's Catholic Primary School is to teach children the knowledge, skills and understanding necessary to solve everyday problems. A high-quality mathematics education 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. (National Curriculum 2014)

#### **Rationale**

This policy describes our values and philosophy in relation to meeting the needs of all mathematical learners at St. Peter's Catholic Primary School. It outlines the framework within which all staff work and gives guidance on planning, teaching and assessment. It is designed to describe how the school intends to meet the needs of mathematics learners of all ages.

In the first instance this will be through working within the Foundation Stage Curriculum using the Early Years Framework. From Year 1 to Year 6 statutory requirements of the National Curriculum in Mathematics will be met by fully implementing the New National Curriculum objectives through the use of the White Rose Maths Mastery planning documents. The policy is intended to be read in conjunction with the Curriculum Intent, Implementation and Impact Statement as well as the Calculations Policy which illustrates strategies and methods outlined in the national curriculum that are taught from Foundation to Year 6.

Through fully adopting the Mastery approach of teaching on Maths, alongside meeting the three main aims of the new national curriculum for Mathematics, we want all children at St. Peter's to develop into confident and competent mathematical thinkers, who are able to use maths in real life situations.

#### **Aims of the 2014 National Curriculum**

- become fluent in the fundamentals of mathematics, 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 nonroutine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

### **Teaching of Mathematics**

The school uses a variety of teaching and learning styles in mathematics lessons during each lesson. Children are taught in year group sets. Pupils are seated in mixed attainment groups as we believe that all pupils can attain highly in mathematics and every pupil will have different strengths and areas of development.

Pupils progress through the curriculum content at the same pace. Differentiation is achieved by emphasising deep knowledge and through individual support and intervention. The questioning and scaffolding pupils receive in class is tailored to their individual needs, as every child accesses problems which deepen their knowledge and develop their mathematical skills.

### **Mastery Curriculum**

Within the Mastery approach to teaching Mathematics, we believe children should use concrete, pictorial and abstract methods to understand the concepts being taught. Children are able to use concrete manipulatives to help embed certain models, understanding the reasoning behind how we for example, add using the column method. Furthermore, they are able to use pictorial representations alongside the concrete resources to deepen their understanding and support thinking. Once these have been embedded in their learning, children should be able to use abstract exemplifications to show their understanding. Once children have grasped the new concept and are fluent at this, they will then progress onto completing different reasoning and problem-solving activities. All children have the opportunity to complete the reasoning and problem-solving activities, using their prior knowledge and newly taught skills to solve these.

### **Planning**

Throughout our school we use the White Rose Maths Hub as a basis for our day-to-day teaching, although we supplement this with Mathematics Mastery, as we can then choose the best fit for our children as well as having access to a wide range of resources. The Long-Term Plan is used as a guidance tool in order to pace out coverage of the curriculum



throughout the year (See Appendix 1). This is then used to inform teachers medium-term planning. Teachers are encouraged to use professional discretion when deciding on how long is needed on particular a curriculum area whilst ensuring all objectives are covered by the end of the academic year.

Short term planning is recorded for each topic on standard planning sheets. These plans outline the topic area /focus with specific learning objectives to be taught. Teachers are expected to think about and include the key knowledge, skills and understanding for each lesson, thinking about what children will be learning, how the teachers will get them there and the scaffolding needed to support this. All children are given the opportunity to develop their fluency, reasoning and problem-solving skills and these will be applied to other areas of their learning. This gives pupils the opportunity to 'master maths'; by using previous learning throughout the school year, they are able to develop mathematical fluency and conceptual understanding.

### **Lesson Design**

**Starter-** Children are able to develop their oral work and mental calculations. Furthermore, they are able to practise prior learning through fluency, reasoning and problem-solving activities and as well as practise the skills needed within the new learning.

**New Learning-** New Learning introduces the main learning for the lesson. It requires clear explanations and modelling of tasks to be completed throughout the lesson. The children will then move on further and deepen their understanding. Learning could be developed by introducing different resources or adding a problem solving element. This is a great opportunity to assess progress and understanding, and deal with any common misconceptions before pupils start independent work. Throughout this stage, partner discussions are used to develop understanding and so teachers can check pupils' understanding before moving onto the next parts of the lesson.

**Independent Learning-** This gives pupils the opportunity to practise their work independently, demonstrating what they have understood and learnt. Although this is an independent task, this does not mean that the children must work alone, as they should be encouraged to discuss mathematical concepts together using the key vocabulary of the lesson.

**Plenary-** This is where we revisit the learning objective, linking back to learning taught and developed within the lesson. Furthermore, it is an opportunity to look at some of the reasoning and problem-solving activities, exploring the different strategies that were used to solve them.



## **Early Years Foundation Stage**

The EYFS Statutory Framework 2021 sets standards for the learning, development and care of children from birth to five years old and supports an integrated approach to early learning. This is supported by the 'Development Matters 2021' non-statutory guidance, which places Mathematics as a specific area of learning and development. By the end of Reception, the EYFS Framework aims to:

### **Number:**

- Have a deep understanding of numbers to 10, including the composition of each number
- Be able to subitise without counting within 5
- Automatically recall numbers bond up to 5 and some number bonds to 10

### **Numerical Patterns:**

- Verbally count beyond 20, recognising the pattern of the counting system;
- Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity;
- Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.

Teachers in the foundation stage also follow the White Rose Maths Schemes of learning. The Early Years is a time for exploration and investigation in maths and the learning environment promotes mathematical thinking. Children develop their understanding through a rich variety of activities both self-selected and adult led. Adults encourage the children to explore, enjoy, learn, practise and talk about their developing understanding which they can use to solve problems, generate questions and make connections across other areas of learning.

## **Equal Opportunities**

Within St. Peter's, mathematics is fun, enjoyable, creative and is taught with real-life contexts. Furthermore, children are exposed to famous mathematicians, looking at what they did for society. Positive attitudes towards mathematics are encouraged, so that all children, regardless of race, gender, ability or special needs, including those for whom English is a second language, develop an enjoyment and confidence with mathematics.

The aim is to ensure that everyone makes progress and gains positively from lessons and to plan inclusive lessons. Lessons involving lots of concrete, pictorial and abstract elements will benefit all children including those for whom English is an additional language (EAL).



## **Special Educational Needs and Disabilities (SEND)**

Daily mathematics lessons are inclusive to pupils with special educational needs and disabilities. Where required, children's support plans incorporate suitable objectives from the National Curriculum for Mathematics or development Matters and teachers keep these in mind when planning work. Maths focused intervention in school helps children with gaps in their learning and mathematical understanding. We also complete pre-learning, identifying any children who may need additional support within the lesson and pre-teaching these children the concepts that will be subsequently taught. These are delivered by support staff or the class teacher.

Within the daily mathematics lesson teachers have a responsibility to not only provide differentiated activities to support children with SEND but also activities that provide sufficient challenge for children who are high achievers. It is the teachers' responsibility to ensure that all children are challenged at a level appropriate to their attainment, through reasoning and problem-solving activities.

## **Marking**

Marking of children's work is essential to ensure they make further progress. Work is marked against success criteria, in line with the school marking policy, and includes next steps. Children are encouraged to self-assess their work and given time to read teachers' comments and make corrections or improvements. Responses to marking are made before the start of the next lesson. (See Marking Policy for more information)

## **Assessment**

Assessment is an integral part of teaching and learning and is a continuous process. Teachers make assessments of children's learning in mathematics daily, through;

- regular marking of work
- analysing errors and picking up on misconceptions
- asking questions and listening to answers
- facilitating and listening to discussions
- making observations

These ongoing assessments inform future planning and teaching. Lessons are adapted readily, and short-term planning evaluated in light of these assessments.

Teachers assessments are also supported by summative tests which happen at the end for each term. For the assessments Foundation use the PAM Assessments, whereas the rest of the year groups use the Maths Hub Assessment, apart from in the Summer Term, where Years 2 and 6 complete their SATS.



## **Learning Environments**

Within each classroom, environments are designed to be purposeful, inviting, creative and concise, showing they are an active part of the lesson. Children should be able to review this throughout their work, using them to help and assist in what they are doing. We expect to see:

- Key vocabulary- Related to the current topic and as well as any other key vocab.
- Number line/100 square
- Challenge of the week
- Times-tables related to your year group.
- Celebration of work and explanation of what the children were learning about.
- Place value grid
- Teacher questioning
- WAGOLL

## **Role of the Maths Leader**

- To lead in the development of maths throughout the school.
- To monitor the planning, teaching and learning of mathematics throughout the school.
- To help raise standards in maths and keep track of the data.
- To provide teachers with support in the teaching of mathematics.
- To provide staff with CPD opportunities in relation to maths within the confines of the budget and the School Improvement Plan.
- To monitor and maintain high quality resources.
- To keep up to date with new developments in the area of mathematics.
- To work with the SLT and Governors, making them aware of the Mathematics being undertaken throughout the school.

## **Governors**

Governors are encouraged to come in and share our love of learning with us. They are able to speak with staff and children in relation to what is being taught and how maths is being taught across the different year groups. They are able to work with the subject leader, gaining more of an insight into the way maths is portrayed as a school. Furthermore, Governors are welcome to take part in various activities which are designed to be completed by the Maths Leader. There is a specific maths governor who works with the maths leader to monitor provision in school for maths.



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