



St. Peter's
Catholic
Primary School

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Mathematics Policy

Date Policy Last Reviewed: 1 September 2021

Signed by:

_____	Headteacher	Date: _____
_____	Chair of	
_____	Governors	Date: _____

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 Learning Goals. 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 Hub Mastery planning documents as well as supplementing this with the Mathematics Mastery planning documents. The policy is intended to be read in conjunction with 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 ability groups as we believe that all pupils can attain highly in mathematics and every pupil will have different strengths and development areas. Therefore, groupings within classes are flexible and pupils will work in different groups dependent on their need.

The large majority of 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 individual pupils receive in class as they work through problems will differ and pupils who grasp concepts rapidly are challenged through more demanding problems which deepen their knowledge further.

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 to develop the idea used with the concrete resources. 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 and it is encouraged that they have a go at 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

“Pupils who use concrete materials develop more precise and more comprehensive mental representations, they often show more motivation and on task behaviours, understand mathematical ideas and better apply these to life situations.” Anstrom, 2006. 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. After a child is fluent in a particular area, they are then encouraged to solve different reasoning and problem-solving activities to embed the knowledge gained, seeing if they can manipulate it into another area 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

6-part lesson

Early Years Foundation Stage

The National Curriculum sets out year-by-year programmes of study for Key Stages 1 and 2. This ensures continuity and progression in the teaching of mathematics. The EYFS Statutory Framework 2014 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' non-statutory guidance, which places Mathematics as a specific area of learning and development. The EYFS Framework in relation to mathematics aims for our pupils to:

- develop and improve their skills in counting
- understand and use numbers
- calculate simple addition and subtraction problems
- describe shapes, spaces, and measure

Within the classroom, Maths is a key focus of their daily learning as they have a 'Daily Maths Talk', related to time, days of the week, months of the year, the date and other concepts of number. This is supported by a Maths focus day twice a week where the learning themes and outcomes are matched to specific objectives from the Curriculum. Tasks, both child-led and child initiated reinforce the key learning of the day. This was introduced to help children consolidate the mathematical learning over a longer period of time, to enable deeper thinking.

MATHS MEETINGS

Maths Meetings are a key part to increasing children's knowledge and language in Mathematics. Their purpose is to consolidate key areas of mathematics or introduce new topics in your class. To be most effective, it is recommended that Maths Meetings occur daily for 10-15 minutes. A Maths Meeting should cover several curricular areas, broken down into short segments; each segment

should take approximately 2–3 minutes. Each meeting should start with a song, rhyme, poem or chant, to ensure full participation and enjoyment.

. (See Appendix 2)

EQUAL OPPORTUNITIES

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 IEP's 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 ability, through different reasoning and problem-solving activities.

"Mathematical language is crucial to children's development of thinking. If children don't have the vocabulary to talk about division, or perimeters, or numerical difference, they cannot make progress in understanding these areas of mathematical knowledge." Mathematical vocabulary, DfE 2000

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 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 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.

Produced by: David Ward Date: 02/07/18