



MATHEMATICS POLICY

Date Issued: January 2016

Review Date: September 2017

Mathematics teaches us how to make sense of the world around us through developing a child's ability to calculate reason and solve problems. It enables them to understand and appreciate relationships and pattern in both number and space in their everyday lives. All pupils should have access to the power and beauty of mathematics and hence enable them to think logically and imaginatively. To become numerate is a life skill and will equip children to lead a fulfilling and successful adult life.

Aims

- To provide consistent high quality teaching in all areas of mathematics.
- To enable all children to access the curriculum at an appropriately differentiated level.
- To enable every child to feel comfortable to explore their understanding of mathematics in a safe, enjoyable and challenging learning environment.
- To promote enjoyment and enthusiasm for learning through practical activity, exploration and discussion.
- To develop logical thinking and reasoning skills through a natural curiosity and investigative approach.
- To understand the importance of mathematical skills in everyday life.
- To encourage the application of mathematical skills in other curriculum areas.
- To develop the ability to solve problems through decision-making and reasoning in a range of contexts.

By the time children leave St Peter's at the end of Year 6, we aim for them to be able to:

- Relate the role of different types of mathematics within the real world
- Investigate to test mathematical ideas in an increasingly systematic way
- Discuss and debate real world problems and form conclusions to consolidate understanding
- Present the results of their work in appropriate and varied ways
- Develop the ability to work both independently and in collaboration with others
- Have a well-developed sense of the size of a number and where it fits into the number system (place value)
- Know by heart number facts such as number bonds, multiplication tables, doubles and halves
- Use what they know by heart of figure out numbers mentally
- Calculate accurately and efficiently, both mentally and in writing and paper
- Draw on a range of calculation strategies
- Recognise when it is appropriate to use a calculator and be able to do so effectively
- Make sense of number problems, including non-routine/'real' problems and identify the operations needed to solve them
- Explain their methods and reasoning, using correct mathematical terms
- Judge whether their answers are reasonable and have strategies for checking them where necessary
- Suggest suitable units for measuring and make sensible estimates of measurements
- Explain and make predictions from the numbers in graphs, diagrams, charts and tables
- Develop spatial awareness and an understanding of the properties of 2D and 3D shapes

Our teachers strive to:

- Build children's confidence and self-esteem in mathematics
- Develop children's independence
- Allow all children to experience regular success
- Contextualise mathematics
- Use practical approaches to mathematics (models and images)
- Encourage children to independently select resources to help them
- Challenge children of all abilities.
- Encourage children to enjoy mathematics

- Develop a child's understanding of mathematical language
- Learn from teachers, peers and their own mistakes
- Allow children to ask questions as well as answer them

Implementation

Mathematics is delivered using the Mathematics Programme of Study as set in the new National Curriculum, supported by the New Collins Primary Maths Scheme. The Programme provides our core objectives and our pitch and expectations, whilst Collins provides an interactive skeleton for delivery.

The school uses a variety of teaching and learning styles in mathematics lessons. Our main aim is to develop children's knowledge, skills and understanding in mathematics. During the mathematics lesson, children may experience whole class shared/modelled mathematics skills, or guided group work, mental starter activities and a plenary to check and assess understanding. They have the opportunity to experience a wide range of resources such as number lines, number squares, digit cards and other small apparatus to support their work. Children and teachers use ICT in mathematics lessons where it will enhance their learning, and to assist with modelling ideas and methods. Wherever possible, children are encouraged to use and apply their learning in everyday situations.

In all classes there are children of differing mathematical ability. We recognise this fact and provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child. Throughout lessons a range of strategies are used to ensure appropriate levelled learning. Children are asked to undertake independent work but other strategies are also utilised. In some lessons group work is undertaken, and in other lessons, children are organised to work in pairs on open-ended problems or games. We use classroom assistants to support some children and to ensure that work is matched to the needs of individuals.

Children from Years 1-6 are set a weekly mental mathematics homework task in order to strengthen their learning in mathematics. At St Peter's we use Mental Arithmetic, a highly differentiated series of graded books proven to raise children's attainment in mathematics. Based on ability, rather than age, each book practises the four basic number operations, challenging children to do more complex problems involving logical thinking and to apply knowledge introduced previously.

Mathletics

We are subscribed to the online mathematics resource, Mathletics. Children from reception to year 6 have log in details and access it from both home and school. Teachers set work for individual pupils in school so that Mathletics will be accessed at the appropriate level.

Planning

At St Peter's, we follow the New Collins Primary Maths Scheme. Teachers use the scheme to facilitate their weekly mathematics planning. Mathematics plans include key vocabulary, starter, objectives, main teaching, and assessment for learning. Differentiation and provision is to be also explicitly detailed.

Marking

Teachers mark mathematics in line with the school Effective Feedback and Marking Policy. Children must be given time at the beginning of each lesson to reflect on next steps of learning and assess any errors from the previous lesson.

Assessment and Target Setting

- Work will be assessed using Target Tracker in line with the school's Assessment Policy.
- Information from assessment tasks will be used to inform planning.
- AfL and individual target sheets will be used to closely monitor progress.
- Each child has their own mathematics targets and take an active role in working towards these throughout the year.

We assess 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 and learning outcomes. Teachers also assess informally every day. They integrate the use of formative assessment strategies such as: effective questioning, clear learning objectives, the use of success criteria, effective feedback and response in their teaching and marking and observing children participating in activities. Findings from these types of assessment are used to inform future planning.

We make medium-term assessments to measure progress against the key objectives, and to help us plan the next unit of work. We use termly formal assessments as a way of recording children's progress in objectives covered across that specific term.

We make long-term assessments towards the end of the school year, and we use these to assess progress against school and national targets. We make long-term assessments with the help of summative tests and teacher assessments. We assess using the statutory end of key stage assessment for KS1 and KS2. The National Curriculum requires that each child is assessed, and assigned a standardised score in Arithmetic and Reasoning.

We also make annual assessments of children's progress measured against the performance descriptors of the new National Curriculum.

Lastly, we use the Early Excellence Baseline Assessment in EYFS, which is conducted within the first 6 weeks of teaching. It is then used as a measure of progress from EYFS to the end of KS1 and end of KS2.

Inclusion

We aim to provide for all children to enable them to achieve as highly as possible in mathematics, according to their individual abilities. We will identify those who are under-achieving and take steps to improve their attainment. Gifted children will be identified and added to the Gifted and Talented register. At St Peter's School we enjoy teaching mathematics to all children, whatever their ability. We provide a broad and balanced education to all children and offer learning opportunities that are matched to the needs of individual children. Work in mathematics takes into account the targets set for individual children in their Individual Education Plans (IEPs).

Intervention Programmes

Booster and extension classes are offered to students in both years 2 and 6. These are aimed at students who are struggling with mathematics and also those who are doing well to extend them even further. 1stClass@Number 2 is also offered to a selection of Year 3 students, in addition to a variety of in-class interventions such as Plus1 and Power of 2.

Monitoring and Review

Monitoring of the standards of children's work and of the effectiveness of teaching in mathematics is the responsibility of the mathematics co-ordinator. The work of the mathematics co-ordinator also involves supporting colleagues in the teaching of mathematics, being informed about current developments in the subject, and providing a strategic lead and direction for the subject within the school. A named member of the school's governing body is briefed to oversee the teaching of mathematics. This governor meets regularly with the subject leader to review progress.

This document was approved and adopted by the governing body

Name of Chair of Governors: George Lopez