

St Peter's C. of E. Junior School

Mathematics Policy

Date Agreed: January 2020

Date for Review: October 2022

Chair of Governors: Mary-Jane Tinsley

The policy, having been presented to, and agreed upon by the whole staff and Governors, will be distributed to:

- Teaching staff
- School Governors

A copy of the policy will also be available:

- on the staff drive
- on the school website

This will ensure the policy is readily available to visiting teachers, support staff, volunteers and parents.

Introduction

Mathematics is a creative and highly inter-connected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore 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)

The aims of the 2014 National Curriculum are for our pupils to:

- Become fluent in the fundamentals of mathematics through varied and frequent practice with complexity increasing over time.
- Develop conceptual understanding and ability to recall and apply knowledge rapidly and accurately.
- Reason mathematically; follow a line of enquiry, conjecture relationships and generalisations.
- Develop an argument, justification and proof by using mathematical language.
- Problem solve by applying knowledge to a variety of routine and non-routine problems. Breaking down problems into simpler steps and persevering in answering.

All at St Peter's C. of E. Junior School recognise that Mathematics teaches children how to make sense of the world around them through developing their ability to calculate, reason and problems solve.

Our aims are as follows:

- To promote the enjoyment of learning through practical activity, exploration and discussion.

- To promote confidence and competence with numbers and the number system and secure mental strategies.
- To develop the ability to solve problems through decision making and reasoning in a range of contexts.
- To understand the importance of mathematics in everyday life.
- To teach to a Mastery Maths curriculum

What is Mastery? Children are deemed to have ‘mastered’ a particular objective when they are able to build on it to develop understanding of new mathematics. For each objective, children must have enough conceptual and procedural fluency to enable them to solve non-routine problems in unfamiliar contexts without relying on memorised procedures.

Equal Opportunities

We have high expectations for all of our children. Our aim as a school is to ensure that all children have equal access to a rich and rewarding curriculum and that they experience this curriculum in ways that are appropriate for their needs, regardless of gender, ethnicity, or any other determining factors.

Statutory Requirements St Peter’s C. of E. Junior School adheres to the statutory requirement for the teaching and learning of maths which are laid out in the National Curriculum in England. Mathematics Programmes of study – Key Stage 2.

Long and medium term planning

Years 3-6 use the Complete Maths schemes of learning alongside resources from elsewhere whilst we are in a transition period of training. These schemes provide teachers with exemplification for maths objectives and are broken down into fluency, reasoning and problem solving, key aims of the National Curriculum. They support a mastery approach to teaching and learning and have number at their heart. They support pupils working together as a whole group and provide plenty of time to build reasoning and problem solving elements into the curriculum.

Short term planning

Following the Complete Maths schemes of learning ensures the children receive full coverage of the National Curriculum objectives with ample opportunity to develop their understanding of number, measurement, pattern, shape and space. Each mathematical concept is broken down into small steps to enable all children to experience success in their learning.

Lessons

Lessons are planned and delivered using a common planning format and are monitored at intervals by the mathematics subject leader. All classes have a daily 60 minute mathematics lesson where possible.

In all lessons, learning objectives, success criteria and key mathematical vocabulary are clearly displayed and discussed. Whenever possible we adopt a Concrete-Pictorial-Abstract-Language

approach which supports children's conceptual understanding before moving on to more formal methods.

The emphasis in lessons is to make teaching interactive and lively, to engage all children encouraging them to talk about mathematics.

Lessons involve elements of:

- Instruction – giving information and modelling it well
- Demonstrating – showing, describing and modelling mathematics using appropriate resources and visual displays.
- Explaining and illustrating – giving accurate and well-paced explanations.
- Consolidating/ Deliberate Practice
- Reflecting and evaluating responses – identifying mistakes and using them as positive teaching points.
- Summarising – reviewing mathematics that has been taught enabling children to focus on next steps.

Resources

To support the Concrete-Pictorial-Abstract-Language approach we ensure all children have access to core concrete manipulates during maths lessons.

Available at all times are:

- Base 10
- Bead strings
- Numicon
- Counters
- Cuisenaire rods
- Number lines
- Hundred square
- Reknreks

Other specialised resources are available to support the teaching of specific mathematical concepts.

All children have timetabled access to chrome books on a regular basis.

Times Table Rockstars

Times table rockstars is a fully interactive online mathematics learning tool for children. It provides a fun and stimulating way to learn and practise times tables whilst developing speed and fluency.

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.

End of unit and termly assessments are carried out across the school using the assessment materials provided by Complete Maths and from Headstart in line with the schemes of learning. These materials used alongside teacher judgements inform pupil progress and next steps. Pupil progress meetings are timetabled each term for all classes. Progress of pupils is discussed and appropriate intervention considered and put in place where appropriate.

Children undertake the national tests at the end of year 4 (multiplication test) and 6 (SATs).

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 as close to the work as possible ideally within the same lesson. Some pieces of work in mathematics can be marked by children themselves, exercises involving routine practice with support and guidance from the teacher – particularly in years 5 & 6.

Homework and the Role of Parents

We see parents as important partners in the process of developing children's mathematical skills.

We therefore encourage parents to play a full part in their children's education by:

- Encouraging and supporting their child/ren to access Times Table Rockstars, Numbots and Tutor from Complete Maths at home.
- Encouraging and supporting their child/ren to complete weekly homework tasks.
- Attend, whenever possible, mathematical events held at the school.
- Model a positive attitude towards the teaching and learning of maths.

Staff Development

At St Peters C. of E. Junior School, staff development is undertaken in the following ways:

- By identifying areas for improvement during Performance Management reviews.
- In the Academy Development Plan.
- By discuss with the head teacher.
- By making staff aware of relevant courses.
- By observation and feedback.
- By whole school INSET.
- By visits to leading mathematical teachers when appropriate.

Role of the Maths Subject 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.
- 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