

ST. PAUL'S
CHURCH OF ENGLAND
PRIMARY SCHOOL



ENGAGE - INSPIRE - ACHIEVE

**The Christian family of St Paul's... moving forward together.
A caring, exciting and happy school where everyone succeeds!**



Mathematics Policy September 2022



Article 29:

**Every child has the right to an
education which helps them develop
their abilities and talents.**



Policy Statement

The following policy reflects our values and philosophy in relation to the provision and teaching of mathematics at St Paul's C of E Primary School to produce children with mathematical fluency, children who confidently and successfully undertake mathematical activities both in the classroom and the world beyond. Mathematics is perceived as a vital life skill as well as an academic pursuit.

Children that have mathematical fluency are confidently able to apply their mathematical knowledge and skills both at school and in their daily lives.

When possible, practical opportunities, using models and real-life situations are incorporated. This will support and increase all children's access to excellent teaching, leading to exciting and successful learning.

Links to other policies

National Curriculum 2014

Teaching and Learning Policy

Marking Policy

Homework Policy

Our Mathematics curriculum aims to ensure all pupils:

- become *fluent* in the fundamentals of mathematics through varied and frequent practice
- can *reason* mathematically by following a line of enquiry or developing an argument using mathematical language
- can *solve problems* by applying their mathematics to a range of problems with increasing sophistication
- can apply their mathematical knowledge to science and other subjects through cross- curricular links

Through our provision it is our intention that children:

- will be able to apply their mathematical knowledge to solve problems, including those with real-life contexts, by choosing the appropriate operations
- can estimate the approximate size of the answer to check the reasonableness of their calculations
- will leave primary school with an efficient, reliable, compact written method of calculation for each operation
- develop a range of mental calculations strategies, aided by informal jottings where necessary
- are confident in the fundamentals of maths and be able to reason mathematically
- understand the importance of mathematical skills in everyday life

Teaching and learning

The curriculum will be delivered through the implementation of 'The Statutory Framework in the Early Years Foundation Stage 2021' and 'The 2014 National Curriculum' in both discrete lessons and through other subjects areas where appropriate.

Mathematics is taught everyday throughout school through a discrete maths lesson and this is timetabled to take place for 1 hour (approx). Daily sessions take place in EYFS and provision is used to support class teaching. Additional sessions may be timetabled to support children in achieving the key skills of the curriculum. Times tables practice and number bond work also take place outside of the timetabled lessons.

The staff at St Paul's C of E Primary School have worked hard to understand the factors that lead to high standards in maths, and have developed a common approach to teaching maths throughout the school based on the following assumptions:

- The need to follow the agreed school curriculum, alongside the mental and written calculation policies.
- The primacy of mental calculations, backed by accurate and rapid recall of number facts, is acknowledged.
- The importance of incorporating a range of teaching approaches, together with appropriate differentiation to meet the needs of all learners.
- Mastering mathematics through a sustained approach to fluency, variation, mathematical thinking and representation and structure.

Lessons should:

- provide opportunities to practice mental calculation and for children to orally explain their methods and strategies
- include problem solving activities (oral and written)
- have clear focus; children should be aware of the learning intentions and outcomes
- be interactive and incorporate all learning styles
 - include both teaching input and pupil activities and a balance between whole class, grouped, paired and individual work
 - include a plenary which involves work with the whole class to address misconceptions, identify progress, to summarise key facts and ideas and what to remember, to make links to other work and to discuss next steps.

Planning

The Mathematics Curriculum is delivered using the Mathematics programmes of study: Key Stages 1 and 2 sections of the National Curriculum in England (Sept 2014). To ensure an appropriate balance and distribution of key skills across each term, the school uses Lancashire Maths planning. This covers medium and short-term planning. Learning and Progression Steps (LAPS) are used to scaffold learning required in order to meet the expectations of the National Curriculum.

Lessons follow the Red Rose Mastery Scheme from Year 1 - Year 5.

Year 6 follow the Lancashire termly sequences of learning, with lessons based on a mastery approach.

Planning begins from a thorough understanding of children's needs gleaned through effective and rigorous assessment and tracking, combined with high expectations and ambition for all children to achieve.

Early Years Foundation Stage

The Early learning Goals from the Early Years Outcomes document are followed to ensure continuity and progression from the Foundation Stage through to the National Curriculum. Pupil provision is related to age related expectations. Mathematics is incorporated into both adult directed activities and continuous provision activities throughout the year. Lancashire planning sequences are used to support this area.

Organisation of Maths Lessons

- There is a daily emphasis on fluency and mental calculation throughout school.
- Class teachers will encourage children to look for patterns, make links between their learning in maths and explore this further.
- Class teachers should regularly plan for opportunities for children to apply their maths skills to different problems within maths lessons and across the curriculum. This will also allow children to revisit, practice and master different areas of maths and apply them within different contexts.
- Planning, where possible, should involve real life contexts for maths, where children are problem solving with a purpose in mind.
- Challenge- “deeper thinking” is provided in every lesson for all children. These challenges encourage children to think more deeply about the mathematical concepts. All children need to be exposed to solving problems and the rich discussions and mathematical language that is used when thinking deeply.
- Differentiation is provided through the level of time and support a child needs. Additional support may be provided in the following ways: further use of equipment to expose the structure of the maths, careful directed questioning and CT guided group rapid intervention/adult support or a scaffolded version of the learning objective.
- In the Foundation Stage, children are given the opportunity to develop their understanding of number, measurement, pattern and shape and space through a combination of short, formal teaching as well as a range of planned structured play situations, where there is plenty of scope for exploration.
- Children will become very competent ‘counters’ so that their fluency with the number system provides a foundation for mathematical understanding. Counting forwards and backwards in many different sized steps as well as from different starting and ending points is essential.
- Maths learning builds from a concrete understanding of concepts where children are manipulating objects. When children are able to see concepts this way, they then need to understand the same concepts represented pictorially. Children are then ready for abstract representation before being able to apply their knowledge to different situations.

- Children should be encouraged at all times to communicate their understanding of maths so that it clarifies their thoughts.
- Children's mental maths is of great importance, with number bonds, times tables facts and various strategies for calculation taught and practiced at school with support sought from parents through homework activities. 'Fluent in 15' is timetabled within the school day to support this. Pupils are encouraged to practise and record a range of mental maths skills. TT Rockstars is used as a home/school resource to support fluency of times tables.
- A progression towards efficient written calculations should be developed and applied consistently in each year-group. The school Calculation Policy should be followed.
- From Year 1, mathematics continues to be taught as a discrete subject, following the principles described above. In Key Stage 2, children are taught within classes and differentiated accordingly. Progress and attainment is reviewed on a termly basis and organised to best fit the needs of each individual learner. Mathematical knowledge is applied and skills reinforced whenever relevant in other curriculum areas.

Recording of maths learning

- All pupils in Key stage 1 and 2 have a maths book for recording learning.
- Key stage 1 - stickers are used for each piece of work with the date and title of the lesson. This links to the skill that is being taught.
- Key stage 2 - pupils are encouraged to write the short date and title at the start of each lesson. This should be underlined and written in pencil.
- Learning journals are used to record progress towards ELGs in Reception. These contain evidence from class teachers/TAs and specific work examples/photos to show pupil progress.

Assessment, Recording and Reporting

Assessment for learning should occur throughout the entire maths lesson, enabling teachers/teaching assistants to adapt their teaching/input to meet the children's needs. This feedback should be incisive and regular.

- On a daily basis children should self-assess against the key learning and steps to success, giving them a sense of achievement. Children should know when they are meeting their targets and be self-assessing against those too.
- Pupil's work should be marked in line with the Marking Policy and should model how corrections should be made, giving children a chance to learn from their misconceptions or incorrect methods.
- Assessment of pupil work and progress is ongoing by the class teacher and informs future planning. Teachers mark work in mathematics in line with the school marking policy. Teachers use Key Learning Indicators of Performance (KLIPs) and this allows teachers to level children's progress in mathematics, gathering evidence over the course of the year. Teachers use this information to inform planning for groups and individual pupils on a termly basis.
- Tracking is used in order that children who are not making good progress over time can be targeted for support in one form or another. What that support will and how intensive, depends upon the child's needs and it may be a simple strategy within whole class teaching that is needed. Where further support is deemed necessary, children can access appropriate interventions.

Displays

- Each classroom should display a maths working wall to support class teaching and learning.
- Each working wall should display what is being taught each day, how this links with past learning and what learning may look like as a problem.
- Mathematical vocabulary should be displayed so that children use this in the communication of their understanding.
- 'Sticky knowledge' is also an integral part of the maths learning and should be prevalent in each classroom for pupils to refer to.
- Working walls should be changed frequently to support the work in the classroom. There should be maths work on display in classrooms and in other areas of the school in order to encourage a positive attitude and enthusiasm towards mathematics for all groups of children.
- Examples of children's work maybe displayed.

Resources

Each classroom has a small stock of key maths resources. Other maths resources are kept either in individual classes or in a centralised storage area, and all staff are encouraged to use these to follow the 'concentrate, visual and abstract' approach throughout the school, especially when teaching new concepts.

Equal Opportunities

The maths policy firmly supports the equal opportunities philosophies of the school and all children will have access to the maths curriculum.

Inclusion

We aim to provide for all pupils so that they achieve as highly as they can in Mathematics according to their individual abilities. We will identify which pupils or groups of pupils are under-achieving and take steps to improve their attainment. Gifted pupils will be identified and suitable learning challenges provided. Where necessary, adaptations will be made to the curriculum, to equipment and to resources to allow access to maths for pupils with SEN, including provision for pupils that are exceptionally able in mathematics.

Parents and Homework

We recognise that parents make a significant difference to children's progress in Maths and encourage this partnership. The homework policy and individual class homework leaflets outline how parents can support.

Curriculum Leadership

The role will include:

- Inspiring an exciting and creative approach to maths teaching
- Supporting maths teaching through advice, guidance, CPD and resources
- Sharing information acquired from courses or other sources that may be beneficial to staff
- Reviewing the maths policy and monitoring its implementation
- Regularly evaluating the maths scheme of work and amending as necessary
- The management, maintenance and storage of resources
- Organising pupils' participation in maths workshops and events
- Effectively managing the maths budget
- Reporting to parents, governors and others when appropriate

POLICY REVIEW

The Mathematics policy will be reviewed annually as part of the overall school development plan.

We are a Rights Respecting School. The United Nations Convention on the Rights of the Child (UNCRC) is at the heart of everything we do. The UNCRC articles which are particularly relevant to this policy are:

