

Rationale for Maths at St Paul's Catholic Primary School

INTENT

At St Paul's Catholic Primary School, we aim to provide all pupils with a rich, progressive and carefully sequenced mathematics curriculum which develops fluency, reasoning and problem-solving. We want our children to become confident mathematicians who can apply their mathematical knowledge and understanding to a wide range of situations, both within and beyond the classroom.

Pupils develop secure conceptual understanding alongside procedural fluency, enabling them to recognise relationships, make connections and apply their knowledge to increasingly sophisticated problems. We place a strong emphasis on pupils understanding why mathematical methods work, rather than simply learning procedures.

We believe that all children can succeed in mathematics. Our curriculum is underpinned by the principles of mastery, ensuring that pupils have sufficient time and opportunity to develop secure understanding before progressing to new concepts. Where pupils experience difficulty, teachers respond through high-quality teaching, appropriate scaffolding, concrete resources, representations, targeted practice and intervention. We seek to address gaps in knowledge without unnecessarily narrowing the curriculum or lowering expectations.

Our mathematics curriculum is designed to ensure that all pupils, including those who are disadvantaged and those with SEND, have access to the same ambitious mathematical curriculum and the support necessary to succeed within it.

We aim to develop pupils who:

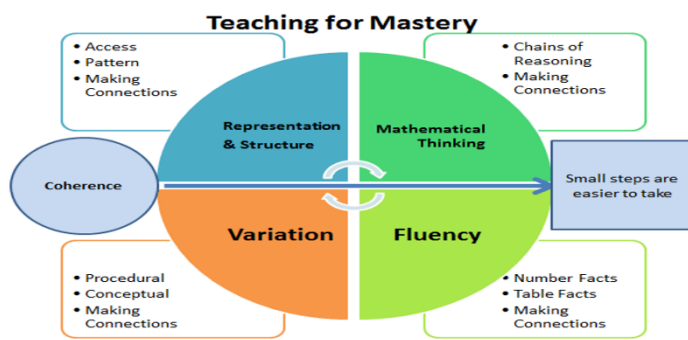
- are fluent in key mathematical facts and procedures;
- understand mathematical concepts deeply and can make connections between them;
- can reason mathematically, explain their thinking and justify their conclusions;
- can solve problems using a range of appropriate strategies;
- can apply their mathematical knowledge in unfamiliar and real-life contexts;
- use precise mathematical vocabulary when speaking and writing about mathematics;
- can identify and learn from misconceptions;
- demonstrate resilience and perseverance when mathematics becomes challenging;
- retain and retrieve important mathematical knowledge over time;
- develop a positive attitude towards mathematics and believe that they can succeed.

Our curriculum reflects the aims of the National Curriculum. Pupils are taught to become fluent in the fundamentals of mathematics, to reason mathematically and to solve increasingly complex problems.

Ultimately, we want children to leave St Paul's as confident, resilient and mathematically capable learners, equipped with the knowledge, skills and positive attitudes needed for secondary education, future learning and everyday life.

IMPLEMENTATION

At St Paul's, mathematics is taught through a **mastery approach**. Our curriculum is carefully sequenced so that knowledge and understanding are built progressively from Reception through to Year 6.



We expect pupils to move through the curriculum at broadly the same pace. Rather than routinely placing pupils into different mathematical pathways, teachers adapt the teaching, representation, questioning, resources and level of scaffolding so that pupils can access the ambitious curriculum.

Where gaps in foundational knowledge exist, these are identified through assessment and addressed through responsive teaching, additional practice and targeted intervention. Our approach ensures that pupils are not simply taught to complete mathematical procedures, but develop the conceptual understanding and fluency necessary to apply mathematics successfully.

Across the school, mathematics lessons provide opportunities for pupils to:

- develop fluency and automaticity with important mathematical facts;
- retrieve previously taught knowledge and apply it in new contexts;
- develop conceptual understanding through concrete, pictorial and abstract representations;
- reason mathematically and explain their thinking;
- use precise mathematical vocabulary;
- compare and evaluate different methods;
- identify patterns, relationships and connections;
- solve increasingly complex problems;
- apply mathematical knowledge to unfamiliar contexts;
- develop independence and perseverance;
- reflect on their learning and identify and correct misconceptions.

- Retrieval and Long-Term Learning

We recognise that pupils need regular opportunities to revisit previously taught knowledge in order to retain it over time. Retrieval is therefore embedded within mathematics teaching through fluency activities, questioning, calculation practice, times-table practice and opportunities to apply previously learned concepts alongside new learning.

Teachers deliberately revisit important mathematical knowledge and identify opportunities for pupils to make connections between concepts. This supports pupils to know more, remember more and apply more as they progress through the school.

Mathematical Oracy

Mathematical language and communication are an important part of our curriculum. Teachers explicitly model precise mathematical vocabulary and provide pupils with regular opportunities to explain methods, justify answers, compare strategies, identify relationships and respond to the reasoning of others. Pupils are encouraged to explain how they reached an answer and why a method works. This develops both mathematical understanding and wider communication skills.

Early Years Foundation Stage

In Reception, NCETM Mastering Number forms the main mathematics curriculum approach. The programme develops strong foundations in number and supports children to develop secure understanding of key concepts including:

- counting and cardinality;
- subitising;
- comparison;
- composition of number;
- number relationships;
- addition and subtraction foundations;
- mathematical language and reasoning.

Children experience mathematics through a combination of carefully structured adult-led teaching, practical activities and purposeful play. Concrete resources, visual representations and mathematical talk are used to develop children's understanding and confidence. The learning environment, both inside and outside, provides opportunities for children to explore mathematics in meaningful contexts and apply their learning independently.

Teachers use observation and assessment to identify children's starting points, misconceptions and next steps. Enhanced provision is then carefully planned to consolidate and deepen mathematical understanding. The strong foundations established in Reception provide the basis for the development of fluency and calculation in Key Stage 1.

Key Stage 1

In Key Stage 1, pupils build upon the mathematical foundations established in Reception. The National Curriculum is supported through Power Maths, alongside NCETM Mastering Number. Mastering Number provides additional dedicated fluency opportunities which strengthen pupils' understanding of number, calculation and relationships between numbers.

Pupils develop secure understanding of:

- place value;
- addition and subtraction;
- multiplication and division;
- fractions;
- measurement;
- geometry;
- statistics.

Particular emphasis is placed on developing number sense, calculation strategies and automatic recall of key facts. Concrete resources and pictorial representations are used alongside abstract notation to develop conceptual understanding and support pupils in explaining their mathematical thinking. The additional Mastering Number fluency sessions ensure that pupils have regular opportunities to develop the automaticity and confidence needed to progress successfully through Key Stage 2.

Key Stage 2

In Key Stage 2, pupils build progressively upon the knowledge and understanding developed in Reception and Key Stage 1. Power Maths supports curriculum planning and sequencing, while teachers draw upon NCETM mastery resources and approaches to strengthen conceptual understanding and fluency. The curriculum develops pupils' knowledge and understanding of:

- number and place value;
- the four operations;
- fractions;
- decimals;
- percentages;
- ratio and proportion;
- measurement;
- geometry;
- statistics;
- algebra.

Pupils increasingly apply their mathematical knowledge to complex and unfamiliar problems. They are expected to explain their methods, justify their reasoning and make connections between different areas of mathematics.

Times Tables and Multiplication Fluency

Multiplication and division fluency is a key priority throughout Key Stage 2. The school uses NCETM Times Tables resources and approaches to provide a structured progression in multiplication and division facts. Pupils receive regular opportunities to retrieve, practice and apply multiplication and related division facts. This supports fluency across the wider mathematics curriculum, particularly when working with fractions, decimals, percentages, ratio and calculation.

Times Tables Rock Stars (TTRS) provides additional opportunities for pupils to practise their multiplication facts in school and at home. The development of multiplication fluency is viewed as a cumulative process across the school rather than something that is addressed solely in preparation for the Year 4 Multiplication Tables Check.

Years 5 And 6 – Arithmetic

In Years 5 and 6, pupils receive dedicated arithmetic teaching each week. These sessions provide focused opportunities to:

- develop calculation fluency;
- consolidate written and mental calculation methods;
- revisit previously taught knowledge;
- address misconceptions;
- close gaps in foundational knowledge;
- improve accuracy and efficiency;
- prepare pupils to apply their mathematical knowledge independently.

Arithmetic teaching is responsive to assessment information. Teachers use identified strengths and gaps to determine which areas require further practice or explanation. This supports pupils to develop the secure procedural knowledge needed to access increasingly challenging reasoning and problem-solving tasks.

Inclusion And SEND

At St Paul's, we recognise that pupils learn mathematics in different ways and at different rates. However, we maintain high expectations for all learners. For pupils with SEND or significant gaps in learning, teachers carefully consider:

- the language used;
- the representation of mathematical ideas;
- the use of concrete resources;
- visual supports;
- modelling;
- chunking and sequencing;
- opportunities for repetition and retrieval;
- additional adult support;
- targeted intervention.

Where appropriate, pupils receive additional opportunities to consolidate essential knowledge and develop fluency. Our aim is to remove barriers to learning without reducing ambition. Pupils are supported to access the same rich mathematical concepts wherever possible, with appropriate scaffolding and adaptations.

Resources And Teaching Approaches

At St Paul's, we use a range of high-quality resources to support the delivery of mathematics. These resources are used alongside teacher expertise and professional judgement. Power Maths provides a key resource for curriculum planning, sequencing and mathematical practice. NCETM Mastering Number is the main mathematics approach in Reception and provides additional fluency sessions in Key Stage 1. NCETM Times Tables resources support the development of multiplication and division fluency across Key Stage 2. Times Tables Rock Stars provides additional opportunities for pupils to practise multiplication facts. Teachers also draw upon NCETM mastery resources and other appropriate high-quality resources where these support consolidation, challenge, reasoning or problem-solving. Resources are selected according to their suitability for the intended learning rather than being used simply for the sake of following a programme.

Impact

Assessment

Assessment is an integral part of mathematics teaching at St Paul's. Teachers continually assess pupils' understanding during lessons and use this information to adapt teaching, address misconceptions and identify pupils requiring further support or challenge.

Our assessment approach includes:

- ongoing formative assessment in every mathematics lesson;
- teacher questioning and discussion;
- observation of pupils' mathematical thinking;
- assessment of independent work;
- retrieval and fluency activities;
- multiplication and times-table fluency checks;
- Power Maths assessments;

- Power Maths end-of-unit checks;
- Testbase assessments;
- Quest assessments at identified assessment points;
- statutory assessment information, including the Multiplication Tables Check and Key Stage 2 SATs.

Assessment information is used diagnostically. Teachers identify what pupils know, what they have misunderstood and what needs to be taught or revisited next. Assessment does not simply measure learning; it is used to improve learning. Where assessment identifies gaps, teachers respond through quality-first teaching, additional practice, targeted intervention and curriculum adaptation.

Monitoring Progress and Improving Practice

Mathematics attainment and progress are monitored through a combination of pupil work, lesson visits, planning scrutiny, assessment information, pupil voice and professional dialogue. Leaders use this information to identify strengths and areas for development across year groups and to support greater consistency in the teaching of mathematics. Effective practice is shared across the school so that successful approaches to teaching, assessment, fluency, reasoning and problem-solving can support improvement beyond individual classrooms. Particular attention is given to the progress and attainment of disadvantaged pupils, pupils with SEND and pupils who have gaps in foundational mathematical knowledge.

The Impact of Our Mathematics Curriculum

The impact of our mathematics curriculum is that pupils develop increasing confidence, fluency, independence and resilience as mathematicians. Pupils can:

- recall and apply important mathematical knowledge;
- explain and justify their mathematical thinking;
- use appropriate mathematical vocabulary;
- select efficient methods;
- recognise and correct misconceptions;
- make connections between mathematical concepts;
- apply their knowledge to unfamiliar problems;
- persevere when faced with mathematical challenge.

Pupils demonstrate that they understand mathematics rather than simply memorising procedures. They increasingly recognise relationships and patterns and can transfer their mathematical knowledge to new situations. Assessment information demonstrates that pupils develop knowledge and skills progressively from their starting points. Gaps in learning are identified and addressed, with particular focus on ensuring that disadvantaged pupils and pupils with SEND are supported to make strong progress.

Most importantly, pupils develop a positive attitude towards mathematics. They understand that making mistakes is part of learning, are willing to persevere and increasingly believe in their ability to succeed. By the end of Year 6, pupils are equipped with the mathematical

knowledge, fluency, reasoning skills and confidence required for the next stage of their education and for using mathematics successfully in everyday life.

Our Mathematical Journey

At St Paul's, the mathematics curriculum represents a coherent journey from Reception to Year 6:

Reception

Strong number sense, subitising, counting, composition and mathematical language through Mastering Number.



Key Stage 1

Secure number understanding, calculation, place value and fluency, strengthened through additional Mastering Number sessions.



Lower Key Stage 2

Increasing fluency with the four operations, fractions and multiplication and division facts, supported by NCETM Times Tables approaches.



Upper Key Stage 2

Application of increasingly complex mathematical knowledge, with dedicated arithmetic teaching, reasoning, problem-solving and preparation for the demands of secondary mathematics.



End of Year 6

Confident mathematicians who can **know, remember, reason, calculate and apply** mathematical knowledge independently.

This progression ensures that every mathematical experience at St Paul's contributes to a coherent body of knowledge, enabling pupils to build upon what they already know and become increasingly capable in mathematics.

Subject Leader: Josh Caves

