

Vision for Mathematics

Everyone belongs. Everyone is a mathematician. Success may look different, but growth is expected for all.

At St Peter's, we believe that every child can develop as a successful mathematician.

Our vision is to build strong mathematical foundations, secure number sense and a deep understanding of mathematical concepts so that all children develop confidence, curiosity and resilience in mathematics.

We strive to create a safe and inclusive learning environment where children feel valued, are encouraged to share their thinking, take risks and learn from mistakes. We believe that mistakes are an essential part of learning and that every child should feel confident to explore, question and persevere.

Through rich mathematical experiences and high-quality teaching, we nurture children who are willing to reason thoughtfully, communicate their ideas, make connections in their learning and see themselves as capable mathematicians.

As an inclusive school, we recognise that children learn mathematics in different ways and at different rates. We are committed to providing the support, challenge and opportunities that enable every pupil to participate, achieve and make progress from their individual starting points. Wherever possible, we strive to ensure that all children learn alongside their peers and experience a strong sense of belonging within our mathematical community.

We want every child to leave St Peter's with the knowledge, understanding and confidence to embrace future mathematical learning, apply their skills in everyday life and approach new challenges with determination and self-belief.

Our Mathematics Teaching Principles

At St Peter's, we believe all children can achieve and make progress in mathematics. These principles underpin our curriculum, teaching and learning and provide a consistent approach across the school whilst recognising the diverse needs of our learners.

● Everyone Belongs

Every child is a mathematician and deserves access to ambitious mathematical learning.

We believe that every child is a mathematician and deserves access to a rich and ambitious mathematics curriculum. We strive to create inclusive classrooms where all children feel valued, respected and confident to participate. We recognise the diverse strengths, needs and starting points of our learners and are committed to adapting provision so that every child can access, participate and succeed in mathematics.

● High Expectations for All

Success may look different, but meaningful progress is expected for every child.

We maintain high expectations for every learner. Success may look different for different children, but we believe that all pupils can make meaningful progress from their individual starting points. Through careful assessment, responsive teaching and appropriate scaffolding, we identify barriers to learning and provide the support and challenge needed for every child to thrive.

● Strong Foundations Build Future Success

Secure number sense and conceptual understanding underpin future learning.

We prioritise the development of secure number sense, fluency and deep conceptual understanding. Children are supported to develop strong mathematical foundations, enabling them to recognise patterns, make connections, think flexibly and confidently apply their learning as they progress through the curriculum.

● Thinking, Talking and Reasoning Matter

Children develop understanding through discussion, explanation and mathematical language.

Mathematics is more than getting the right answer. We encourage children to explain their thinking, justify their ideas, make connections and communicate using precise mathematical language. Mathematical discussion and oracy play a vital role in deepening understanding and developing confident mathematicians.

● Mistakes Help Us Learn

Mistakes are opportunities to learn, reflect and grow.

We foster a safe learning environment where mistakes are valued as an essential part of the learning process. Children are encouraged to take risks, explore different approaches and learn from errors. We believe that resilience, perseverance and reflection are key to mathematical success.

● Understanding Before Application

Children explore concepts deeply before applying them in different contexts.

We believe children learn mathematics best when concepts are explored deeply and connections are made explicit. Through carefully sequenced learning, effective representations and purposeful practice, children develop understanding before applying their knowledge to increasingly complex reasoning and problem-solving situations.

Mathematics with Purpose

Mathematics is meaningful, connected and relevant to the world around us.

We provide opportunities for children to apply their learning, solve problems and make sense of the world around them. By seeing mathematics as meaningful, connected and useful, children develop confidence and a positive attitude towards the subject that will support them beyond primary school.

The St Peter's Mathematics Learning Cycle

At St Peter's, our mathematics lessons are designed to help children build secure understanding, make meaningful connections and apply their learning with confidence.

Whilst lessons may vary according to the needs of individual learners, mathematics teaching at St Peter's is underpinned by three key phases. Together, these phases develop fluency, conceptual understanding, reasoning and problem-solving whilst ensuring all children can access, participate and succeed in mathematics.

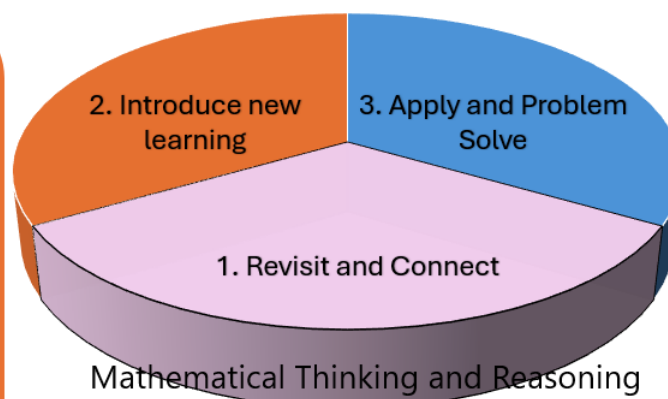
Phase 2: Introduce New Learning

The purpose of this phase is to develop deep conceptual understanding through carefully sequenced teaching, effective modelling and purposeful mathematical discussion.

This phase may include:

- Explicit teaching of key vocabulary and stem sentences.
- Addressing misconceptions through examples and non-examples.
- Modelling new procedures, concepts and strategies.
- Using concrete, pictorial and abstract representations.
- Following a gradual release approach (I Do, We Do, You Do).
- Promoting mathematical discussion and oracy.
- Adapting support and scaffolds in response to ongoing assessment.

This phase develops conceptual understanding and equips children with the knowledge and strategies needed for success.



Phase 3: Apply and Problem Solve

The purpose of this phase is to deepen understanding by applying learning in a range of contexts, enabling children to reason, communicate and make meaningful connections.

This phase may include:

- Reasoning and problem-solving opportunities.
- Applying learning in a variety of contexts.
- Explaining, justifying and communicating mathematical thinking.
- Comparing and evaluating different strategies.
- Collaboration and mathematical discussion.
- Assessment through questioning, quizzes and exit tickets.

This phase enables children to consolidate understanding, build confidence and use mathematics flexibly.

Phase 1: Revisit and Connect

The purpose of this phase is to strengthen retention, secure prerequisite knowledge and help children make meaningful connections between previous and new learning.

This phase may include:

- Identifying and revisiting prerequisite knowledge required for new learning.
- Making explicit connections between previous and new learning.
- Rehearsing key facts, strategies and concepts to strengthen number sense.
- Retrieval activities designed to strengthen long-term memory.
- Spaced repetition to develop fluency and automaticity.
- Interleaving previously taught concepts in a variety of contexts.

This phase strengthens retention, builds confidence and prepares children for new learning.

Mathematical Thinking & Reasoning

Integrated into all phases of learning

- Explain and justify thinking.
- Make connections and identify patterns.
- Compare and evaluate strategies.
- Communicate using mathematical language.
- Learn from mistakes and misconceptions.

Mathematical thinking and reasoning underpin deep mathematical understanding.

Our Learning Cycle in Practice

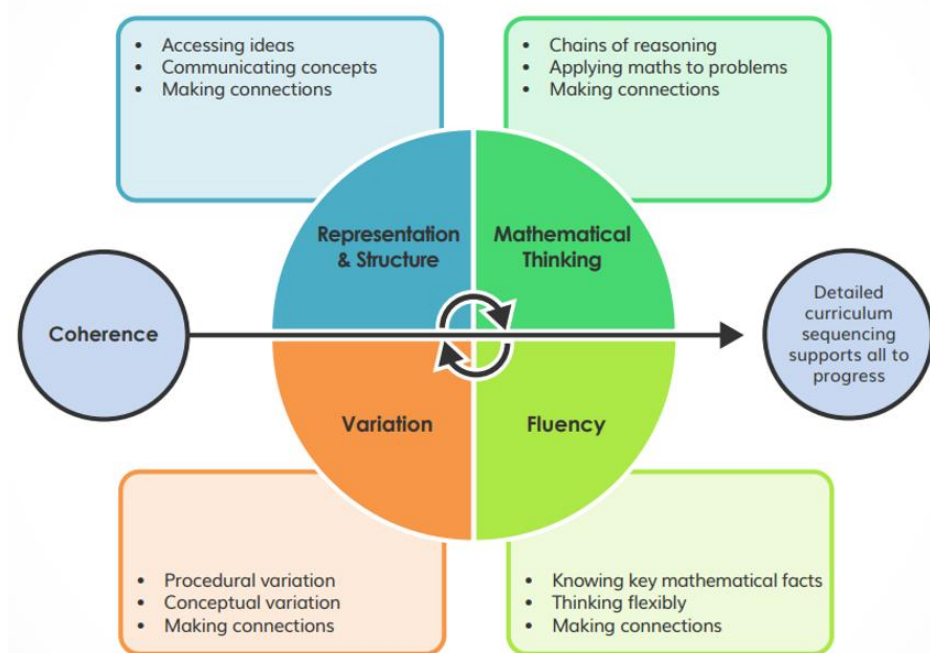
This cycle gives teachers flexibility.

A Year 1 lesson will not look identical to a Year 6 lesson, and an ARP lesson will not look identical to a mainstream lesson. However, the learning principles remain the same.

Consistency without rigidity.

Teaching for Mastery at St Peter's

At St Peter's, our approach to mathematics is underpinned by the NCETM Five Big Ideas. These principles support the development of deep, connected and lasting mathematical understanding for all learners.



Coherence

Learning is carefully sequenced through small connected steps. Children build on prior knowledge, make links between concepts and develop understanding over time.

Representation and Structure

Representations help children see the mathematics. Concrete resources, visual models and diagrams are used to reveal mathematical structures and relationships.

Mathematical Thinking

Children are encouraged to think like mathematicians. They make connections, identify patterns, reason, conjecture and communicate their ideas with increasing confidence.

Fluency

Fluency is more than speed and recall. Children develop automaticity with key facts whilst learning to apply knowledge flexibly and efficiently in different contexts.

Variation

Carefully chosen examples draw attention to important mathematical ideas. Teachers vary questions, representations and examples to deepen understanding and expose mathematical structure.

These Five Big Ideas are reflected throughout our Mathematics Learning Cycle and underpin high-quality mathematics teaching and learning across St Peter's.

Adaptive Teaching and Inclusion

At St Peter's, adaptive teaching is a responsive process that enables all children to access ambitious mathematics learning. Adaptations are used to remove barriers, build understanding and develop confidence whilst maintaining high expectations for every learner.

What Adaptive Teaching Looks Like at St Peter's

Strategy	What this looks like in practice
Revisiting Prior Learning	Key prerequisite knowledge is identified during planning and revisited before new learning begins. Teachers may use retrieval practice, arithmetic starters, fluency tasks or discussion to ensure important building blocks are secure and fresh in pupils' minds.
Keeping Learning Together	Wherever possible, all children work towards the same learning objective. Support is provided through scaffolding, representation and adaptation rather than lowering expectations or teaching different mathematics. This helps ensure that all pupils remain part of the mathematical community within the classroom and experience a sense of belonging.
Anticipating Misconceptions	Teachers identify likely difficulties during planning and prepare questions, examples, stem sentences or representations that expose and address misconceptions before they become barriers to learning.
I Do, We Do, You Do	Carefully structured modelling and guided practice help teachers continually assess understanding before expecting independent application. Additional examples or guided practice are provided when needed.
Responsive Teaching	Teachers adapt lessons based on ongoing assessment. If understanding is not yet secure, teaching may pause, revisit previous learning or provide further opportunities for explanation and practice.
Concrete, Pictorial and Abstract Representations	Teachers move flexibly between representations to strengthen understanding. Children may revisit manipulatives, diagrams, place value charts, number lines or bar models when concepts need further clarification.
Reducing Cognitive Load	Lessons are carefully designed so pupils can focus on the intended mathematical concept. For example, familiar multiplication facts may be used during short division so attention can remain on the structure of the method and interpretation of remainders.
Scaffolding	Teachers provide temporary support through worked examples, visual prompts, stem sentences, structured recording, adult guidance or peer support. Scaffolds are gradually removed as confidence grows.

Live Feedback and Live Marking	Teachers provide immediate feedback during lessons, identifying strengths, misconceptions and next steps. Children are encouraged to reflect on mistakes and use feedback to improve their understanding.
Mathematical Talk and Oracy	Stem sentences, discussion and partner talk support children in explaining, justifying and refining their mathematical thinking. Precise mathematical language is explicitly taught and modelled.
Reasoning Opportunities	Teachers use tasks such as <i>True or False?</i> , <i>Odd One Out</i> , <i>Spot the Error</i> , <i>Always, Sometimes, Never</i> and <i>Convince Me</i> to deepen understanding and assess conceptual security.
Adaptive Intervention	Support is provided at the point of need whenever possible. This may include pre-teaching, same-day intervention, additional guided practice or revisiting learning on subsequent days. Adaptive intervention aims to help pupils keep up rather than catch up. Timely support enables children to access future learning with increasing confidence and independence.
Flexible Curriculum Thinking	Progression is driven by understanding rather than simply moving through a scheme of work. If learning is not secure, teachers revisit and build upon previous learning before moving on.
Knowing the Child	Teachers use their knowledge of each learner's strengths, needs and starting points to make effective decisions about support, challenge and adaptation.

What We Believe

- Every child is entitled to ambitious mathematical learning.
- High expectations remain for all learners.
- Success may look different for different children.
- Learning is rarely linear and often requires revisiting.
- **Performance in one lesson does not determine future attainment.**
- Children learn mathematics through carefully planned practice, thoughtful adaptation and high-quality teaching.
- Adaptive teaching removes barriers without reducing ambition.
- Understanding is more important than simply covering content.

At St Peter's, we do not lower expectations. We adapt our teaching so that every child can experience success, make progress from their starting point and develop confidence as a mathematician.

Number Sense and Fluency

Strong Number Sense Builds Strong Mathematicians

At St Peter's, we believe that number sense is the foundation upon which successful mathematics learning is built. Number sense enables children to understand numbers, recognise relationships, identify patterns and apply known facts flexibly and efficiently. It supports fluency, reasoning and problem solving and allows pupils to approach unfamiliar mathematics with confidence.

We recognise that developing number sense is not limited to the early years of primary education. **Whilst younger pupils may develop understanding through concrete resources and early representations, number sense continues to be strengthened throughout Key Stage 2 and beyond through rich mathematical discussion, representation, reasoning and carefully planned practice. This helps ensure that all learners can access mathematical thinking and participate fully alongside their peers.**

Strong Number Sense Helps Children To:

- Understand the value of numbers and how they relate to one another.
- Recall and apply number facts efficiently.
- Recognise patterns and mathematical structure.
- Make connections between different areas of mathematics.
- Select efficient strategies.
- Reason with confidence and flexibility.

At St Peter's this is developed through subitising, benchmarks of 5 and 10, number bonds, place value understanding, concrete and pictorial representations, mathematical talk, partitioning and known fact strategies.

Developing number sense is about building a grasp of quantities, how numbers relate to each other, and how the number system works. It shifts learners away from rote counting and memorisation toward flexible, strategic thinking.

For the range of representations and strategies please see the Calculation Policy.

As children develop greater understanding, these representations continue to be used as tools for thinking rather than being viewed as resources only for younger learners.

Fluency is More Than Speed

At St Peter's, fluency is more than speed and recall. Fluent mathematicians recall facts accurately, recognise patterns, make connections and select efficient strategies.

Fluent mathematicians are able to:

- Recall important facts accurately.
- Apply known facts flexibly.
- Make connections between different calculations.
- Describe multiple methods yet select and justify efficient methods.
- Explain their thinking.
- Recognise patterns and relationships.

We strive to develop children who understand why methods work, not simply how to perform them. Through carefully planned revisiting, retrieval practice and discussion, children develop increasingly secure and connected mathematical knowledge.

In Years 3–6, children participate in daily mental mathematics sessions. These provide opportunities to develop arithmetic fluency, revisit previously taught concepts, pre-teach upcoming learning and identify misconceptions. Regular exposure to a wide range of mathematical content supports both short-term understanding and long-term retention.

Multiplication Facts and Table Knowledge

Secure multiplication and division facts play an important role in developing mathematical fluency. Children are given regular opportunities to develop automatic recall of multiplication and division facts alongside a deep understanding of multiplicative relationships.

NumberBots, Times Tables Rock Stars and Mathletics support classroom teaching by providing additional opportunities for retrieval and practice. These resources supplement, rather than replace, high-quality mathematics teaching

Times table learning is supported through:

- Frequent practice and retrieval.
- Pattern spotting and reasoning.
- Exploring arrays and equal groups.
- Understanding relationships between multiplication and division.
- Applying known facts to derive unknown facts.

- Use of representations and mathematical talk.

What We Believe

- Number sense underpins all mathematical learning.
- Fluency is more than speed and recall.
- Representations support understanding at every stage of learning.
- Automatic recall and conceptual understanding are equally important.
- Strong foundations support future success.
- Children should be encouraged to think flexibly and make connections.
- Every child can develop as a confident mathematician through carefully planned teaching and practice.

At St Peter's, number sense and fluency are developed through understanding, connection and practice, enabling every child to build secure mathematical foundations for future learning.

Children may require differing levels of time, representation and practice to develop secure number sense, but all learners benefit from opportunities to explore mathematical structure and relationships.

Mathematical Oracy

Every Child Has a Voice in Mathematics

At St Peter's, we believe mathematical understanding develops through thinking, talking, listening and reasoning.

Mathematical oracy enables children to articulate ideas, explain their thinking, justify choices and make connections between concepts. Through structured opportunities for discussion, all pupils are encouraged to participate, contribute and develop confidence as mathematicians.

We recognise that children communicate mathematical ideas with varying levels of confidence. By creating an inclusive classroom culture where all contributions are valued, we help ensure that every child can participate meaningfully and experience a sense of belonging within our mathematical community.

Supporting Mathematical Talk

Teachers provide regular opportunities for children to discuss, rehearse and refine their mathematical thinking.

Strategies may include:

- Think, Pair, Share
- Partner discussion
- Whole-class discussion
- Reasoning activities
- Stem sentences
- Mathematical questioning
- Opportunities to explain and justify thinking

These approaches help all children actively engage with mathematics rather than simply listen to it.

Think, Pair, Share

Think, Pair, Share provides all children with structured opportunities to think before responding. Children are given time to formulate ideas independently before discussing their thinking with a partner and, where appropriate, sharing with the wider class. This approach promotes participation, encourages independence and helps ensure that every pupil has a voice in mathematics rather than relying solely on the ideas of others.

Stem Sentences and Mathematical Language

Stem sentences support children in communicating mathematically with increasing precision and confidence. At St Peter's, stem sentences are used to develop mathematical vocabulary, reasoning and explanation. Teachers may model and co-construct sentences with children to ensure that language is understood and meaningful rather than simply repeated.

Listening, Reasoning and Respectful Challenge

Effective mathematical oracy involves both speaking and listening.

Children are encouraged to:

- Listen carefully to the thinking of others.
- Build upon ideas.
- Identify similarities and differences.
- Challenge reasoning respectfully.
- Justify their own conclusions using mathematical evidence.

Through these discussions, children develop deeper conceptual understanding and learn that mathematics is about reasoning, not simply finding answers.

What We Believe

- Every child deserves a voice in mathematics.
- Thinking time improves mathematical reasoning.
- Precise mathematical language supports understanding.
- Stem sentences should promote thinking, not repetition.
- Listening is as important as speaking.
- Mathematical discussion develops confidence, reasoning and understanding.
- Oracy helps all children participate successfully in mathematics.

At St Peter's, mathematical talk is an essential part of learning, helping every child to think, reason, communicate and belong as a mathematician.

Assessment

Assessment to Support Learning

At St Peter's, assessment is an ongoing part of effective mathematics teaching. It is used to identify understanding, inform future teaching and ensure that all children make meaningful progress from their individual starting points. Assessment helps teachers identify the support, challenge and adaptations needed so that all pupils can participate successfully in mathematics alongside their peers.

We believe assessment should support learning rather than simply measure it. Through careful observation, questioning, discussion and review of children's work, teachers develop a detailed understanding of each child's mathematical strengths, misconceptions and next steps.

Assessment is most effective when it is responsive and leads to action.

Assessment for Learning

Teachers continually assess learning throughout mathematics lessons.

This may include:

- Observation of children's learning
- Questioning and discussion
- Responses during guided practice
- Mini whiteboards
- Reasoning and explanation
- Analysis of independent work
- Live feedback and marking

These approaches enable teachers to identify misconceptions, judge the security of understanding and adapt teaching accordingly.

Assessment informs decisions about:

- Whether children are ready to move forward
- When additional modelling may be required
- When misconceptions need addressing
- Whether learning needs revisiting
- Appropriate support and challenge

Professional judgement remains central to these decisions.

Revisiting and Securing Learning

At St Peter's, we recognise that learning is rarely linear.

Successful performance in a single lesson does not always indicate secure understanding, just as difficulty in one lesson does not determine future attainment.

For this reason, important concepts are revisited regularly through retrieval practice, interleaving and spaced repetition.

Teachers use assessment information to identify when learning requires further consolidation and may choose to revisit concepts before progressing to new content.

Progression is driven by understanding rather than simply completing a sequence of objectives.

Feedback and Reflection

Feedback is used to move learning forward.

Children are encouraged to reflect on their work, respond to feedback and correct misconceptions where appropriate.

Corrections which improve learning may be identified using a © within books.

Mistakes are viewed as valuable opportunities for learning, helping children to refine their understanding and develop resilience as mathematicians.

Summative Assessment

Summative assessments provide additional information about pupil attainment and curriculum coverage.

Across the school, Testbase assessments are completed termly. Assessment information is considered alongside teacher assessment and professional judgement. White Rose end-of-unit assessments may also be used at the teacher's discretion.

Assessment outcomes help teachers identify strengths, areas for development and children who may benefit from additional support or challenge.

What We Believe

- Assessment should improve learning.
- Professional judgement is an essential part of effective assessment.
- Understanding is more important than simply moving through content.
- Learning should be revisited over time to secure long-term retention.
- Misconceptions provide valuable information for future teaching.
- Feedback should encourage reflection and improvement.
- Every child can make progress through responsive teaching and appropriate support.

At St Peter's, assessment is used to understand learners, inform teaching and support every child in becoming a confident and successful mathematician.

Interventions

Supporting Mathematical Progress

Keeping Up Rather Than Catching Up

At St Peter's, we believe that all children can make progress in mathematics. When difficulties arise, our first response is to provide additional support, revisit learning and create further opportunities for success.

We recognise that children learn at different rates and that some pupils may require additional teaching, practice or representation to develop secure understanding. Needing more time is not a barrier to achievement.

Our aim is to help children remain connected to ambitious mathematical learning alongside their peers and to ensure that **no child is left behind**.

Responsive Intervention

Intervention is informed by ongoing assessment and professional judgement.

Support may include:

- Pre-teaching key vocabulary and concepts.
- Additional guided practice.
- Same-day intervention.
- Revisiting previous learning.
- Fluency and number sense development.
- Further use of concrete and pictorial representations.
- Small group support.
- One-to-one teaching where appropriate.

Interventions are designed to address misconceptions, build confidence and strengthen understanding rather than simply provide additional practice.

Targeted Support at St Peter's

Additional support may include booster groups, number sense interventions, times tables support, one-to-one teaching and targeted provision for both pupils requiring additional support and those ready for greater challenge.

Groupings remain flexible and are reviewed regularly to ensure support is responsive to pupils' needs.

Building Confidence Through Practice

We recognise that confidence grows through success.

Children may revisit learning through:

- Retrieval practice.
- Interleaving.
- Spaced repetition.
- Number sense activities.
- Fluency development.
- Mathematical discussion and reasoning.

These opportunities help strengthen both short-term and long-term retention.

Our Commitment to Every Learner

At St Peter's, intervention is not viewed as an alternative curriculum.

It is a means of ensuring that all children can access, participate in and succeed within the mathematics curriculum.

Recent investment in targeted number sense and fluency resources demonstrates our commitment to providing effective support for pupils who are not yet working at age-related expectations. We believe that every child deserves the opportunity to develop confidence, experience success and make meaningful progress from their starting point.

What We Believe

- Every child can succeed in mathematics.
- Needing additional support should never limit ambition.
- Intervention should be timely, purposeful and responsive.
- Understanding is more important than simply moving on.
- Confidence develops through success and practice.
- No child should be left behind.
- Success may look different, but progress is expected for all.

At St Peter's, intervention provides the support, practice and confidence children need to remain connected to learning and experience success as mathematicians.