Math – Subject on a page

Why we teach it

A high-quality mathematics education provides children with the foundations to understand and make sense of the world. Mathematics is of central importance to everyday life, critical for science, technology, engineering as well as necessary for financial literacy and most forms of employment.

INTENT - What we are teaching

We follow the aims of the National Curriculum for Years 1-6 and the Early Years Foundation Stage framework for Reception. We use the White Rose Math framework to structure the units taught across the year and to ensure full curriculum coverage. We believe all children can achieve in mathematics, and teach for secure and deep understanding of mathematical concepts through manageable, sequenced steps.

Early Years Foundation Stage (Year R)

In EYFS, Math is divided into two areas: 'Number' and 'Numerical Patterns'.

In EYFS we aim for all children to:

- to count confidently, develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers.
- develop a secure base of knowledge and vocabulary from which mastery of mathematics is built.
- develop positive attitudes and interests in mathematics: look for patterns and relationships, spot connections, discuss their observations.

(Statutory Framework for the Early Years Foundation Stage, 2021)

Key Stage 1 and Key Stage 2 Math curriculum is split into three overarching topics: Number, Geometry and Measurement.

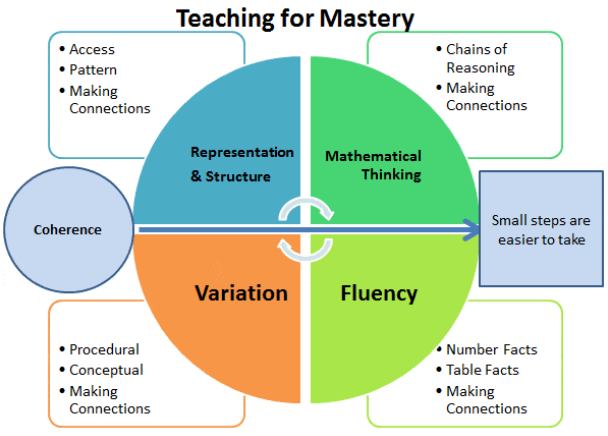
We aim for all children to:

- become **fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop **conceptual understanding** and the ability to **recall and apply knowledge rapidly and accurately**.
- **reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- **solve problems** by applying their mathematics to a variety of routine and non- routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions. (National Curriculum, 2014)

IMPLEMENTATION - How we teach it

At St William of Perth, we use the 'Mastery' approach to ensure not only curriculum coverage but so all children can achieve in Mathematics. This approach seeks to build children's conceptual and procedural understanding through, a variety of representations (varied fluency), reasoning and problem solving, whilst building upon prior learning and skills and using mathematical vocabulary to discuss their working. The mastery model has five key ideas:

- **Coherence** –our curriculum has a coherent progression between concepts and between year groups.
- **Representation and structure** – we use the CPA (concrete, pictorial, abstract) approach to make the structure of the mathematics visible and accessible to all.
- **Mathematical thinking** – we teach children to make links and see relationships between mathematical concepts.
- **Fluency** – we practise and rehearse to ensure knowledge is retained and to a level of automaticity.
- **Variation** – Procedural variation is used to enable children to make connections and see patterns. Conceptual variation is used to present the same concept in different ways to ensure the concept is embedded.



Maths lessons are taught daily. Support is determined in each lesson based on the needs of the child. In addition, lessons may be personalised to address individual needs and requirements, however coverage is always maintained.

Daily lessons involve a warm up activity which may focus on recall of number facts, mental arithmetic, consolidation of prior learning, or addressing misconceptions from the previous lesson.

We teach the 'mastery' approach using the White Rose scheme. New content is taught to support children in their learning through small steps. This allows the children to practice and apply their understanding and skills through a variety of representations, in order to embed understanding. These small steps build together a sequence of learning that enables mastery of a concept.

In order to further develop children's fluency and reasoning and problem-solving skills, teachers utilise N-Rich and Power Maths, which correlate to White Rose lessons and the National Curriculum objectives. These resources further develop and broaden children's understanding of a concept and the mathematical links and connections between topics.

In EYFS Maths inputs are delivered to the children to ensure curriculum coverage. Varied and frequent opportunities to build curiosity, interest and understanding in Math are available in the classroom provision each day. In addition, opportunities are provided for children to develop their spatial reasoning skills across all areas of mathematics, including shape, space and measures.

At St William of Perth, teachers use a variety of resources and tools to embed mathematical understanding, these include working walls, concrete resources and visual prompts. A wide range of mathematical resources are used and pupils are taught to show their workings in a concrete, pictorial and abstract form wherever suitable. They are taught to explain their choice of methods and develop their mathematical reasoning skills.

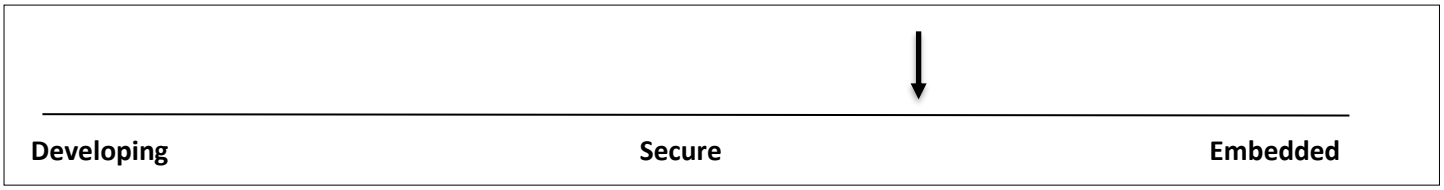
Regular feedback and marking are provided each day, in line with our marking and feedback policy. Through our teaching, we continuously monitor children's progress, making formative assessment judgements and using these to inform our teaching. For example, where further support is required or where challenge can be provided. Summative assessments are completed at the end of each term. Through formative and summative assessments, teachers identify children who not making the required progress and subsequently, provide focused support through interventions or booster sessions.

IMPACT - What is working

At St William of Perth, you will see:

- Children engaged with Mathematics and learning through a variety of representations.
- Children showing they have 'mastered' a concept through engaging with a variety of small, sequenced steps (fluency), using mathematical language to discuss their ideas and applying their understanding of a concept to problem solve and reason.
- Children demonstrating and developing their recall of facts and procedures, including number bonds and times tables.

On the scale below rate where you believe this subject currently stands in terms of your overall curriculum offer:



Math leader actions and impact

Previous Improvement Actions and Impact	Current Improvement Actions	Future Improvement Actions
. All staff teach mathematics using the Mastery approach.	. EYFS and Key Stage 1 teachers undertaking NCETM's 'Mastering Number' course. The project aims to develop children's understanding of how numbers are composed and their mathematical fluency. . Raise greater depth attainment across the school. . Ensure recall and fluency is being revised throughout the school, using consistent approaches and teachers plan for consolidation of previously taught units. . Pupil voice, across the school	.Plan parental workshops to increase engagement with primary mathematics and develop parents understanding of how Math is taught. .Reintroduce Key Stage 1 Maths games to increase parental engagement with children's learning. . Cultural capital within mathematics, ensuring children understanding how math is essential to daily life. . Trial a monthly Maths newsletter to parents.