Rationale

Our rationale is rooted in the belief that every child is capable of becoming a confident, curious and competent mathematician when provided with high-quality teaching, rich learning experiences and a supportive environment that nurtures resilience and a positive mathematical mindset. At Pensans, we view mathematics as far more than a subject to be learned; it is a language, a way of thinking and a powerful tool for problem-solving. It supports logical reasoning, creativity, precision and decision-making—skills that are transferable across the curriculum and vital throughout life. Mathematics underpins learning in science, computing, art, music and even the humanities, making it a foundation upon which broader knowledge is built.

Our curriculum reflects the National Curriculum aims for all pupils to become fluent in fundamental skills, to reason mathematically and to solve problems in a range of contexts. However, at Pensans we go further. We recognise the importance of establishing strong mathematical foundations from the early years, where children begin developing their mathematical identity. We prioritise the development of declarative, procedural and conditional knowledge to ensure pupils not only "know that" and "know how," but also "know when" and "why" to apply their understanding.

Our rationale is also shaped by the principle that mathematics should be inclusive and accessible for all. We strive to remove barriers to learning by creating a culture where mistakes are seen as learning opportunities and where perseverance is valued. Through high expectations, skilful questioning, and rich opportunities for exploration and enquiry, we empower pupils to approach challenges with confidence and curiosity.

In line with our Pensans CARES values—**Community, Aspirations, Relationships, Experiences and Success**—our approach to mathematics ensures that all pupils leave Pensans as capable, reflective and enthusiastic mathematical thinkers who are well-prepared for the next phase of their education and for the demands of an ever-changing world.

Intent

At Pensans, mathematics is a pivotal part of the EYFS and Primary Curriculum. Our intention is to ensure that every child develops a deep, secure and adaptable understanding of mathematics so that they leave our school equipped with the essential knowledge and skills they need for later life.

In line with the National Curriculum, our maths curriculum ensures that all pupils:

- **become fluent** in the fundamentals of mathematics
- **reason mathematically**, developing lines of enquiry, making conjectures and using precise mathematical language
- **solve problems** by applying their knowledge to a variety of routine and non-routine contexts

We recognise the significance of early mathematical experiences in shaping a child's mindset. At Pensans, we aim to nurture confidence, curiosity and enjoyment through a progressive approach that builds strong declarative, procedural and conditional knowledge. By reducing cognitive load and allowing children to secure key facts and concepts, we free them to make meaningful connections, explore patterns, test ideas and articulate their thinking clearly through symbols, diagrams and spoken and written explanations.

We want every child at Pensans to see themselves as a mathematician—capable, resilient and motivated. From telling the time, reading timetables and calculating costs, to measuring in practical contexts, we ensure pupils can recognise the mathematics that surrounds them every day. We aim to ignite curiosity, encourage children to ask questions about the world and provide rich opportunities to reason, explore and make connections to prior learning.

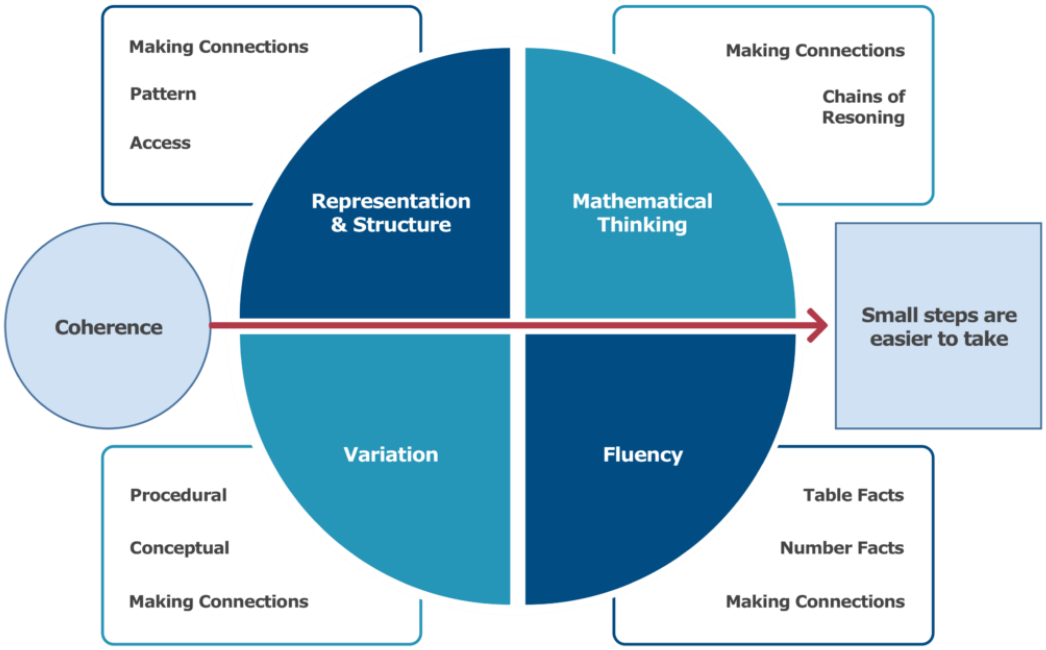
Implementation

We have created and embedded a streamlined, purposeful and progressive curriculum plan that ensures pupils develop the knowledge and skills required to meet—and exceed—the expectations of the National Curriculum. At Pensans, our goal is to support every child in achieving a deep, secure and adaptable understanding of mathematics. We want children to think and behave like mathematicians, not merely complete mathematical tasks. Learning is sequenced in small, manageable steps to reduce cognitive load and support effective explicit instruction. Pupils who grasp concepts rapidly are challenged through rich, sophisticated problems rather than accelerated content. This is planned through S – plans which give teachers control over the small steps they take to individualise the learning to their classes.

Maths is taught daily in the school in all classes, with our sequence of learning being pulled from White Rose maths, which gives a consistent and coherence across the school. However, our expectation is that this is not used as a scheme and only used to help aid the planning process by teachers. A wide range of trusted resources are used to support learning including, NCETM materials, I See Problem Solving, Time table Rockstars, Numbots and Testbase.

Alongside this, carefully planned variation builds fluency and understanding of underlying mathematical concepts. Time outside of the maths lesson is dedicated to the revisiting and retrieval of key declarative knowledge, number and arithmetic. This is done through mastering number, times tables practise and focussed arithmetic tasks - this is a daily focus at the start of the day.

We follow a Mastery approach built upon three core areas. **Conceptual understanding** of mathematical tasks, not only on solving problems, but on building meaning and understanding relationships. By doing this, children deepen understanding using concrete resources, pictorial representations and abstract symbols.



Though **mathematical thinking,** pupils develop "habits of mind" that include seeking patterns, generalising, forming conjectures, classifying and working systematically. They are encouraged to test ideas and apply reasoning to their answers.

It is pivotal that we establish **communication and language** to allow strengthening of understanding. Through discussion, reasoning and explanation, children build confidence and identity as mathematicians. Every lesson incorporates opportunities for mathematical talk and vocabulary development.

To secure deep understanding, we use the Concrete–Pictorial–Abstract (CPA) approach. Children begin with physical resources, progress to pictorial representations, and finally move to abstract notation. This structured progression supports conceptual clarity and helps pupils connect mathematics to real-life contexts. Our *Written Methods Calculation Policy* complements this approach, ensuring consistent progression across all year groups.

In EYFS, children are introduced to number, counting and early mathematical language through meaningful play and exploration. Mastering number is used daily in EYFS to ensure children recognise and understand numbers. Counting, comparing, building, pattern-spotting and early time awareness are embedded in everyday learning, ensuring pupils enter Year 1 excited and confident in their mathematical abilities.
Alongside the lessons, there is a regular cycle of assessment in place, which includes termly NFER tests in key stage 2 and termly teacher assessment across the school.

Impact

At Pensans, we strive to ensure every child leaves our school equipped with the mathematical skills, knowledge and confidence they need to thrive as learners, problem-solvers and members of society.

Progress is continually monitored, enabling teachers to identify misconceptions swiftly and address them effectively. Live marking and a clear Maths Marking Policy support ongoing dialogue between pupils, teachers and parents. This is supported by utilising a range of reasoning and problem-solving activities i.e. Test Base to check children's ability to use and apply the mathematics taught.
Wider impact is measured through a triangulated approach. Exploring attitude and confidence with mathematics through pupil conferencing in conjunction with learning walks and lesson drop ins. The journey of the mathematics the children are learning should be clear and the children should be able to confidently articulate this.

We aim for our pupils to leave Pensans as confident mathematical thinkers who understand the relevance of maths in daily life. Mathematics plays a vital role in everyday decision-making—whether doubling a recipe, calculating costs while shopping, estimating travel times or managing personal finances. Leaving with a strong mathematical foundation helps individuals make informed choices throughout their lives

Rationale for following White Rose Maths scheme of learning

At Pensans, we use White Rose Maths as it is widely adaptable, and it provides a **structured, mastery-based approach** to teaching mathematics that aligns with national curriculum expectations and supports deep conceptual understanding.

The key reasons for our use of it include:

Coherent and Progressive Curriculum

White Rose Maths sequences learning in **small, connected steps**, ensuring pupils build on prior knowledge and make secure progress. Concepts are revisited and deepened over time, reducing gaps and promoting long-term retention. Teachers have the trust and confidence to alter the sequences if needed so it suits their classes and pupils better. Teachers will keep the small steps of learning inside each maths topic and if changed, it needs to be clear on the S-Plans.

Focus on Mastery and Depth

White Rose Maths emphasizes **fluency, reasoning, and problem-solving** rather than rote learning. It encourages pupils to **explain their thinking**, fostering metacognitive skills and mathematical resilience which work alongside Pensans coaching and learning model from WalkThrus. Teachers use this as a base in which to build in their own mastery questions.

High-Quality Resources

At Pensans, our teachers work hard to provide **clear models, representations, and varied question types** that support all learners, including those needing additional scaffolding. White Rose Maths includes **visual and concrete resources** (e.g. bar models, place value charts, tens frames) to strengthen conceptual understanding. Alongside this, teachers are encouraged to use other resources from a variety of sources so that children get used to answering different styles of questions.

Consistency Across School

Following the White Rose program offers a **whole-school approach**, ensuring continuity from EYFS to KS2. As a school, we have worked hard to ensure all classes are teaching in a consistent way which supports teachers with **planning, assessment, and intervention materials**, reducing workload and improving uniformity. This does not mean teachers can not have their own style, but it means that children are able to follow the much needed structure that is the same from year group to year group.

Impact

Using White Rose Maths helps us to create classrooms where: pupils develop **confidence and independence** in mathematics. Teachers have **clear, high-quality resources** and a shared approach. Learning is **inclusive, challenging, and focused on depth rather than speed**.