Mathematics at Spring Lane Primary School Respect Resilience Integrity		
Curriculum Intent		British Values
At Spring Lane Primary School, we follow the National Curriculum for Mathematics to ensure all pupils become fluent, confident, and curious mathematicians. Our curriculum promotes fluency, reasoning, and problem solving, underpinned by our five pillars: Expert learners: Children build strong conceptual understanding through structured progression, varied practice, and retrieval of key knowledge. Effective communicators: Pupils use precise mathematical language to explain, justify, and reason clearly in discussion and writing. Aspirational thinkers: We foster resilience and ambition through challenging problem solving and open-ended enquiry. Healthy individuals: Children grow in confidence, working independently and collaboratively, supporting each other to succeed. Caring citizens: Our inclusive approach ensures every child is supported and valued. We celebrate diverse thinking and make maths accessible to all.		British Values are woven throughout our mathematics curriculum by promoting respectful collaboration, resilience, and fairness. Children are encouraged to listen to others' methods, value different approaches, and challenge ideas respectfully. We nurture individual liberty by enabling all pupils to develop confidence and independence in their mathematical thinking. Through problem solving and reasoning, pupils learn the importance of justice, integrity, and making considered decisions, reflecting the principles of democracy, rule of law, and mutual respect in mathematical contexts.
At the end of EYFS	At the end of Key stage 1	At the end of Key Stage 2
Pupils will gain a secure understanding of early mathematical concepts through rich, practical experiences rooted in the White Rose EYFS curriculum. They will develop number sense, including a deep understanding of numbers to 10, subitising, and simple calculation. Pupils will begin to explore shape, space, and measure in meaningful contexts, applying maths through play and real-life problem solving. A strong emphasis on mathematical language and reasoning prepares children to communicate their thinking and lays firm foundations for Key Stage 1.	Pupils will be fluent in key number facts, including number bonds and times tables, and will confidently manipulate numbers using all four operations. Using the Maths — No Problem! approach, they will develop a conceptual understanding of place value, calculation strategies, and the properties of shapes and measures. Pupils will begin to reason and solve problems using models such as the bar model and part-whole diagrams, and will explain their thinking using accurate mathematical language. These secure foundations enable readiness for the more abstract content of Key Stage 2	Pupils will demonstrate fluency, reasoning, and problem-solving across all areas of mathematics, including number, geometry, statistics, algebra, and measure. Through the structured, mastery approach of Maths — No Problem!, they will confidently approach multi-step problems, justify their reasoning, and use efficient strategies with independence. Pupils will be able to communicate their thinking clearly, adapt strategies to different contexts, and apply maths to real-world situations. This deep, connected understanding ensures they are ready to access the secondary mathematics curriculum with confidence and curiosity.
Curriculum Implementation – How is Mathematics taught?		
At Spring Lane, our approach to teaching mathematics is grounded in the National Curriculum and informed by the NCETM's principles of teaching for mastery. We believe that all children are capable of achieving success in mathematics and that with the right support and challenge, all can thrive. The expectation is that the majority of pupils move through the curriculum at broadly the same pace. While children are typically taught in mixed-ability classes, grouping decisions are made flexibly based on the needs of each cohort. All teaching aims to foster deep, secure understanding before moving on. In the Foundation Stage, we use the White Rose Maths scheme to ensure children build strong early foundations in number, pattern, shape, space, and measure. Through carefully sequenced, play-based and practical activities, pupils develop fluency, problem-solving, and reasoning in meaningful contexts. This early work prepares them for the transition into more formal learning in Key Stage 1. From Key Stage 1 onwards, we follow the Maths — No Problem! mastery programme. Lessons follow a consistent structure using the Concrete–Pictorial–Abstract (CPA) approach. Each session begins with an In Focus task to promote exploration and discussion. Pupils use concrete apparatus and pictorial representations to investigate mathematical concepts before moving to more abstract strategies. Learning is scaffolded through Guided Practice, allowing children to work with peers or the teacher to refine their understanding. They then progress to Independent Practice, where they apply strategies and reasoning independently. Children who grasp concepts quickly are extended through Enrich tasks, which deepen their understanding and broaden their thinking without accelerating content. Children are explicitly taught and given regular opportunities to use and apply a wide variety of mental calculation strategies. They are encouraged to choose the most efficient and appropriate method for the numbers involved, developing both confidence and flexibility in their thinking. In EYFS and Key Stage 1, the focus is on building a strong conceptual understanding of number. Across the school, children explore multiple methods and approaches to problem solving, supported by our whole-school approach to calculation, which clearly outlines progression in both mental and written methods.		

Fluency is a key focus across the school. Each year group follows fluency targets set out in our whole-school fluency overview, which are visible in classrooms and revisited regularly. Children with gaps in their fluency knowledge receive targeted support through 20-day fluency challenges, intervention groups, or work with additional adults. We also use Times Tables Rockstars to support the rapid recall of multiplication facts.

We prioritise precise mathematical language in every lesson. Teachers model and encourage full-sentence responses, using accurate vocabulary to articulate mathematical thinking. Talk is central to our approach, and pupils are given regular opportunities to explain, justify, and evaluate their strategies.

Misconceptions are addressed promptly through live feedback and same-day interventions. Teachers use questioning, scaffolding, and conceptual variation to challenge and support all learners. Concepts are explored from multiple angles to promote flexible thinking and deep understanding. Pupils who are not yet secure in a concept receive additional opportunities to consolidate through pre-teaching, revisiting concepts in different contexts, and tailored small-group support. Ultimately, we want every child at Spring Lane to see themselves as a capable mathematician – confident, resilient, and ready to use mathematics as a tool to understand and navigate the world.

Substantive Concepts (Big ideas linked to knowledge)

At Spring Lane, we define our **substantive concepts** in mathematics as the core, transferable ideas that underpin pupils' understanding across topics and year groups. These concepts are explicitly taught, revisited, and built upon progressively, forming the foundation for mastery and mathematical thinking.

Each concept is developed through our use of **Maths — No Problem!** and enhanced by structured mathematical talk, reasoning, and problem solving. In EYFS, these concepts begin through White Rose Maths and transition into the Maths — No Problem! structure in Key Stage 1.

Number and Place Value

- Understanding the value and composition of numbers.
- Counting, comparing, and ordering numbers.
- Structuring numbers using tens, hundreds, and beyond.
- Understanding the number system and how it extends (e.g. into decimals, negative numbers).

Addition and Subtraction

- Combining and separating quantities.
- Understanding the inverse relationship between operations.
- Applying mental and written strategies efficiently.
- Using structures such as part–whole and bar models to visualise problems.

Multiplication and Division

- Understanding multiplication as equal groups and repeated addition.
- Understanding division as sharing and grouping.
- Developing times tables fluency and inverse relationships.
- Using arrays, area models, and scaling to visualise multiplicative reasoning.

Fractions, Decimals and Percentages

- Understanding part-whole relationships.
- Equivalence, comparison, and ordering of fractions.
- Connecting fractions to division, decimals, and percentages.
- Applying proportional reasoning.

Measures

- Comparing, estimating, and converting between units (length, mass, capacity, time, money).
- Understanding relationships between units.
- Using standard and non-standard units appropriately.
- Applying measure knowledge in real-world contexts.

Geometry: Properties of Shape

- Identifying, describing, and comparing 2D and 3D shapes.
- Understanding angles, symmetry, and geometric reasoning.
- Using mathematical vocabulary to describe shapes accurately.

Geometry: Position and Direction

- Describing position, movement, and turns using coordinates and directional language.
- Understanding transformations (translation, reflection, rotation).
- Interpreting and creating representations in space.

Statistics

Disciplinary Knowledge in Mathematics at Spring Lane

Disciplinary knowledge equips pupils with the skills and habits of mind to think mathematically, enabling them to reason, problem-solve, and communicate with precision and confidence. These are the behaviours and approaches that define a mathematician.

Mathematical Reasoning

- Justifying decisions using logical steps and evidence.
- Explaining "why" a method works or why an answer is correct.
- Exploring patterns, making conjectures, and generalising.
- Using sentence stems and mathematical language to articulate reasoning (e.g. "I know this because…" or "It must be… since…").

Problem Solving

- Applying known concepts to unfamiliar or non-routine problems.
- Persevering through trial and error and refining strategies.
- Representing problems using diagrams, bar models, or jottings.
- Selecting efficient strategies to approach multi-step problems.

Mathematical Communication

- Using accurate vocabulary and full sentences to explain thinking.
- Engaging in partner talk and whole-class discussion to clarify understanding.
- Listening actively and building on others' ideas.
- Critically evaluating the reasoning of others.

Use of Representation and Structure

- Choosing and interpreting representations such as number lines, bar models, part–whole diagrams, and arrays.

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- Collecting, organising, and interpreting data using tables, pictograms, charts, and graphs.
- Drawing conclusions from data and identifying patterns.
- Understanding averages (mean, mode, median) in upper KS2.

Algebra (KS2 only)

- Recognising patterns and sequences.
- Using symbols and letters to represent unknowns.
- Generalising rules and relationships.
- Forming and solving simple equations.

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- Understanding the structure of problems (e.g. additive vs multiplicative).
- Transitioning from concrete to pictorial to abstract with confidence.

Thinking Mathematically

- Looking for relationships and connections between concepts.
- Using prior knowledge to make links and predictions.
- Reflecting on mistakes as opportunities to learn.
- Recognising that mathematics is a creative and logical subject with multiple solution paths.

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<tr><td colspan="2">Impact</td></tr>
<tr><td colspan="2">The impact of our mathematics curriculum is seen in children who are confident, fluent, and flexible thinkers. Pupils develop secure conceptual understanding and are able to explain their reasoning clearly using accurate mathematical language. They show resilience when solving problems, and are able to make informed decisions about the most efficient methods to use, drawing on a range of strategies. Because learning is rooted in real-life contexts and explored through concrete, pictorial and abstract representations, pupils retain knowledge and build strong foundations for future mathematical learning. Children talk confidently about their learning and demonstrate enjoyment and curiosity in lessons. Through collaboration, pupils value different methods, challenge one another's thinking respectfully, and learn to explain and refine their own reasoning. As a result, they become independent, reflective mathematicians who are prepared for the next stage in their education and for applying maths in the wider world.

Mathematics is assessed using the following strategies:
Retrieval practice and fluency recall regularly embedded into lessons.
Assessment for learning used throughout lessons via questioning, live feedback, and journaling.
Pupil voice to gather insight into mathematical understanding and reasoning development.
Termly summative assessments to track progress and identify gaps.
Teacher judgements informed by classwork, guided practice, independent tasks, and fluency outcomes.</td></tr>
<tr><td colspan="2">Equity and inclusion – removing barriers</td></tr>
<tr><td colspan="2">Spring Lane's maths curriculum reflects our core principles of Relevance, Experiences, and Collaboration to remove barriers and promote equity for all pupils. By connecting mathematical concepts to real-life contexts relevant to children's lives, communities, and the wider world, we make learning meaningful and accessible (Relevance). Hands-on, concrete experiences and the use of visual models bring abstract ideas to life and support deep understanding for all learners (Experiences). Collaborative learning opportunities encourage pupils to share ideas, reason together, and respect diverse approaches, building a supportive and inclusive maths community (Collaboration). These principles ensure that every child—regardless of background, language ability, or additional needs—can engage confidently with maths, develop critical thinking skills, and build the resilience and fluency needed for lifelong success.</td></tr>
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