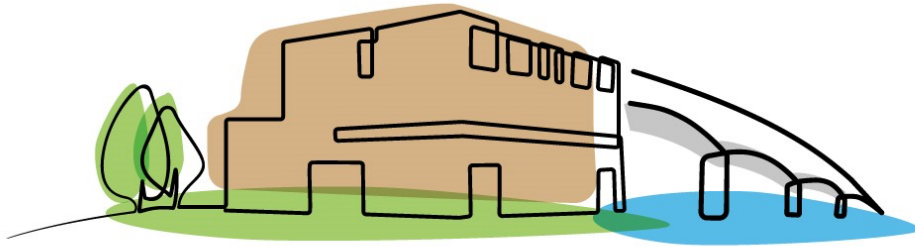


Valentine Primary School



VALENTINE
PRIMARY SCHOOL

Maths

Curriculum



In partnership with Lion Academy Trust



MATHS CURRICULUM

Intent

At Valentine, we are dedicated to providing a robust and enriching mathematics curriculum that empowers our students to become confident and skilled mathematicians. Our curriculum is thoughtfully designed to align with the principles of the Concrete, Pictorial, Abstract (CPA) model, ensuring a deep and meaningful mathematical education.

Concrete: We begin by offering students hand-on, concrete experiences in mathematics. Through the use of manipulatives and real-world applications, our students gain a solid foundation in mathematical concepts. These tangible experiences allow them to connect abstract ideas to practical, everyday scenarios.

Pictorial: As students progress, they transition to representing mathematical concepts through visual aids and diagrams. This stage encourages them to visualise problems, identify patterns, and develop strong problem-solving skills. Visual representations help bridge the gap between concrete and abstract thinking.

Abstract: Our curriculum culminates with students applying mathematical concepts independently and symbolically. They develop fluency in calculations, mathematical reasoning, and problem-solving, ensuring they are well-prepared for more advanced mathematical challenges.

Our long-term plan, adapted from the Lion Academy Trust, serves as the cornerstone of our curriculum. It is a cyclical model that spans the academic year, enabling us to systematically build upon the National Curriculum mathematical concepts across each term. This approach reinforces student understanding and facilitates a deepening of their mathematical knowledge over time.

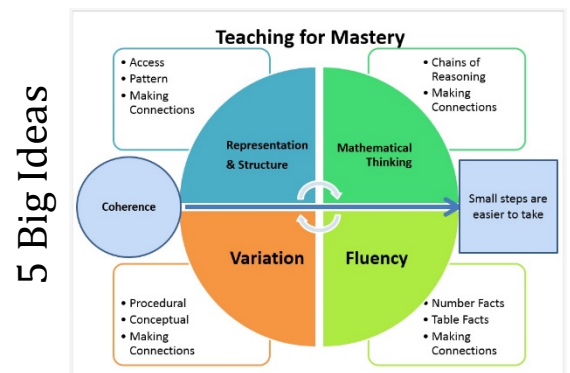
We are excited to introduce Ark Maths Mastery as an invaluable tool to enhance our lessons and content. This supportive resource aligns perfectly with our commitment to fostering a love for mathematics and ensuring all students succeed. Ark Maths Mastery will provide our educators with the tools and materials needed to deliver high-quality lessons that engage and inspire our young mathematicians.

At Valentine, we believe that every child can excel in mathematics. Our curriculum designed to develop not only mathematical proficiency but also a genuine passion for the subject. We strive to instil in our students the confidence and skills they need to excel academically and thrive in their future pursuits. Through our mathematics curriculum, we are nurturing the mathematicians of tomorrow.

Mastery

Mastery can be defined as: *A range of classroom practice and school organisation that combine to give pupils the best chances of mastering mathematics. Mastering maths means acquiring a deep, long term, secure and adaptable understanding of the subject. At any one point in a pupil's journey through school, achieving mastery is taken to mean acquiring a solid enough understanding of the maths that's been taught to enable children to move onto more advanced material (NCETM).*

Incorporating the wisdom of the National Centre for Excellence in the Teaching of Mathematics (NCETM), our curriculum centres on five big ideas: Variation, Fluency, Mathematical Thinking, and Representation & Structure. We recognize that mathematical learning thrives when students embrace the diversity of mathematical concepts, developing fluency not just in calculations but in the profound understanding of these concepts. Encouraging mathematical thinking allows our students to explore, question, and solve problems creatively. Additionally, we emphasize the importance of effectively representing and structuring mathematical ideas, enabling students to communicate and connect mathematical knowledge across various domains, ultimately fostering a profound mastery of mathematics.



“The only way to learn mathematics is to do mathematics”

Paul Halmos

Teaching

At Valentine, we are committed to providing a personalised and effective mathematics education that caters to the diverse learning needs of our students. To achieve this, we implement a thoughtful system of ability groupings across the year group creating ability classes. This approach allows us to tailor our instruction to meet the unique abilities and learning styles of each child.

We regularly assess and evaluate students' mathematical skills and comprehension levels. Based on this assessment data (including FFT data from the previous key stage), we place students into ability classes, ensuring that they receive instruction that is both challenging and supportive. This approach enables us to differentiate our teaching, offering advanced content and additional support as needed. By grouping students according to their abilities, we create an inclusive and motivating learning environment that fosters confidence, encourages progress, and ensures that every child has the opportunity to excel in mathematics.

Lessons

At Valentine, our commitment to mathematical excellence begins early, with lessons commencing in Reception. Number skills are evident throughout the setting - whether in the role play area, outside or in a focus group.

We have deliberately developed plans that interweave content in a linear and progressive way throughout their primary education. We believe that children need concepts to be revisited regularly to support the retention of knowledge, skills and understanding over time.

We incorporate a holistic approach to teaching math, utilising a mathematics book-mark that guides students through their learning journey. This bookmark is a valuable tool that promotes **fluency** (demonstrating procedural and conceptual variation) and **practical application** concepts (challenging children to solve reasoning problems in context), ensuring students develop both mathematical knowledge and the ability to use it effectively. This helps our educators to accurately assess what the students know and what they remember.

Our lesson structure includes a "Do Now" activity to engage students immediately, Learning Intentions (LI) and Success Criteria (SC) to set clear objectives, "Star Words" to expand vocabulary, and "Talk Time" sessions linked to our school's Voice 21 journey, encouraging confident and articulate mathematical communication.

Experiential learning

Our mathematics curriculum is designed around experiential learning, emphasising "learning by doing." We break down the curriculum into component learning units that allow students to explore mathematical concepts in depth.

This hands-on approach enables them to grasp the practical relevance of mathematics and enhances their problem-solving skills. It fosters a profound understanding of mathematical ideas, ensuring that students don't just memorise facts but truly comprehend the underlying principles.

Assessment at Valentine

Enhanced Learning Outcomes

Our commitment to utilising various assessment methods, including low-stakes quizzes, Next Steps for Learning (NSLs), and exit passes, has had a profound impact on student learning. These ongoing assessments allow teachers to identify individual strengths and areas that require improvement, leading to targeted support. As a result, our students consistently demonstrate improved performance and understanding of mathematical concepts, reflecting in their overall academic growth.

Personalised Learning

The implementation of pre and post-assessments for units of study ensures that our teaching is tailored to the specific needs of each student. These assessments enable us to gauge their baseline knowledge and measure their progress. By personalising instruction based on these assessments, we empower every child to reach their full mathematical potential, promoting a sense of achievement and self-efficacy.

Gap Analysis and Intervention

Our use of PIXL termly tests has been instrumental in identifying gaps in knowledge among our students. The assessments bear resemblance to the end of key stage tests that pupils will face and are heavily weighted to the curriculum content taught in the term. Teachers can conduct in-depth gap analysis, allowing them to design targeted interventions and support strategies. This approach ensures that no child is left behind, as we address their individual learning needs promptly and effectively.

Success in Statutory Assessments

Through our rigorous mathematics curriculum and continuous assessment practices, our students feel supported and confident during the statutory assessments. These assessments are an accurate reflection of their mathematical proficiency and preparedness for the next academic level. Our focus on teaching not only to the test but to a deeper understanding of mathematical concepts equips our students to perform confidently in these assessments.

In summary, our comprehensive approach to mathematics assessment, encompassing both formative and summative methods, empowers our students to achieve their full mathematical potential. By combining personalised learning, targeted interventions, and success in statutory assessments, we ensure that each child at Valentine not only meets but exceeds their mathematical goals.

Statutory Assessment

Statutory assessments play a crucial role in tracking student progress at Valentine School. These assessments include the Early Years Foundation Stage (EYFS) baseline assessment, Year 4 Multiplication Tables Check (MTC), and Year 6 SATs. They provide valuable insights into students' development, ensuring they meet age-appropriate milestones and excel academically.