



Subject: Mathematics

Rationale

We firmly believe that our Maths curriculum exposes our pupils to opportunities to develop the three main aims of the Maths National Curriculum: to refine their fluency, reasoning and problem-solving skills. We recognise that mathematics is an essential part of everyday life, therefore we endeavour to nurture every pupil to reason, be creative, think abstractly, develop critical thinking and problem solving and to become fluent and effective communicators in mathematics.

Our spiral curriculum ensures that information is reinforced and solidified each time a pupil revisits concepts or skills thus enabling logical progression from simplistic to complicated ideas.

Characteristics of Well-rounded Mathematicians (Curriculum Aims)

The national curriculum for mathematics aims to ensure that all pupils:

- 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
- can 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

Curriculum Intent

The mission of our mathematics curriculum is to enable learners of all mathematical abilities to succeed and develop a love for mathematics. We believe that children should spend time exploring mathematics through a carefully structured mastery approach with the aim of becoming confident, autonomous mathematicians. A fundamental aspect of the mathematic curriculum at St. Vincent de Paul is to provide learners with a deep conceptual understanding of mathematical concepts. Mastery in mathematics is based upon the core principles of the concrete, pictorial and abstract mathematical representation and structure, thinking mathematically, mathematical fluency and variation. We strongly believe that every child is a mathematician and that every child can achieve in mathematics. We aspire for our children to be confident mathematical communicators who share their mathematical ideas and knowledge in a safe and nurturing environment. We want learners to be equipped with an understanding of mathematics that will be relevant and useful not only in education but also in the wider world of work and their everyday lives.

Curriculum Implementation

We use a mastery approach to teaching and learning mathematics from the Early Years to Year Six. Our spiral mathematics curriculum ensures mathematical concepts and skills are revisited in intervals at a more sophisticated level through natural progression. This ensures that our pupils are regularly revising and building their mathematical knowledge and understanding and are becoming mathematically fluent. Years 1-6 use the Maths No Problem scheme devised from the Singapore Maths model and uses an 'Explore Task' mathematical problem to begin each lesson. When teaching maths for mastery, teachers ensure the '5 Big Ideas' underpin lessons and the whole class moves through topics at broadly the same pace. Each topic is studied at the same pace, yet there is a wealth of differentiation through depth and variation. Some learning is scaffolded by continuous use of manipulatives and high potential pupils are challenged with rich and sophisticated problems via extended journal activities. Our mathematics curriculum gives our children time to think deeply about the maths and really understand concepts at a relational level. Our children are taught in mixed-ability groups, ensuring that all children have access to the full maths curriculum. Our inclusive approach, and its emphasis on promoting multiple methods of solving a problem, builds self-confidence and resilience in pupils of all mathematical abilities. In every lesson children work mathematically in a variety of grouping structures. Children work in pairs, small groups and as a whole class when exploring mathematics. This offers pupils of all abilities opportunities to communicate debate and challenge their own and others' mathematical thinking before tackling tasks independently.

In the Early Years, children develop number sense through our bespoke curriculum devised with support from the North West Three Maths Hub using materials from NCTEM, Numberblocks Support Materials and White Rose. Additionally, skills are embedded in the EYFS & KS1 using the NCTEM's Master in Number programme and via Daily Skills sessions in KS2 - these short lessons revisit prior learning from previous topics, terms and year groups. Maths homework is set for the whole school using Numbots and TT Rockstars.

Curriculum Impact

As a result, we have an abundance of enthusiastic mathematicians in our school. Our pupils relish solving mathematical problems within which they challenge themselves to find a multitude of new and inventive ways to solve a problem. Our pupils are confident communicators who will share their mathematical knowledge with their peers and engage in mathematical debates. Our pupils display fluency, the ability to recognise relationships and form connections, and can apply their knowledge and understanding to solve mathematical problems in new and unfamiliar contexts. Our teachers also use a wealth of stimulating and engaging teaching and learning approaches, using concrete resources, the latest technology, revisiting daily maths skills and using Times Tables Rockstars and Numbots programmes. Each member of staff is specifically trained to deliver Maths No Problem and many teachers and assistants have participated in SKTM programme and Numicon training. Furthermore, as a staff, we continually share our breadth of experience by engaging in lesson studies to ensure teaching and learning is outstanding.