Mathematics at St John's

Intent

At St. John's, we believe that all pupils are mathematicians. With this in mind, we have developed a curriculum which meets the needs of all learners and promotes the highest expectations to ensure that all of our children can achieve their potential. Our curriculum is firmly grounded within a teaching for mastery ethos as we believe that this promotes high quality teaching and learning in which children benefit from daily opportunities to deeply embed their conceptual understanding.

From Early Years through to Year 6, our curriculum is carefully sequenced to ensure that children's knowledge is built upon and connections are made across different mathematical concepts in order to embed core skills and provide opportunities for retrieval practice and the development of chains of reasoning. Once again, this promotes depth so that children can say, "I KNOW this **so that** I can DO this"

Our commitment to inclusive practice means that the provision of carefully chosen, high quality resources is an integral part of lesson design. Teaching staff utilise resources to ensure that children's individual starting points are considered and secure knowledge can be built upon in small connected steps allowing all children to make progress. The provision of concrete manipulatives and visual representations are embedded within daily practice, allowing all children to 'see the maths' and deepen their understanding of the underlying mathematical structures. Where required, personalised class-based provision, targeted intervention programmes and same day intervention ensure that no child is left behind.

The aim of St. John's curriculum is to prepare children for their journey into the wider world. We want all learners to develop a love and curiosity for mathematics which they can apply and pursue through their daily lives and future work. To do this, learning is grounded within the exploration of real-life contexts in which children are encouraged to be inquisitive and collaborate with their peers.

Implementation

The content and principles underpinning the 2014 Mathematics curriculum reflect those found in high-performing education systems internationally and so these principles characterise how our curriculum is implemented at St. John's. Children from Early Years to Year 6 experience discrete, daily maths lessons with a range of teaching and learning strategies which encompass a teaching for mastery approach. This includes:

- Opportunities to develop fluency of key facts and arithmetic skills through regular practice and retrieval.

Within EYFS and KS1, this is done through daily participation in the Mastering Number Programme and access to Numbots. This academic year, years 4 and 5 are also beginning to participate in the Mastering Number Programme for KS2. Across all KS2 classes, daily 5 in 5 sessions, weekly access to TTRockstars and regular arithmetic tests are used to promote children's fact recall and arithmetic proficiency. Supporting children to secure basic skills allows them to free up working memory so that they can then begin to apply what they know to new, more complex contexts, calculations and problems.

- Learning which makes connections between concrete, pictorial and abstract representations.

The daily provision of concrete apparatus and pictorial representations for all learners promotes children's visualisation of mathematics. This allows them to deepen their understanding of new concepts so that they can reason and explain their thinking, using appropriate models to justify, prove and explore.

- An emphasis on the use of sentence stems and ambitious mathematical vocabulary.

Mathematical talk is a fundamental feature in all lessons at St. John's. Children are supported and encouraged to use precise mathematical language to articulate their thinking. Collaborative learning through paired and group work is part of daily practice so that children cannot only develop their own mathematical talk but are also encouraged to listen to, interpret and evaluate the different approaches which are employed by their peers.

- Opportunities for children to think mathematically in order to reason and problem solve.

Within lessons, all learners are provided with carefully designed questions and tasks which challenge them to think mathematically. Purposeful variation encourages children to make connections with prior knowledge, express their thinking and develop strategies which promote creative and explorative learning, leading to child-led generalisations. The celebration of resilience and a growth mind-set also promotes fundamental learning skills which children can then transfer to the wider curriculum.

- Coherent learning journeys which build upon foundational knowledge in small connected steps.

To promote coherence and consistency at St. John's, lessons are designed based upon NCETM Curriculum Prioritisation framework and accompanying materials. These curriculum mapping documents and professional development materials are then utilised by teachers to construct carefully designed lessons which meet the needs of all learners. A consistent lesson structure which is employed within most maths lessons also ensures that children are regularly exposed to a combination of high-quality teacher modelling, collaborative and independent work. Opportunities for on-going assessment are also in-built within lessons to inform pace and ensure that struggling learners are quickly identified so that rapid intervention can be provided.

As part of St John's commitment to the continued development of mathematics across school, one member of staff is the Assistant Primary Lead and a Primary Teaching for Mastery Specialist for the South Yorkshire Maths Hub whilst the Head of School is an Advocate Head. This engagement with the DfE funded Maths Hubs programmes, promotes annual opportunities for professional development for wider staff members to ensure that all practitioners can provide high quality teaching and support for children.

Impact

The intended impact of our maths curriculum is that children will leave St John's with a secure understanding of all core mathematical concepts which they can then apply to their future studies and wider life experiences. We hope that our stimulating lessons will inspire an appreciation for the awe and wonder of mathematics, developing within our learners transferrable qualities such as resilience, creativity, collaboration and analytical thinking so that they can become their best versions in all aspects of life. Our thorough monitoring cycles and reflective practices will ensure that we continue to evaluate maths teaching and learning across school as we strive for excellence and maintain a commitment to providing our children with the best possible education in mathematics.