Respect for All, Ambitious in Aspirations, Bold in Action.

"…with God all things are possible." Matthew 19:26

Mathematics

At St George's we recognise that Mathematics is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. We aim to provide a high-quality mathematics education with a mastery approach so that all children:

- become fluent in the fundamentals of mathematics;
- reason mathematically;
- can solve problems by applying their mathematics.

(National Curriculum 2014)

All pupils can achieve in mathematics! There is no such thing as a 'Math's person', that is the belief that some pupils can do math's and others cannot. A typical Math's lesson will provide the opportunity for **all** children, regardless of their ability, to work through Fluency, Reasoning and Problem Solving activities.

At St George's we use a combination of toolkit resources and White Rose resources in years Reception to Six, designed to support a mastery approach to teaching and learning and support the aims and objectives of the National Curriculum; while in In the Early Years Foundation Stage (EYFS), we relate the mathematical aspects of the children's work to the Development Matters statements and the Early Learning Goals (ELG), as set out in the EYFS profile document.

Teachers plan daily lessons to ensure progression of children's learning; by building on prior knowledge, ensuring there is a clear learning intention and by using their on-going formative and summative assessment to ensure understanding is consolidated before moving on. All staff use the schools calculation policy to ensure children are guided through a range of carefully organised strategies to support their learning and further develop connections in mathematics deepening their substantive knowledge. Teachers take a tailored approach to planning lessons, making appropriate adaptations to ensure progress, confidence, challenge and improve the attainment of all.

In addition to the main learning intention, teachers plan daily challenges (brain teasers) to broaden the children's understanding and practice key skills at the start of all lessons to revisit all four operations regularly. At the start of each session, children participate in a 'basic skills' activity to secure and rehearse key facts and fundamental skills. Basic skills can also give an opportunity for teachers to address gaps in children's knowledge based on their formative judgements. During the starter, children will focus on a 'linked' mathematical area, this gives children opportunity to revisit and revise key areas of mathematics offering a 'cyclical' element to our teaching of mathematics. Further opportunities to deepen their learning are planned through weekly homework activities and online using MyMaths and TimesTables Rockstars. Children are encouraged to gain instant recall of facts and engagement is celebrated

during Key Stage assembly time. All learning opportunities are planned to meet the needs of all learners through careful adaptation and scaffolding.

In lessons, pupils are encouraged to physically represent mathematical concepts. Objects and pictures are used to demonstrate and visualise abstract ideas, alongside numbers and symbols.

Concrete – children have the opportunity to use concrete objects and manipulatives to help them understand and explain what they are doing.
Pictorial – children then build on this concrete approach by using pictorial representations, which can then be used to reason and solve problems.
Abstract – With the foundations firmly laid, children can move to an abstract approach using numbers and key concepts with confidence.

All pupils, when introduced to a key new concept, have the opportunity to build competency in mathematics by taking this approach.

Children are encouraged to make connections in their mathematical knowledge and with real life context, hence the careful yearly planning cycle which looks to enhance and exploit the clear links that exist within mathematics. An example of this is through real life problem solving and reasoning as well as special events planned through the year including 'Money Sense', building on children's knowledge and understanding of money.

St George's uses rigorous triangulated monitoring throughout the year to gauge the impact of math; reviewing learning, evaluating pupil voice, providing individual feedback to move practice forward, celebrating positives and highlighting areas of development that through coaching trajectories are changed.

Attainment and progress support teacher assessment however, assessment reflects learning acquired through careful analysis of application of skills in mathematics; showing how acquisition of knowledge is enhanced dramatically by expectations to evidence quality thinking and demonstrate individual understanding through:

- Quick recall of facts and procedures
- The flexibility and fluidity to move between different contexts and representations of mathematics.
- The ability to recognise relationships and make connections in mathematics.

At St George's mathematical concept or skill has been mastered when a child can show it in multiple ways, using the mathematical language to explain their ideas, and can independently apply the concept to new problems in unfamiliar situations.

Mr Sanderson

National Curriculum Maths Programme of Study:
https://www.gov.uk/government/publications/national-curriculum-in-england-mathematics-programmes-of-study