



## St Bartholomew's C of E Primary School – Mathematics Curriculum Intent



### Curriculum Implementation and Impact

#### IMPLEMENTATION

The programmes of study are, by necessity, organised into distinct domains, but pupils should make connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly complex problems. They should also apply their mathematical knowledge to science and other subjects. The expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. However, decisions about when to progress will always be based on the security of pupils' understanding and their readiness to move to the next stage. Pupils who grasp concepts rapidly will be challenged through being offered deeper, more sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material will consolidate their understanding, through additional practice, before moving on. We will provide the children with the necessary resources to allow all children to access the curriculum and encourage them to use this where appropriate.

St Bart's approach to the curriculum is designed to develop children's knowledge and understanding of mathematical concepts from the Early Years through to the end of Year 6. We follow the National Curriculum and use White Rose Mathematics Scheme of Work as a guide to support teachers with their planning and assessment. The calculation policy is also used within school to ensure a consistent approach to teaching the four operations over time. Pupils study mathematics daily, covering a broad and balanced mathematical curriculum including elements of number, calculation, geometry, measures and statistics. Due to the interconnected nature of mathematics, we aim to teach mathematics in a cross curricular manner as well as discretely to teach the practical application of mathematical skills. We focus not only on the mathematical methods but also focus on mathematical vocabulary and use the Mastery approach to broaden and deepen mathematical understanding.

At St Bartholomew's we embed a deep understanding of maths by employing a concrete, pictorial, abstract approach – using objects and pictures before numbers and symbols so that pupils understand what they are doing rather than just learning to repeat routines without grasping what is happening. Moving between these approaches enables pupils to connect abstract symbols with familiar contexts, which supports pupils in making sense of maths.

In Years 1 to 6 we use White Rose Maths Hub Mathematics scheme of learning and progression documents as they provide teachers with an overview of the small steps needed in order to achieve the National Curriculum objectives. Each "small step" is then broken down further into; notes and guidance, mathematical talk, varied fluency and reasoning and problem solving. The plans support a mastery approach to teaching and learning and have number at their heart. They ensure teachers stay in the required key stage and support the ideal of depth before breadth. They support pupils working together as a whole group and provide plenty of time to build reasoning and problem solving elements into the curriculum. Children of all abilities are given the opportunity to develop their skills, knowledge and understanding. There is a clear progression of skills, knowledge and understanding for the children as they move up through the school and teachers have the autonomy to adapt the medium term plans to suit the needs of their class. The St Bartholomew's Calculation policy clearly models the correct progression for the teaching of the four operations and supports teachers in differentiating the learning for the needs of their pupils.

Daily lessons have a clear learning objective derived from the medium term planning in line with the Primary Curriculum for mathematics 2014. Lessons provide opportunities for children to practice key skills and develop their mathematical fluency as well as developing mathematical reasoning and problem solving.

In the EYFS we use the White Rose scheme of learning. The teacher ensures the children learn through a mixture of adult led activities and child initiated activities both inside and outside of the classroom. Mathematics is taught through an integrated approach.

From the 2019/20 academic year onwards, schools in England will be required to administer an online multiplication tables check (MTC) to year 4 pupils. The purpose of the MTC is to determine whether pupils can recall their times tables fluently, which is essential for future success in mathematics. It will help schools to identify pupils who have not yet mastered their times tables, so that additional support can be provided. To support the children with their multiplication practice we use 'Times Table Rockstars' as an online and fun learning platform which also offers resources to be used in the classroom.

Assessment is an integral part of teaching and learning and is a continuous process. Teachers use formative assessment strategies daily to assess children's learning and understanding, through: effective questioning, clear learning objectives and success criteria, facilitating and listening to discussion, providing feedback and the marking of work, including the analysis of errors and picking up on misconceptions. At the end of all lessons, teachers and pupils reflect on their own learning against the steps to success criteria. These ongoing assessments inform future planning and teaching. Lessons are adapted readily and interventions are put in place where necessary.

## IMPACT

Mathematics is highly valued at St Bart's, and its prominence is evident in every classroom through the use of working walls, key vocabulary clearly displayed, and a wide range of visual and practical resource readily available to support pupils learning. The collaborative use of the White Rose scheme, alongside The School's calculation policy and progression of knowledge and skills document ensures that teachers are confident and have a clear understanding of the progression of knowledge, mathematical skills, correct vocabulary and calculation methods to be taught. St Bart's has a supportive ethos and our approaches assist the children in developing their collaborative and independent skills. Our practical and progressive approach to mathematics ensures we are able to meet the complex needs and range of abilities the children at our school have. Our focus on fluency, reasoning and problem solving provides challenging learning as well as opportunities to contextualise mathematics and encourage children to not see mathematical skills in isolation, but to integrate them into other aspects of their learning and lives. By the end of KS2, we aim for children to be fluent in the fundamentals of mathematics with a conceptual understanding and the ability to recall and apply knowledge rapidly and accurately. They should have the skills to solve problems by applying their mathematics to a variety of situations with increasing sophistication, including in unfamiliar contexts and to model real-life scenarios. Children will be able to reason mathematically by following a line of enquiry and develop and present a justification, argument or proof using mathematical language. The greater focus on problem solving and reasoning, has seen mathematical determination improving across the school. Challenging children to explore their work in greater depth has seen children become more reflective on their learning.