



## Intent, Implementation and Impact Statement

### Mathematics

#### Intent

At RPS we believe the habits of thinking mathematically are life-enriching. Through the teaching of Mathematics, we teach children how to make sense of the world around them by developing their ability to calculate, reason and solve problems. Our aim is for children to understand the relationships and patterns in both number and space in their everyday lives. We view maths as a creative and highly interconnected subject essential to everyday life, science, technology and engineering, and necessary for most forms of employment. It is vital to be numerate to participate fully in society and democratic processes. At Rotherhithe we ensure that every young person, regardless of background, has a rich and meaningful mathematics education.

Through the teaching of mathematics, our aims are:

- Success for all - Every child can enjoy and succeed in mathematics. A growth mindset enables pupils to develop resilience and confidence.
- Deeper understanding - Pupils must be given time and opportunities to fully explore mathematical concepts. The challenge comes from investigating ideas in new and complex ways.
- Problem-solving - Enabling learners to solve new problems in unfamiliar contexts is the ultimate aim of our mathematics education. Identifying, applying and connecting ideas enables pupils to tackle new and more complex problems.
- Mathematical thinking - Successful mathematicians are known to develop mathematical 'habits of mind'. To encourage this, we support pupils to be systematic, generalise and seek out patterns.
- Mathematical language - Mathematical language strengthens conceptual understanding by enabling pupils to explain and reason.
- Multiple representations - Objects, pictures, numbers and symbols enable pupils to represent ideas and make connections in different ways. This develops understanding and problem solving skills – while making lessons engaging and fun.

#### Implementation

At Rotherhithe, Years 5 and 6 follow the White Rose schemes of learning and Reception through to Year 4 follow the Mathematics Mastery Curriculum. Both curriculums are underpinned by the dimensions of depth – which together enable pupils to develop deep understanding of the subject.

The three principles of the dimensions of depth are:

#### 1. Conceptual Understanding



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Mathematics tasks are about constructing meaning and making sense of relationships. Our children deepen their understanding by representing concepts using objects, pictures, symbols and words. Different representations stress and ignore different aspects of a concept and so moving between representations and making explicit links between them allows them to construct a comprehensive conceptual framework that can be used as the foundation for future learning. The six-part lessons are sequenced to help the children build a narrative through different topics. These topics are then sequenced in a logical progression that allows learners to establish connections and draw comparisons. Support and challenge for all is achieved by adding and removing scaffolding to differentiated tasks. Multiple representations are carefully selected so that they are extendable within and between different areas of mathematics. Using these rich models encourages learners to develop different perspectives on a concept.

#### 2: Language and Communication

Mathematical language strengthens conceptual understanding by enabling our pupils to explain and reason. This is carefully introduced and reinforced through frequent discussion to ensure it is meaningfully understood. Talk is an essential element of every lesson. 'Star Words' are introduced at the beginning of each lesson and time is dedicated to developing confidence with specific vocabulary as well as verbal reasoning. The content of our curriculum carefully progresses in order to induct learners into the mathematical community. A large part of this community is confident use of the language, signs and symbols of mathematics.

#### 3: Mathematical Thinking

We support pupils to develop mathematical 'habits of mind' – to be systematic, generalise and seek out patterns. The creation of a conjecturing environment and considered use of questions and prompts are important elements of encouraging learners to think like mathematicians. Our curriculum is designed to give learners the opportunities to think mathematically.

#### Impact

We measure impact every day through formative assessment that informs daily planning. Teachers mark work during the lesson and carry out same day and keep up interventions ensuring that 'no child falls behind'. Summative, termly maths assessments evidence how children have independently applied the maths' skills taught. Teachers input this assessment on Target Tracker and monitor progress towards National Curriculum objectives as well as the progress of targeted intervention groups. Moderation meetings are held and throughout the year, the Senior Leadership Team carry out learning walks, observations, book looks, planning sessions and pupil progress meetings so that we can monitor the quality of teaching throughout the school. The outcome of these reviews is reflected in actions set out in teachers' appraisals, the Maths Action Plan and as whole school targets shared with staff.



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Data shows that in 2019 86% of our children left school at age-related or above compared to the national average of 79%. We are also above Year 2's national average with 31% of our children working at Greater Depth compared to the national average of 22% in 2018.