

Stramongate Primary School



Stramongate
PRIMARY SCHOOL



Reviewed: September 2022

Next review due: September 2022

Introduction

This document is a statement of the intent, implementation, impact and strategies for the teaching and learning of Mathematics at Stramongate Primary School. Mathematics is a core subject and this policy has been written in accordance with its statutory requirements.

'Mathematics is a creative and highly inter-connected discipline...a high-quality mathematics education should provide a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity.' (National Curriculum for Mathematics, 2014).

The aims of the 2014 National Curriculum are for our pupils to:

- Become fluent in the fundamentals of mathematics through varied and frequent practice with complexity increasing over time
- Develop conceptual understanding and ability to recall and apply knowledge rapidly and accurately
- Reason mathematically; follow a line of enquiry, conjecture relationships and generalisations
- Develop an argument, justification and proof by using mathematical language
- Problem solve by applying knowledge to a variety of routine and non-routine problems. Breaking down problems into simpler steps and persevering in answering

The EYFS Statutory Framework 2017 sets standards for the learning, development and care of children from birth to five years old and supports an integrated approach to learning. This is supported by the 'Development Matters' non-statutory guidance. The EYFS Framework in relation to mathematics aims for our pupils to:

- Develop and improve their skills in counting
- Understand and use numbers
- Calculate simple addition and subtraction problems
- Describe shapes, space and measure

Intent - What are we trying to achieve?

At Stramongate we recognise the importance of mathematics throughout each child's everyday and future life. We recognise the importance of encouraging the children to be inquisitive, to use questioning to further their learning and to make connections, whilst all the time being mindful of our motto - Be kind, work hard and discover.

We intend to give each child the self-confidence and resilience to reach their full potential by ensuring that they have the tools to calculate fluently, reason logically, problem solve and think in abstract ways.

In Mathematics at Stramongate School, our aims are:

- Children become confident, competent and independent mathematicians
- Build a deep conceptual understanding of maths and its interrelated content so that children can apply their learning in different situations
- Develop children's ability to articulate, discuss and explain their thinking using appropriate mathematical vocabulary
- Instil the mind-set in every child and staff member that everyone can do maths and that maths is for everyone...EVERYONE CAN!
- Children develop into resilient and inquisitive learners - skills needed to become life-long mathematicians
- Deliver an inspiring and engaging mathematics curriculum, taught by highly-enthusiastic staff, which sparks curiosity and excitement and which nurtures confidence in maths

Implementation

In order to meet our aims above and the requirements set out in the EYFS framework and the Primary National Curriculum, we will implement the following:

- All teachers follow a termly overview plan and are encouraged to design lessons using a range of resources, including, but not limited to, the White Rose Maths Scheme of Learning from the White Rose Maths Hub.

- Teachers reinforce an expectation that all children are capable of achieving high standards in Mathematics - EVERYONE CAN! Maths is for EVERYONE!
- To develop secure and deep conceptual understanding, staff plan for the use of concrete resources, varied representations and structures
- Regular and ongoing formative assessment informs teaching, as well as intervention, to support and enable the success of each child
- Children's attainment and progress is discussed by teachers, learning support assistants and SLT and if progress is not made, support is immediate and steps provided
- Differentiation is achieved by emphasising deep knowledge and through individual support and intervention. It is seen through the concrete resources used, and/or the reliance on the representations and structures within a lesson to help embed a mathematical concept. All children are expected to be exposed to age related expectations and staff allow the time to plug gaps children may have in a particular area of mathematics. Staff understand what age-related expectations and mastering looks like for each objective and plan for how their children will get there. In order to meet the needs of all pupils, children working at a greater depth of understanding within an area of mathematics have 'going deeper' opportunities planned by staff
- Teaching that is underpinned by methodical curriculum design and supported by carefully crafted lessons and resources to foster deep conceptual and procedural knowledge
- Teachers use precise questioning in class to test conceptual and procedural knowledge and assess children regularly to identify those requiring intervention, so that all children keep up. Children's explanations and their proficiency in articulating mathematical reasoning, with the precise use of mathematical vocabulary, are supported with teachers placing a strong emphasis on the correct use of mathematical language
- They are encouraged to develop fluency in their recall of key facts and a whole school approach to the teaching of calculation strategies is deployed across the school.
- Daily basic skills sessions recap and rehearse key skills to aid retention and support fluency
- The teaching of multiplication facts continues to be a discrete focus (particularly in Year 3/4), where the applications of these skills are essential for accessing other areas of mathematics.

Impact - What is the impact of our curriculum?

- The impact of our Maths curriculum is that at the end of Key Stage 2 our pupils achieve and make progress in line with other pupils nationally, evident through:
 - Fluency in their recall of key number facts and procedures
 - Accuracy in the formal calculation methods for all four operations
 - The flexibility and fluidity to move between different contexts and representations of mathematics.
 - The ability to recognise relationships and make connections in mathematics
 - The confidence and resilience to reason mathematically and solve a range of problems
- Children are happy learners who talk enthusiastically about their learning and eager to further their progress in maths
- The emphasis on accurate use of mathematical language is evident during class/pupil discussions

Assessment, Recording and Reporting to parents

Assessment is an integral part of the maths curriculum and not an addition to it. Children's work in mathematics is assessed from three aspects:

1) Informal, formative assessments are made continually by questioning the children, observing and monitoring their work. These short-term assessments are closely related to the learning objectives for the lesson and help inform next steps.

2) In some cases, periodic assessments take place at the end of a unit/ $\frac{1}{2}$ termly to check progress and understanding of content covered. This information also informs interventions.

3) Summative assessment is less frequent - this is the use of tests or more formal assessments to find out what children have learnt. Statutory Assessment Tests (SATs) are used for children in Year 2 and 6, plus children in Year 4 are also required to take a multiplication tables check (MTC) in the Summer Term. The purpose of the check is to determine whether pupils can fluently recall their times tables up to 12, which is essential for future success in mathematics.

A whole school tracking system is used to closely monitor children's progress throughout the school (Fischer Family Trust). Teacher assessments are entered termly and are closely analysed to identify children working at greater depth or who are at risk, appropriate intervention is then put in place to close gaps.

We see the relationship with parents as very important in supporting their children's mathematical skills. There is a dedicated maths page on our school website which provides specific documents for parents outlining what is covered in each year group and ways they can support at home. Parents also receive an end of year report which provides information on their child's outcomes and progress as well as two parents' evenings.

Special Educational Needs

Children with additional needs are supported by using practical resources and differentiated activities where needed. They are also further supported by additional support staff whenever possible. Where applicable, children's provision maps will incorporate suitable objectives from the National Curriculum or the EYFS curriculum and teachers keep these objectives in mind when planning work. In addition to quality first teaching, interventions also take place during the afternoons and focus on those children who may need more specific targeted input.

Times Tables

At Stramongate Primary School, we believe that through a variety of interactive, visual and engaging techniques, all children can achieve the full multiplication tables knowledge by the time they leave Primary School. The new National Curriculum (2014) states that by the end of year 4, pupils should be able to recall multiplication and division facts for multiplication tables up to 12x12. Children in Year 4 are also required to take a multiplication tables check (MTC) in the Summer Term. The purpose of the check is to determine whether pupils can fluently recall their times tables up to 12, which is essential for future success in mathematics. This means it is important for the children to learn their multiplication tables facts and to be able to recall them quickly and accurately. We teach times tables using the following progression:

Year 1 - Be able to count in multiples of twos, fives and tens

Year 2 - Be able to recall 2, 5 and 10 multiplication and division facts

Year 3 - Be able to recall 3, 4 and 8 multiplication and division facts

Year 4 - Be able to recall 6, 7 and 9 multiplication and division facts

Year 5/6 - application of multiplication and division facts to problem solving

To support children's learning of multiplication tables, children have access to Times Tables Rockstars. This is an online resource that Years 3-6 use to aid the teaching and fluency of multiplication and division facts. Year 5 and 6 also have access to Mathletics, an online mathematics programme filled with exciting games and activities to develop their understanding.