



Be the best you can be!

Maths Policy

Ratified by Governors: July 2017

Review Date: July 2019

Member of Staff responsible: Tom Crook

Introduction

This policy outlines the teaching, learning, organisation and management of mathematics at Bush Hill Park Primary School. The policy is based on the expectations and aims of the 2014 National Curriculum for Mathematics and the Early Years Development Matters document.

Mathematics is a creative and highly inter-connected discipline that has been developed over centuries, providing the solutions to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering and necessary for financial literacy and most forms of employment. A high quality mathematics education therefore provides 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 about the subject. (National Curriculum 2014)

Aims

Maths teaching should contribute to the acquisition of life-long skills and promote enjoyment and enthusiasm for learning through practical activity, exploration and discussion.

We aim to develop lively, enquiring minds encouraging pupils to become self-motivated, confident and able to solve problems.

The National Curriculum for Mathematics aims that all pupils:

- become **fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasing complex problems over time, so that pupils have conceptual understanding and are able to recall and apply their knowledge rapidly and accurately to problems.
- **reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.
- can **solve problems** by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

Objectives

During their time at Bush Hill Park School we want children to see how mathematics can help them become better equipped for future life. As a result of their leaning in mathematics and problem solving across the curriculum children will be better prepared for applying their skills effectively in everyday situations, in their future learning and in the work place.

CURRICULUM PROVISION

Nursery

The programme of study for the Foundation stage is set out in the Statutory framework for the early years foundation stage (EYFS). Children are provided with daily opportunities to develop their understanding of number, measurement, pattern, shape and space through play and practical activities that allow them to enjoy, explore, practise and talk confidently about mathematics. In addition to group activities, whole class learning takes place allowing the teacher to introduce and develop mathematical concepts.

Reception and Year 1

In order to support teaching and learning in Maths, children in Reception and Year 1 are taught using a Maths Mastery approach. The Key features of this programme are:

Objects and pictures:

Children use concrete manipulatives (objects) and pictorial representations (pictures), before moving to abstract symbols (numbers and signs).

Language development:

The way that children speak and write about mathematics has been shown to have an impact on their success. We use a carefully sequenced, structured approach to introduce and reinforce mathematical vocabulary. Every lesson includes opportunities for children to explain or justify their mathematical reasoning using full sentences that include relevant mathematical vocabulary.

Problem solving:

Mathematical problem solving is at the heart of our approach – it is both how children learn mathematics, and the reason why they learn mathematics. By accumulating knowledge of mathematics concepts, children can develop and test their problem solving in every lesson.

Years 2 – 6

The Programmes of study for mathematics are set out year by year for Key Stages 1 and 2 in the new National Curriculum (2014). Pupils should make connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. Learning is organised into blocks and teachers plan using the Busy Ants Maths and Maths Mastery programmes. From September 2017, Maths Mastery will reach Key Stage 2 and each year it will be introduced into the next consecutive year group, until it reaches Year 6; when the programme will be taught across the school. Once Maths Mastery reaches Year 6 in September 2020, Busy Ants Maths will no longer be used as a scheme of work within the school.

Teaching and Learning

The approach to the teaching of mathematics within the school is based upon a daily mathematics lesson. In all classes there are children of a wide range of mathematical abilities. We recognise this and provide suitable learning opportunities and challenge for all children. Where it is deemed appropriate, some year groups may be set by ability for some or all of their mathematics lessons. This may be organised into a higher ability group and parallel mixed ability groups and should not include a group consisting of lower attaining children only. We aim to work in partnership with parents and termly maths workshops are held with Years R to 5. During these workshops children have the opportunity to work alongside their parents by playing maths games which they can then play at home to reinforce understanding.

Planning

Planning for mathematics begins from a thorough understanding of children's needs which comes through effective and rigorous assessment and tracking, combined with high expectations for all children to achieve. Our medium-term mathematics plans outline the main teaching objectives for each half term and are organised into one or two week units. They ensure an appropriate balance and distribution of work across each term and ensure

coverage of the National Curriculum. The Calculation Policy has been reviewed in the light of the new National Curriculum and is used to support planning and ensure consistency in teaching calculation (This is due for review Summer/Autumn 2017).

Year group planning meetings are used to discuss the curriculum, expectations, pedagogy, differentiation, assessment and to ensure a consistency of approach and standards as per the '*Professional Standards for Teachers*' document. Within short term planning, clear success criteria are outlined, as are daily learning objectives and assessment opportunities. Where possible, planning for mathematics, should include real life contexts and problems solving as well as clear consideration for reasoning and collaborative learning.

Assessment

Assessment for Learning (AFL) is regarded as an essential part of teaching and learning and is a continuous process which is shared with all learners. All class teachers are committed to raising standards of attainment through AFL and are responsible for the assessment of all pupils in their class. This is achieved through questioning, marking, feedback, plenaries, online reference to Times Table Rock Stars and end of unit/term tests. Learning objectives and steps to success are shared with the children. Children are provided with opportunities for self/peer-assessment and improvement. Marking is developmental and children are provided with next steps and pupil response marking to extend their learning. Teachers monitor the acquisition of skills, knowledge and understanding through appropriate teacher intervention, observations and discussions with groups and individuals, and records of achievement in the key skills in maths for each year group are updated termly. Each pupil has a copy of their targets in their book, these are referred to constantly during lessons and to inform teacher planning and next steps. These targets are updated termly in accordance with National Curriculum Objectives and medium term/unit planning that Busy Ants Maths and Maths Mastery provide.

For further details of our current assessment procedures please refer to our Assessment Policy.

Monitoring and Review

The Mathematics Leader works as part of the Standards Team who is responsible for monitoring the standard of children's work and the quality of teaching alongside this. This is done as part of a monitoring cycle and includes lesson observation, book scrutiny, learning walks and pupil conferencing. The subject leader supports colleagues in the teaching of Mathematics by delivering INSET, supporting planning and by providing a strategic lead and direction for the subject in the school. All teaching staff are responsible for tracking children's progress termly, against age related expectations and reporting this at termly Pupil Progress Meetings. Class teachers and year groups are given data targets and this data is analysed in order to identify underachieving individuals or groups and to plan for focussed support and intervention. It is the responsibility of the Mathematics Leader to analyse the data following half-termly submission, in order to; track progress, ensure targets are being met, children are fulfilling their potential and to put in place any interventions such as booster groups for those focus groups that may not be meeting expectations. Furthermore, it is the role of the Mathematics Leader to ensure that specific points (weaknesses) from the school's data dashboard are tackled and impact of these initiatives can be seen through qualitative and quantitative data.