



Burbage Primary School

Maths

Policy

Date of approval

Approved by

Review date



This document should be read in conjunction with the following policies and documents:

- National Curriculum for Maths
- Early Years Framework
- Maths Intent and Implementation Statement
- Calculation Strategy
- Teaching and Learning Policy
- Assessment Policy

Organisation of the Maths Curriculum:

Maths is a core subject within the National Curriculum and forms an integral part of the whole curriculum for EYFS, Key Stage 1 and Key Stage 2. The teaching of maths is guided by the Early Years Framework and the National Curriculum document which together set out the key objectives for Reception through to Year 6 to enable pupils to become fully numerate. Maths is taught within daily focus lessons and incorporated at all opportunities across the whole curriculum.

At Burbage Primary School we aim to nurture and develop a life-long enjoyment of all aspects of maths with all the children in our care, irrespective of their background and attainment.



Rationale

Mathematics is an important, creative discipline that helps us to understand and change the world. Competence in mathematics is essential to everyday life – critical in areas such as science, technology and engineering, and necessary for financial skills and most forms of employment. As a school, we are committed to providing a high-quality mathematics education which provides a foundation for understanding the world. We believe in developing the children's ability to reason mathematically, fostering an appreciation of the beauty and power of mathematics and cultivating a sense of enjoyment and curiosity about the subject.

Aims

In order to encourage all children to see themselves as mathematicians, we will:

- Provide the children with the necessary knowledge, skills and understanding which will be required for further study and for adult life
- Provide frequent opportunities for both new learning and deliberate practice of fluency, problem solving and reasoning
- Inspire confidence in all children with mathematics through 'can do' beliefs and attitudes
- Develop an appreciation of the fascination of discovering patterns and understanding how things work.

This will enable them to:

- Become fluent in the fundamentals of mathematics so that they develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately
- Solve problems by applying their mathematics to a variety of problems with increasing sophistication, including in unfamiliar contexts and to model real-life scenarios
- Reason mathematically by following a line of enquiry and develop and present a justification, argument or proof using mathematical language
- Have an appreciation of number and number operations, which enables mental calculations and written procedures to be performed efficiently, fluently and accurately.

How we Teach Maths at Burbage – The Master Model of Learning

At Burbage Primary School, mathematics is taught daily. We foster positive 'can do' attitudes, believe all children can achieve in mathematics, and teach for secure and deep understanding of mathematical concepts. We use mistakes and misconceptions as an essential part of learning and provide challenge through rich and sophisticated problems before acceleration through new content.

Our mathematics units are planned using the 2014 National Curriculum and skills and knowledge will be integrated across all areas of the curriculum when appropriate and relevant. Using the mastery model of learning, deepening conceptual understanding is at the core of all mathematical activities planned. Fundamental to this is the use of practical and visual stimuli and models to develop and deepen understanding, and the use of high-quality mathematical challenges to promote lateral thinking and enthuse the children. The use of practical resources and/or pictorial representations will be evident in most lessons across all year groups. Such practical resources might include:

Practical

Counting objects – cars, pencils, fruit etc
Counters – coloured or place value
Bead strings

Visual

Drawings of practical equipment
Part – whole models
Number lines – labelled or blank



Tens frames	Place value charts
Unifix or Multilink	Arrays
Digit cards	Fraction walls
Place value cards	Shapes
Numicon	Clock faces - analogue
Dienes	
Cuisenaire rods	
100 squares	
Multiplication grids	
Rulers, metre sticks, trundle wheels	
2D and 3D shapes	
Money	
Clocks	

Teach It – Main Teaching

Each lesson focuses on a manageable step (Small Steps) of new learning based on the National Curriculum statements (Big Ideas). The key elements of the lesson are:

Hook It – an introduction based on a real-life scenario or previous learning to engage the children

Teach It – explicit teaching and modelling of the new learning by the teacher which directly addresses potential misconceptions

Practise It – all children practise together with their talk partner – children are allocated specific roles during this time, eg child A to explain and child B to do

Do It – 5 or 6 straight forward questions for the children to practise ‘what it is and what it also is’

Secure It – deliberate use of misconceptions to challenge conceptual understanding – these might include true/false or spot the mistake type questions

Deepen It – an opportunity to apply understanding to new problem solving and challenge the children’s mathematical thinking – these might include sometimes/always/never, convince me or logical thinking activities

Following the mastery model for learning, all children are taught together as a whole class, working in mixed ability pairings. All children are expected to complete the Do It and Secure It challenges each lesson while only some will progress through the Deepen It challenges. Differentiation will be apparent through the support and scaffolding afforded to children rather than the task that they complete. Throughout lessons, children are supported to respond using full sentences and the correct mathematical terminology throughout. Key facts, models and worked examples are recorded during each lesson onto the working wall in the classroom which is build up over each block of learning.



Maths on Track (MoT) Sessions – Deliberate Practice

In addition to the main Teach It lessons, a 20-minute MoT session is timetabled each day. This ensures that the children have sufficient time to practise new and previous learning before moving on. This time is also used to practise fundamental arithmetic skills, fluency and to embed key number facts such as number bonds and times table facts.

Multiplication Tables

Children in Years 3 and 4 also follow a daily multiplication table programme to ensure that they are secure in all their multiplication and division facts up to 12×12 by the end of Year 4 in line with National Curriculum requirements. This includes chanting times tables, repetition and quickfire questions in two-minute bursts. Although this focuses purely on the fluency of the number facts, the conceptual understanding is still explored in depth through the main teaching sessions.

Assessment in Mathematics

Assessment for learning strategies are used daily by teachers to assess progress, achievement and Attainment, and identify misconceptions or additional support that is required. Children are given sufficient time and opportunity to respond to their verbal and written feedback and incorporate their target into their next activity. Maths is assessed firmly against National Curriculum statements and Teacher Assessment Frameworks. Formal assessments take place at three key points during the year and attainment is recorded in DCPro.