



# Forty Hill CE School

## Mathematics Policy

### Introduction

This document is a statement of the aims, principles and strategies for the teaching and learning of Mathematics at Forty Hill CE School.

### Aims and Objectives

Mathematics is essential in everyday life. It provides children with a powerful set of tools which helps them to understand the world, enables them to reason, solve problems and think in abstract ways. With this in mind, we endeavour to help children develop a positive and enthusiastic attitude towards mathematics that will stay with them throughout their life.

Our aim is to provide a curriculum which broadens and deepens pupil understanding. All staff have high expectations of all children and through a mastery based curriculum, encourage them to be successful learners who achieve their full potential.

At Forty Hill CE School we aim to:

- promote confidence, enthusiasm and a sense of achievement in mathematics
- promote enjoyment of learning through applying skills to practical activities and allowing children to explore and discuss how mathematics is used in real life
- explore the features of shape and develop measuring skills in a wide range of contexts
- develop an understanding of the ways in which data is collected and presented
- develop children's ability to calculate accurately using a range of calculation strategies, both mental and written
- develop children's confidence in solving problems by applying their mathematics to a variety of problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions

### Expectations and requirements

By the time children leave Forty Hill, we expect our pupils to be confident mathematicians, being able to reason with confidence, fluency and understanding, in a range of mathematical situations. This will enable them to be 'fulfilled, healthy and successful' in further education and the wider world.

### Planning and Delivery

Teachers plan according to the National Curriculum Programme of study, using the White Rose Scheme of Learning, ensuring multiple opportunities are provided to develop mastery across the mathematics curriculum. We plan the activities in mathematics so that they build on the children's prior learning and provide opportunities for children to apply their mathematical knowledge and skills. While we give children of all abilities the opportunity to develop their skills, knowledge and understanding, we also plan progression into the scheme of work, so that there is an increasing challenge for the children as they move up through the school.

These plans will:

- identify the appropriate learning and teaching strategies required, providing a variety of tasks to suit different learning styles within the class
- provide balance and variety within the classroom enabling children to work through concrete, pictorial and abstract notions of mathematics

- plan for the specific needs of children within their class whilst adhering to the expected outcomes and progression
- provide assessment opportunities

Planning in Mathematics at Forty Hill CE School is carried out in two phases:

1. A Long Term Plan via our Yearly Curriculum Overviews which detail the full coverage of Mathematics objectives from the National Curriculum in each year group, as taken from the White Rose Scheme of Learning
2. Weekly timetables which show the key objectives taught each day in mathematics. This is supplemented by resources for each lesson, which include the teaching required for children to meet the learning objectives and outcomes. Weekly planning will include whiteboard presentations, children's activities (including various levels of challenge and opportunities for all children to access mastery activities), as well as any necessary resources for intervention groups.

At Forty Hill CE School we believe that weekly plans are working documents that will be amended during a given unit of work, in order to reflect progress and assessment of learning along the way.

All lesson resources are electronically stored on the shared area of the school's network in order to allow ready access by LSAs and other adults and members of staff involved in the planning and/or teaching of mathematics.

The Deputy Headteacher and Mathematics Subject Leader, in line with the cycle of monitoring for this subject, will carry out monitoring of planning in Mathematics on a regular basis.

### **Teaching and Learning**

At Forty Hill CE School, we use a variety of learning and teaching styles in our Mathematics lessons in order to meet the needs of all our pupils. Clear objectives from the National Curriculum are set for each Mathematics lesson and work is planned and scaffolded appropriately to ensure that the objective is met and every child is challenged. Teachers differentiate according to the needs of the children and targeted teaching is used to support identified children.

Teachers and teaching assistants will apply an 'agile learning' approach in the classroom to ensure all children are engaged, supported and challenged at variable times within the lesson.

All teaching staff will employ a range of generic teaching strategies within teaching Mathematics, including:

- Instructions/direction
- Modelling/ demonstrating/ scribing
- Explaining
- Questioning
- Discussing
- Consolidating
- Evaluating

### **Mastery**

The National Curriculum emphasises the importance of all pupils mastering the content taught each year and discourages the acceleration of pupils into content from subsequent years. Through teaching children to master the mathematics curriculum, it is our aim that they will:

- encourage pupil voice to justify and reason in mathematics using specific mathematical vocabulary, to communicate their ideas
- recall key number facts with speed and accuracy and use them to calculate unknown facts
- have sufficient depth of knowledge and understanding to reason and explain mathematical concepts and procedures and use them to solve a variety of problems including real life situations

- use mathematical concepts, facts and procedures appropriately, flexibly and fluently

### **Inclusion**

All children receive quality first teaching in Mathematics on a daily basis and activities are differentiated accordingly. Staff have high expectations that all children can achieve their full potential. Wherever possible, Teaching Assistants work in class, supporting all ability groups, specific individuals or groups of children, ensuring that work is matched to the needs of the child. When identified, some pupils are considered to require targeted support to enable them to work to age appropriate objectives and/or make progress in an area of Mathematics. Interventions will be included in an individual child's Learning Support Plan and will be discussed with parents. More able pupils are provided with opportunities to take part in enrichment activities such as debating, public speaking and writing competitions. The needs of children with English as an additional language will be met through planning and support. This is supported by our SEND and Equal Opportunities Policies.

### **Assessment**

Assessment is used to inform the teacher of pupils' progress in Mathematics. Both Assessment for learning and Assessment of learning is used at Forty Hill CE School and are imperative to ensure that all of our children are achieving their potential and making consistent progress.

Formal assessment of Mathematics is carried out using:

- The EYFS Framework ARA
- National SATs tasks and Tests in Years 2 & 6.
- Termly mathematics assessments at Checkpoints 2, 4 and 6
- NFER Assessments
- Observations

Each year the SATs results and teacher assessments are analysed to inform school targets in Mathematics for the future. Termly assessments are also carried out to inform teachers of children's progress and the next steps for children's learning.

### **Assessment for learning**

Formative assessment is used to guide the progress of individual pupils in mathematics. It involves identifying each child's progress against the key objectives determining what they have learnt and what should be the next stage in their learning. Teachers use their professional judgement of children, as well as evidence from their maths books in order to plan subsequent lessons accordingly and communicate with children their next steps for moving on. This may include identifying children that require immediate targeted intervention, or those who require deeper challenge to extend and enhance their understanding. In EYFS, evidence of learning is recorded on Tapestry to inform teacher assessments.

### **Feedback to pupils**

Feedback to pupils about their progress in mathematics is achieved by effective formative assessment which aims to be encouraging and supportive and move children on. This feedback is a vital part of assessment and it is essential for children to make effective progress. Pupils are encouraged to comment on their own work and that of their peers and make suggestions for next steps in their learning. There are many ways in which children's work is marked, including:

- Acknowledgement marking
- Peer- or self-marking
- Verbal feedback
- In-depth marking
- Highlighting against the Learning Objective

**The Mathematics Subject Leader is expected to:**

- ensure all teachers are familiar with the pitch and expectations as set out in the National Curriculum and, where needed, support them in planning lessons
- monitor learning and teaching of mathematics in each year group
- monitor colleagues teaching and planning with a view to identifying any support they may need
- attend meetings and courses provided by LA Numeracy consultants
- be in communication with the Headteacher and relevant governors to discuss the progress of mathematics within Forty Hill and identify areas for future development
- develop use of fluency and Mastery within mathematic lessons
- monitor the use of manipulatives to support conceptual understanding across the school.

**Resources and Training**

Each classroom has a range of mathematics manipulatives that are appropriate for the age and abilities of the children in the class. A central bank of manipulatives is also available and teachers are encouraged to use manipulatives to promote conceptual understanding across the mathematics curriculum.

The Mathematics Subject Leader attends regular mathematics meetings and training courses provided by the Local Authority and feeds back relevant information to staff. Staff meetings are used to discuss current trends and practices within mathematics.

**Other reference documents**

Assessment Policy

Mathematics Calculation Policy

Mathematics Mental Calculation Policy

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