



# **Harefield Infant School and Nursery**

## **POLICY FOR MATHEMATICS**

Reviewed March 2017

## **Introduction**

This document is a statement of the aims, principles and strategies for the teaching and learning of mathematics at Harefield Infant and Nursery school. We are a thinking school and believe mathematics is a vital part of the curriculum and an essential life skill. Mathematics is used in many aspects of life and we endeavour to teach children the skills they will need to develop maths confidence and skills, both within education and in their own lives.

At Harefield Infant and Nursery school we follow the statements for maths from the national curriculum. We then use the maths mastery approach to inform weekly planning. This ensures we have a full and consistent coverage across KS1. In the Foundation Stage teaching and learning is guided by the Early Years Foundation Stage Curriculum.

## **The Aims of Teaching Mathematics at Harefield Infant and Nursery School**

At Harefield Infant and Nursery School our aims are that all children will:

- Enjoy mathematics and understand the relevance of the work they are doing.
- Communicate with others through the medium of mathematics. They should have opportunities to explore fluency, reasoning and problem solving.
- Use initiative in applying mathematical knowledge to new situations, realising that their own ways of tackling problems are as valuable as traditional methods.

In order for these aims to be met the children also need to understand basic principles of mathematics. These are taught through the maths curriculum and are the basics of their mathematical development throughout the school. During EYFS children will explore Number and Shape, space and measure following the EYFS curriculum. During KS1 we will explore the different areas from the National Curriculum, Number (place value, addition and subtraction, multiplication and division and fractions), Measurement, Geometry, and Statistics.

## **Mathematics within the curriculum**

Mathematics, alongside Literacy underpins our curriculum at Harefield Infant and Nursery School. We believe these two subjects enrich everything we teach.

“Teachers should use every relevant subject to develop pupils’ mathematical fluency. Confidence in numeracy and other mathematical skills is a precondition of success across the national curriculum.”

DfE guidance and National Curriculum Framework 2014

## **Strategies for Teaching Mathematics at Harefield Infant and Nursery School**

The teaching of mathematics is a process in which all teachers are involved. The process of teaching new concepts moves from: Concrete, to pictorial, to abstract. There will also be time during lessons for a mental warm up to give children the opportunity to practice key skills.

Pupils are given opportunities to work in different ways, including group work, paired work, individual work and whole class work. Children are also given the opportunity to engage in different types of mathematical thinking and activity. They are encouraged to use: written methods, practical methods, investigations, problem solving, discussion and a range of mental strategies. These strategies ensure that all pupils are provided with the opportunity to develop, and extend their mathematical thinking.

As part of the thinking schools approach children are given time to discuss their ideas and mathematical methods with the class teacher and with their peers. This helps with the consolidation of concepts and gives the class teacher opportunities to feedback on their work and their mathematical development.

We endeavour to set work that is challenging, motivating and inspiring for all pupils.

### **Planning**

Nursery and Reception follow the Early Years Foundation Stage curriculum and KS1 follow National curriculum statements. Teachers then plan daily lessons that form a sequence from the Creative Curriculum. Sequences can be any number of lessons and will be amended if needed as the children progress.

Our daily plans include must, should and could statements as well as a challenge, and thinking questions highlighted in blue. The maths plans can be found in year group planning folders.

### **Enrichment opportunities**

At Harefield Infant School we believe that mathematics should be reinforced within a real life context, allowing children to build on their own experiences and make mathematical connections. This means that teachers will look for opportunities to include mathematics in the wider curriculum or to bring the wider curriculum into maths lessons where appropriate. Examples of this would be measuring in science and technology, the presentation of data in history and the counting of numbers and patterns in music. ICT will be used to enhance the teaching and learning of mathematics and the on-line Mathletics program is a motivational and enjoyable tool.

### **The Role SLT and maths leader**

The leaders are responsible for supporting all staff with the teaching and learning of mathematics throughout the school. They must insure that:

- All staff follows the maths mastery method and plan effectively for maths.
- Maths is taught effectively across the school and teachers have the opportunity to develop subject knowledge.
- Children's progress in maths across the year groups, key stages and the whole school is closely monitored and is regularly discussed with the leadership team so that any issues can be identified and acted on.
- Any resources required are identified to enable effective teaching and learning.

### **Resources**

All classes have a selection of maths resources that the children can access and use independently.

### **Assessment, Recording and reporting in Mathematics**

Class teachers are responsible for the assessment of children's understanding in maths and this information is used to inform future planning. It allows teachers to match levels of work and challenge pupils at the right level, narrowing the gaps.

Formative assessment takes place during each lesson so that understanding and progress is monitored.

- In Year 2 the targets are stuck in books at the beginning of the year and changed when met.
- In Year 1 the targets are displayed in the classroom.
- Children self-assess at the end of each lesson – this is through ticking the owls (must, should, could statements)
- Where possible children are given time to respond to the next step marking.
- Each half term we carry out a summative assessment where the children are assessed against the key objectives and the national curriculum outcomes. Attainment is then recorded on to Classroom monitor.

Pupils in reception class are also assessed according to the foundation stage profile at the end of the foundation stage. Pupils in years 2 complete statutory assessment test (SATS) during the first half of the summer term.

### **Equal Opportunities**

At Harefield Infant and Nursery School we believe that all children should have access to the same education and opportunities. We will endeavour to:

- Assess children carefully to enable precision teaching.
- Examine resources to check for bias and to ensure the inclusion of all children.
- Provide tasks to ensure that children experiencing difficulties with mathematical concepts or mathematical language are supported.
- Provide tasks to ensure that the more able gifted and talented mathematicians are challenged.
- Provide a supportive ethos in each classroom so that all children develop a positive attitude towards mathematics and are not afraid of making mistakes.

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