Hungerford Primary Academy

learn to love and love to learn

Mathematics Policy

Implementation Date: September 2022

Review Date September 2023

Mathematics Lead: Anna Tomley

Introduction

This policy outlines the teaching and learning of Mathematics at Hungerford Primary Academy. The policy will guide staff and act as a support document for the teaching and learning of Mathematics across all year groups from EYFS to Year 6 and reflects the consensus of opinion from the teaching staff and has the support of the governing body. The implementation of this policy is the responsibility of all practitioners in the school learning community. It is updated by means of annual review, when aims are set for the following year.

Intention of the Mathematics Curriculum

At Hungerford, we aim to equip children with the Maths knowledge, skills and confidence to succeed in a world where we are constantly required to solve mathematical problems. By the end of Year 6 we aim:

- To develop children's ability to problem-solve and reason in a variety of different contexts, applying their mathematical knowledge.
- To develop children's fluency so that they are able to select the most appropriate method to solve a problem. Children are able to recall known mathematical facts to support them in solving these problems.
- To support children in making links between existing knowledge and learnt knowledge.
- To provide children with memorable learning experiences and regular opportunities to revisit their previous learning to enable children to store these mathematical concepts in their long-term memory so that knowledge sticks.
- To support children in becoming confident mathematicians who enjoy mathematics and are resilient and persevere.
- To ensure previous year group concepts are revisited so that children can continue to progress through new taught concepts within their current year group.

At Hungerford, our school values are encouraged through maths. Children are to show confidence and resilience, and not to fear being wrong - as this is where the best learning happens. Alongside this, we are developing a culture for maths talk where discussion is paramount to learning; challenging and supporting peer-to-peer and peer-to-adult, in order to develop reasoning skills.

These aims follow the Education Endowment Foundation's Improving Maths recommendations.

Implementation of the Mathematics Curriculum

Teaching and learning of Mathematical Understanding begins in the Early Years Foundation Stage and has its basis in play and discovery. Every child, regardless of ability, experience and background will be supported to be successful within this area of learning. Those children identified as requiring extra assistance are afforded opportunities through time spent with staff members and those successful learners within the subject will be provided with further challenge to stretch their understanding.

Maths at Hungerford is taught using a Mastery approach, supported by use of Power Maths as the main scheme for pupils in Year One to Year Six. In the EYFS, the Statutory Framework for the Early Years Foundation Stage and the non-statutory guidance of Development Matters provides the long-term planning supported by NCETM Mastering Number project.

Mastering Number is also taught in Years 1 and 2 to supplement Power Maths. The project aims to secure firm foundations in the development of good number sense for all children from Reception through to Year 1 and Year 2. The aim over time is that children will leave KS1 with fluency in calculation and a confidence and flexibility with number. Attention will be given to key knowledge and understanding needed in Reception classes, and progression through KS1 to support success in the future.

As part of our mastery approach, children are (as much as possible) kept together, working in mixed ability groups on the same objective as their peers in the same year group. All children have access to the

same activities and problems, with 'differentiation' being shown by the deepening level of understanding that children show. Reasoning flows through every lesson, from the opening problem through to the children's independent activities. Alongside this, fortnightly Guided Reasoning sessions allow children to explore increasingly complex problems, scaffolded by adults and their peers. This allows pupils to develop their comprehension, reasoning and vocabulary.

The National Curriculum Programmes of Study are:

- Number and Place Value
- Addition and Subtraction
- Multiplication and Division
- Fractions, including Decimals and Percentages
- Ratio and Proportion
- Measurement
- Geometry – Properties of Shape and Position and Direction
- Statistics
- Algebra

Refer to the Maths whole school curriculum overview for yearly coverage.

Children across all phases of the school receive daily mathematics lessons; each lesson will include an aspect of daily retrieval practice in the form of a maths starter for the first ten minutes of the lesson. Consistent research has shown that retrieval practice can benefit pupils' learning (EEF report Cognitive Science). Therefore, purposeful maths starters pitched at the appropriate level of challenge for its learners, will help to move acquired mathematical concepts and facts from the short-term to the long-term memory where learning 'sticks'. Key Instant Recall facts, and our times table schedule teamed with a well-sequenced curriculum supplement this.

<u>Number fluency</u>

The National Curriculum outlines that all children should know their multiplication tables up to 12x by the end of Year 4. When children recall these facts, it is expected that there is no thinking time. When this is achieved, it opens the door to a whole new world of numeracy: e.g. 80 x 70 is easy to do if you know 8 x 7. Every fortnight, in Year 1 to Year 6 times tables are explicitly taught following our times tables schedule where the focus is teaching through the use of pictorial and concrete representations.

As the children pass through the school, they will focus on different number bonds and times tables suitable for their year group. Each term there will be a different focus on a set of Key Instant Recall Facts. In addition, a weekly arithmetic lesson known as 'arithmetic dojo' is carried out where children answer a specific number of fluency questions based on their year group. When children meet or beat their previous week's score, they receive an arithmetic dojo.

<u>Impact of the Mathematics Curriculum</u>

- Children will achieve age related expectations in Maths at the end of their cohort year.
- Children will develop a love for Maths.
- Children will have a deep, holistic understanding of mathematical concepts.
- Children will be able to make links between mathematical concepts.
- Children will develop skills that are relevant in a real-life context.
- Children will talk about maths confidently and clearly, using sound mathematical vocabulary.

Monitoring and Review

Monitoring of the standards of the children's work and of the quality of teaching in maths is the responsibility of the Subject Lead, in collaboration with the Senior Leadership Team, in order to maintain consistency, high standards and good outcomes across the Mathematics Curriculum. Evidence, such as teacher planning, lesson observations, book looks, learning walks, pupil voice and monitoring of work on Showbie, are regularly collected. The work of the Maths Lead involves supporting colleagues in the teaching of maths, being informed and keeping staff up-to-date about current developments and providing a strategic lead and direction for the subject in the school.

During these monitoring sessions, we are looking for well-planned activities which build sequentially throughout a week providing: opportunities for pupils to develop fluency, reasoning and problem solving and offer sufficient challenge for all pupils, the use of concrete resources and representations and high-quality maths talk, whilst following the mastery 'whole class' approach. When work is marked either written or live feedback, it must be effective and marked in accordance to our Marking and Feedback Policy.

In-school moderation of teacher assessments in maths is completed throughout the year with judgements being agreed amongst teaching teams and phases, involving the Maths Lead and SLT.

Inclusion & Equal Opportunities

All pupils have an equality of access to a broad and balanced curriculum, irrespective of their gender, ethnicity, class, culture, ability or any potentially discriminating factor. Additional support is given as appropriate and following our Special Needs Policy and teacher planning identifies appropriate differentiation and/or support to account for the needs of individuals and groups, including Pupil Premium, SEN and More Able and Greater Depth learners. Children not achieving age-related expectations are supported to make accelerated progress and to close the gap. We monitor both the delivery and coverage of the curriculum to ensure children have equal access. Our belief is that individualised, differentiated teaching pays regard to gender, culture, ethnicity, and EAL learner. Resources are chosen and monitored in relation not only to quality, but also to the positive representation of gender and cultural differences.

Effective professional development

In line with the EEF recommendations, staff will be provided with effective professional development in order to develop high quality teaching and enhance children's outcomes. Taking into account the needs of the school, staff and children, our professional development will build knowledge, motivate staff, develop teaching techniques and embed good practice. Professional development will be carefully designed or selected and provided by trusted external sources and expert teachers within the Trust.

Computing

The Maths curriculum enables children to use the internet to develop their digital skills whilst using interactive manipulates and complete tasks using iPads. Children are to use a variety of online sites to support their learning including our subscriptions with TTRockstars and interactive learning platform: Prodigy Maths. Learning is recorded both formally and informally using iPads, for example, worked mathematical examples to show understanding and voice recordings for verbal reasoning.

Related Documents

Inclusion Policy	Assessment Policy
Pupil Premium Strategy	Safeguarding and Child Protection Policy
Computing Policy	Presentation Policy
Handwriting Policy	Marking and Feedback Policy
Calculation Policy	Times Tables Policy
High Level Learners and Greater Depth Policy	