

Maths Curriculum Vision

We believe that by immersing children in rich, ambitious mathematical experiences, we will create children who can calculate with efficiency, and confidently demonstrate a deep understanding of mathematical concepts through their ability to reason and solve problems, ready for life’s opportunities.

Maths Curriculum Intention

Our Maths curriculum enables our children to develop the mathematical understanding they need in the world that they live in so that they can flourish and reach their potential. Our children are given every opportunity to build their knowledge and skills in Maths to enable them to be successful citizens in our ever- changing world. They are encouraged to develop their abilities of arithmetic, reasoning and applying to help in the world of further education, work and in their future lives.

Our approach to Maths is ambitious and progressive for all learners and aims to develop children’s resilience, perseverance, confidence in their own abilities and independence in their thinking, helping them become successful mathematicians, eager to learn more and build a love for the subject. We aim to offer rich and vibrant opportunities within the Maths curriculum which draw upon meaningful real-life experiences. In addition, through applying Maths in other areas of our curriculum, children will understand the wide application of their Maths skills alongside the focus on our curriculum and what an important role this subject has to play in their overall learning journey.

We want our children to believe that everyone, with practise, inspiring teaching and hard work, can attain highly in maths. In addition, we aim to enable children to make connections within mathematics with the ability to reason, generalise and make sense of solutions. It is important that they develop the ability to see mistakes as valuable and an opportunity to learn and develop a wide range of mathematical vocabulary. They also need to develop a confidence in using efficient strategies when approaching problems and then understanding that the same strategy is not always the best strategy for every problem.

Our Maths curriculum is designed and taught with an understanding that the working memory is limited and that we can aid learning and the acquisition of the long term memory with regular repeated learning experiences over time. Children will consolidate their learning most effectively when they understand a concept well enough to be able to be able to explain it to others.

Maths Curriculum Planning

At Harlington our planning is based on White Rose Maths. Long term planning ensures full coverage of the National Curriculum. The Master the Curriculum progression document is referred to, to ensure progression of skills through the school. Staff have the flexibility and confidence to adapt the planning and order in which units are taught to best meet the needs of the children.

Documentation from the NCETM (National Centre for Excellence in the Teaching of Mathematics) is used to help understand the small steps required to ensure all children achieve.



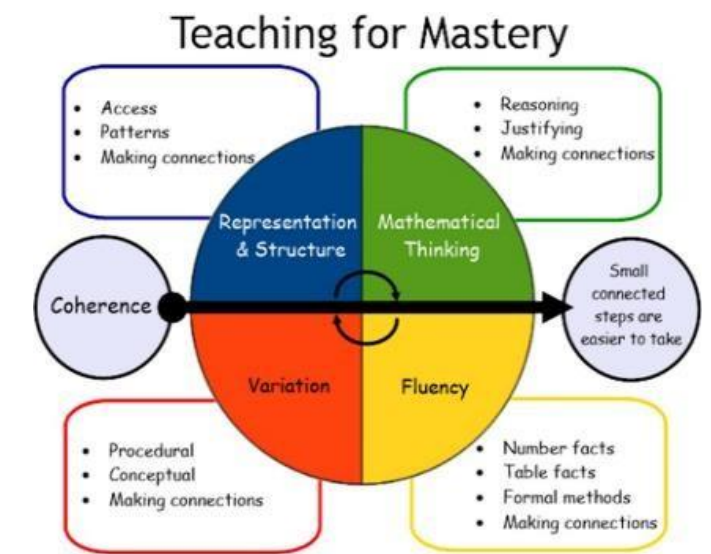
Maths

What you can expect to see in a Maths lesson

- A clear learning objective displayed at the start of every lesson. For KS1 and KS2 this will generally be recorded in children's books.
- A retrieval or reasoning task allowing children to retrieve prior knowledge.
- Teachers have high expectations of mathematical vocabulary and teach this through direct instruction to then use on a regular basis.
- Introduction to new learning and how it builds on previous learning is explained.
- A breakdown of small steps to act as building blocks to support conceptual understanding. This enables children to make connections between different areas of their maths learning.
- All children are supported to achieve and are challenged to go as far as they can.
- Clear models of what is expected of children are explicitly shared throughout a session. This could be demonstrated on classroom working walls or in the delivery of the session.
- An emphasis on talk, using stem sentences for comprehension.
- The CPA (concrete, pictorial, abstract) approach is used appropriately within a lesson or across a sequence of lessons to support understanding for all children.
- Resources are readily available to all children in every classroom.
- Task is taught through the small steps.
- Within every sequence of lessons there will be:
 - Fluency – to apply known facts to calculations and unknown situations/contexts. It enables children to spot patterns and make connections
 - Reasoning –allows children to think mathematically in order to solve problems in different ways, justifying which method is the most efficient and effective
 - Problem solving – Opportunities for children to solve problems should be provided for every learner, so that they can build on their fluency and reasoning skills.
- Misconceptions are pre planned and taught through lessons. Then they arise they are immediately addressed.
- Feedback is immediate through live marking in the lesson.
- Questions are planned to challenge thinking and to develop understanding and children are encouraged to explain their thinking.
- Conceptual variation, where mathematical features are presented in different ways to build children’s flexibility with applying their maths. Emphasis is placed on children making their own choices and following their own working out strategies based on previous learning.
- The expectation that children will develop a secure knowledge of the multiplication tables.

Mastery

At Harlington we follow a mastery approach to Maths across each key stage. We work closely with the Maths Hub to support us in this. Maths mastery is the method of teaching children mathematical fluency in small steps for progression to ensure pupils master the same learning objective and progress at a similar pace. Maths mastery allows children to develop problem-solving skills and in turn, solve non-routine maths problems without having to memorise procedures. The ability to communicate their understanding behind a mathematical problem is also important.



Organisation and Structure

- All classes have a daily Maths lesson.
- Reception and KS1 have a daily 15 minute Mastering Number session in addition to their Maths lesson.
- All lessons incorporate reasoning and problem solving.
- Monster Multiplication from Purple Mash is regularly used in KS1 and 2 to support the learning of times tables.

Assessment

- Assessment ensures that class teachers and school leaders have an accurate picture of where children are at, what children know and where further support is required.
- Assessment is predominantly verbal and written feedback during every lesson. This includes live marking during the lesson, showing children where they have been successful and quickly addressing any misconceptions or misunderstanding. In some cases interventions are given the same day to close gaps in children’s understanding.
- Formal assessment starts in Reception when they complete the statutory baseline assessment when they enter the school in September.
- PiXL assessments are used in KS1 and KS2 to provide summative data each term. The results are shared with the Headteacher and SENDCO in Pupil Progress meetings to discuss what actions are required as a result of the evidence gathered.
- Multiplication check - Statutory assessment, taken during June in Year 4.