



Our *Maths* Approach

'Mathematics is a creative and highly inter-connected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject' *National Curriculum 2014*

Our vision at Heymann Primary School is that all children will leave our school with the fundamental mathematical skills and concepts they will need to operate successfully at Secondary school and in the wider world. Our aim is to create learners who enjoy mathematics, are curious, ask questions and make links between the mathematics they are learning and its application in the wider world. At Heymann we have a mastery approach. Through using this teaching and learning approach our aim is that our pupils will develop a deep understanding of mathematics, so that they can confidently move onto their next stage of mathematical learning secure in the knowledge and skills they have been taught. There is great emphasis placed on children understanding the mathematics they are working on; not simply trying to remember rules and formulas.

CURRICULUM DESIGN

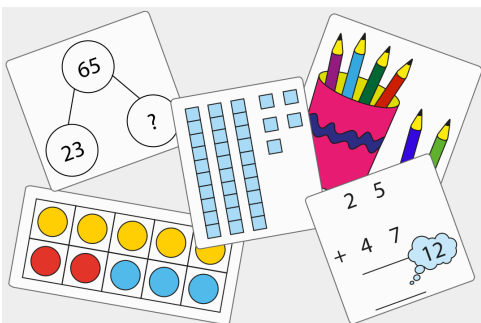


We begin in Nursery and Reception with the Early Years Foundation Stage Framework which divides mathematical concepts into number and

numerical patterns. Following The White Rose scheme of work for Reception, we aim to give a strong grounding in number so that all children develop the necessary building blocks to excel mathematically. We provide frequent and varied opportunities to build and apply this understanding, using a variety of manipulatives. We also include rich opportunities for children to develop their spatial reasoning skills across all areas of mathematics including shape, space and measures. It is important that children develop positive attitudes and interests in mathematics from an early age.

Beyond Early Years, our curriculum continues to be mapped by the White Rose scheme of work. Here we focus on breaking down topics into smaller more

manageable objectives, building coherence and fluency with each step. For each objective the children focus on



a progression from concrete resources to pictorial representations and finally into the numerical abstract, supported through quality first modelling; the use of maths partner learning; small group work and learning as a whole class.

We aim that all pupils:

Become **fluent** in the fundamentals of mathematics so that they develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.

Can **reason** mathematically by following a line of enquiry and develop and present a justification, argument or proof using mathematical language.

Can **solve problems** by applying their mathematics to a variety of problems with increasing sophistication, including in unfamiliar contexts and to model real-life scenarios.

This is evidenced in the Do it, Deepen it and Twist it parts of our lessons.

We recognise the importance of children understanding key mathematical vocabulary and plan each session with this in mind, building in the use of stem sentences to ensure children practice the language they are being taught.

Deepen It!

Explain your thinking

Do It!

Practice your number work

Twist It!

Use what you know to solve a problem

Misconceptions are also addressed to help secure understanding.

Our curriculum is enriched by our Massive Maths days which occur each term, where children have the chance to apply their mathematical skills to a range of different problems and scenarios.

There is a great emphasis on increasing fluency through regular practise outside of the traditional lesson. This process supports our children by ensuring that learning is reinforced and consolidated within and across each year group. In KS1 and 2, we develop the children's ability to recall and apply knowledge rapidly through having dedicated time throughout the week to focus on arithmetic practise. Additionally, from Year 2 onwards, children are further supported in this area with the opportunities to access apps such as My Maths and TT rockstars both in school and at home.

ASSESSMENT

In the daily mathematics lesson, formative assessments are made on a day-to-day basis. Practitioners observe, question and evaluate lesson outcomes to further determine progress made and the next steps in learning.

White Rose Mathematics end of unit tests are used in all year groups from 1 – 6. Further summative assessments are made at the end of each term to monitor children's knowledge and understanding of concepts taught. Progress is discussed at termly 'Pupil Progress Meetings' and focus children are indicated. Statutory assessments are made at the end of each key stage. At the same time of year, we conduct NFER tests in Years 3,4 and 5 as a further measure of progress.

Finding out about the impact of both the intent and implementation of the mathematics curriculum is timetabled. Monitoring of mathematics planning and the impact of teaching is checked regularly according to our school monitoring timetable through planning and book scrutinies and pupil voice. We review our curriculum regularly to make sure that it meets the needs of our children, to check that it is relevant and challenging and still excites our children, motivating them to want to be life-long learners.