

Mathematics

Statement of Intent

At Harnham Infant School we aim to provide a maths curriculum, which is accessible to all and whilst also maximising the achievement of every child. At Harnham we want children to make links and connections in their mathematical ideas to develop fluency, mathematical reasoning and competency in solving increasingly sophisticated problems. We intend for our pupils to be able to apply their mathematical knowledge to all areas of the curriculum. As our children progress, we intend for them to gain a sense of enjoyment and curiosity about the subject. It is important to remember that maths mastery is not about big numbers but instead it is all about big thinking.

The national curriculum for Mathematics aims to ensure that all pupils:

- Become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- Reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- Can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

Implementation

The content and principles underpinning the 2014 Mathematics curriculum and the maths teaching and learning at our school reflects the mastery for all approach.

- Teachers reinforce an expectation that all children are capable of achieving high standards in Mathematics.
- The large majority of children progress through the curriculum content at the same pace.
- Differentiation is achieved by emphasising deep knowledge and through individual support and intervention.
- Teaching is underpinned by methodical curriculum design and supported by carefully crafted lessons and resources to foster deep conceptual and procedural knowledge.
- Practice and consolidation play a central role. Carefully designed variation within this builds fluency and understanding of underlying mathematical concepts.
- Teachers use precise questioning in class to test conceptual and procedural knowledge and assess children regularly to identify those requiring intervention, so that all children keep up.

To ensure whole school consistency and progression, the teachers and support staff at Harnham infant School use the White Rose Hub progression documents, planning and resources to help inform their planning.



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Mathematical concepts are shared within the context of an initial related problem; these activities prompt discussion and reasoning, as well as promoting an awareness of maths in relatable real-life contexts that link to other areas of learning.

Our maths teaching is almost always presented with objects (concrete manipulatives) for children to use. Teachers use careful questions to draw out children's discussions and their reasoning. The class teacher then leads children through strategies for solving the problem, including those already discussed. Independent work provides the means for all children to develop their fluency further, before progressing to more complex related problems.

Mathematical topics are taught in blocks, to enable the achievement of 'mastery' over time. To help children embed new skills each year group plans a continuous provision mathematical activity linked to the previous weeks' learning giving the children opportunities to practice new skills and giving the teachers a better understanding of children's understanding.

Through our maths teaching children are encouraged to communicate in full sentences. Class teachers model I know that because sentences whilst also inspiring children to challenge and support their peers thinking.

Calculations Policy

We recognise that mathematics can only be used effectively when the user understands the tool, and has ownership of it. Our calculation policy, allows for year on year consolidation and extension.

Impact

The school has a supportive ethos and our approaches support the children in developing their collaborative and independent skills, as well as empathy and the need to recognise the achievement of others. Children can underperform in Mathematics because they think they can't do it or are not naturally good at it. Our maths Curriculum addresses these preconceptions by ensuring that all children experience challenge and success in Mathematics whilst developing a growth mindset. Regular ongoing assessment informs teaching, as well as intervention, to support and enable the success of each child.

Children that leave our school are confident in their own reasoning skills and develop their own resilience to tackle the mathematical problems they face.

Our learners are able to use their taught skills to embed knowledge in everyday life and across the curriculum. Children across the school show pride in their achievement and their learning progress. On leaving our school we are confident that our children have a secure knowledge of number.

Children at Harnham Infant School are intrinsically motivated to achieve well in mathematics.