Mathematical Curriculum Statement

Intent

Our long term aim is that children leaving Highfields will have developed a lifelong love of mathematics. We want them to realise the purpose and understand the importance of mathematics in the wider world and how this knowledge and understanding will help them to succeed in their lives as adults. The habit of thinking like a mathematician is life enriching and one that we wish for our children to embrace.

We also want our children to become fluent in the use of mathematical procedures, be able to recall mathematical facts with accuracy and speed and be confident problem solvers. At each stage of learning, the children should be able to demonstrate they have 'mastered' a deep, conceptual understanding of the learning and as a result of this, they should also be able to reason mathematically.

We intend to do this by :

*developing a well sequenced, ambitious curriculum which enables the children to realise the connections between mathematical concepts.
*developing learners who have secure foundations in mathematical concepts, particularly those related to place value and number. Developing a real sense of number is vital and is a key priority at Highfields.
*providing our children with a variety of mathematical opportunities that are both challenging and fun.
*ensuring children are confident mathematicians who are prepared to take risks and have the stamina and perseverance to work through challenging tasks.

Implementation

Our implementation is developed through the secure understanding and consistent delivery of the curriculum content. Teaching staff receive good quality CPD on an annual basis and are regularly encouraged to reflect upon their own practice.

Planning

1. Long term Plans: We ensure the delivery of the National Curriculum. Yearly overviews are created and learning is sequenced carefully . In each year group, place value and number skills are given priority first before moving on to the 4 operations (addition, subtraction, multiplication and division) and then the rest of the programmes of study for each year group. During each of these areas of focus, pupils are given the opportunity to regularly practise, problem solve and reason.

2. Medium Term Plans: These plans demonstrate the learning each half term and teachers give careful consideration to what resources they will use to enhance the teaching and learning. Targeted pupils are identified and interventions are planned for. Mastery and Mastery with Depth tasks alongside relevant mathematical vocabulary is also carefully

considered. Each term the use of PUMA standardised assessments indicate any gaps in knowledge and understanding that need to be addressed or revisited.

3. Short term: Daily lessons are planned for as a result of ongoing teacher assessment i.e use of questioning, observations, written and verbal pupil responses. The use of pre-learning assessments clearly indicate the children's starting points on a particular learning journey so that no time is wasted. Short term planning is mainly supported by the use of the White Rose Maths Hub materials, our Teaching of Calculations Progression map and resources from NCETM and NRICH. The National Oak Academy has also been used to enhance remote learning.

Pedagogical approaches

*The use of CPA (concrete, pictorial, abstract) methods are encouraged. All pupils, when introduced to a key new concept, should have the opportunity to build competency by following this approach. Pupils are encouraged to physically represent mathematical concepts. Adults and pupils use objects and pictures to demonstrate and visualise abstract ideas, alongside numbers and symbols.

Concrete – children have the opportunity to use concrete objects and manipulatives to help them understand and explain what they are doing.

Pictorial – children then build on this concrete approach by using pictorial representations, which can then be used to reason and solve problems.

Abstract – With the foundations firmly laid, children can move to an abstract approach using numbers and key concepts with confidence.

Together, these elements help cement knowledge so pupils truly understand what they have learned.

*****The Use of Intelligent Practice

It is essential that children are given time for 'frequent, varied practise' of knowledge and skills in order to become procedurally fluent. At Highfields, we understand the importance of using 'Intelligent Practice' tasks . These are learning tasks that avoid mechanical repetition and instead encourage children to think with increasing creativity. They often involve clear progression in difficulty.

*****Opportunites to Strengthen Long Term Memory

We understand at Highfields that learning is a change to long term memory. In order to strengthen our long term memory, knowledge, skills and understanding need to be revisited at regular intervals. Our children are provided with opportunities both inside and outside of maths lessons, to recall, practise and apply previously learned knowledge and skills to new

situations. This is where connections between mathematical concepts are forged. Weekly skills homework also plays a valuable part in this aspect of mathematical learning.

Impact

As a result of Key learning objectives for each year group being identified and through the use of effective and ongoing Assessment for Learning opportunities, teachers at Highfields can decide when a mathematical concept or skill has been mastered ; whether a child can show it in multiple ways, using the mathematical language to explain their ideas, and can independently apply the concept to new problems in unfamiliar situations.

We believe that every child (regardless of their starting points) should be given the chance to master the year group key learning objectives in mathematics. We endeavour to leave no child behind and encourage them to reach their potential or beyond. Teaching staff work hard to remove barriers and provide ongoing support where needed.

It is important to us at Highfields, that children leave us ready for the next stage in their education, having fostered a curiosity for numbers and a passion for learning in mathematics.