Limehurst Primary School

Subject Leader Report: Mathematics by Diane Wright

INTENTION:

At Limehurst Primary School we believe that children should experience the awe and wonder of mathematics as they learn to solve problems, understand and appreciate relationships and pattern in both number and space in their everyday lives, and discover efficient strategies and make links between the different areas of maths which helps us make sense of the world around us. We believe maths is a universal language that helps us to describe, make sense, investigate, understand, and respect our ever-changing world. We believe all children can achieve in mathematics and teach for secure and deep understanding of concepts through fluency, reasoning and problem solving. Where possible, we try to make our maths 'real maths', making our learning and experiences relevant to everyday life.

The Maths Mastery learning model forms the basis of Limehurst's approach to teaching maths which is underpinned by the C-P-A (Concrete – pictorial - abstract) approach to learning. The aim of mastery in maths is to give an in depth understanding of the concepts taught, through small steps with reasoning and problem-solving opportunities alongside. We use mistakes and misconceptions as an essential part of learning and provide challenges through rich and varied problems. We encourage children to use approaches, which work for them, by equipping them with a range of efficient strategies and ensuring an understanding of them. At our school, most children are taught age related content and are supported in understanding through small steps, providing intervention where gaps in understanding are identify. We aim to make maths an exciting and varied experience to enable children to flourish and achieve. As a primary school, we aim to ensure that all children develop the practical skills and understanding required by the National Curriculum to form a concrete understanding of maths knowledge, a range of skills and resilience when applying these skills to reasoning and solve problems.

IMPLEMENTATION: Planning, sequencing, and skills progression

Our medium- and long-term plans and sequencing of lessons follow the White Rose mastery approach (Reception through Year 6) where the goal is to deepen understanding so that each lesson builds upon the last. Mastery requires teachers to:

- Ensure all pupils have the same opportunities to learn.
- Lessons are focused on deepening children's understanding.
- Concrete-Pictorial-Abstract (CPA) approach to teaching maths is used.
- Regularly assessments allow teacher to monitor and understand their children's progress.

Mathematical concepts and skills are broken up across the key stages. A concept is taught and will be revisited the following year, but in greater depth to build upon prior knowledge. We start with number (place value, addition/subtraction, multiplication/division [KS2]) which is consolidated first before moving on to measurement, statistics and geometry. This is important as the children will them be able to use their number skills and

apply them to the other mathematical disciplines. A progression map has been provided to all teachers so that they understand where children are coming from and where they are headed. We tailor our sequential plans to individual cohorts. Staff are aware and sensitive to the needs of all pupils. We ensure that all pupils have access to the curriculum and utilise a wide range of maths manipulatives that are demonstrated in the White Rose approach. Based on the mastery approach, pupils who are sound with their fluency deepen their understanding with reasoning and problem solving.

IMPLEMENTATION and IMPACT: Assessment, monitoring and evidence

First and foremost, we focus on effective and quality teaching for all. We follow small steps based on White Rose planning allowing all to access the curriculum regardless of disadvantages or SEND. We also utilise maths manipulatives, visual and pictorial prompts and have intervention sessions to help support these pupils. We make it a priority to know our children and to know the curriculum, to ensure the teaching staff understand the progression in maths learning and the likely misconceptions.

Teachers continually apply assessment for learning, assessing Small Steps using a range of diagnostic assessments daily to identify gaps and misconceptions in understanding during lessons which may lead to targeted interventions. Early identification and interventions ensure all children are ready to progress in the next lesson. All teachers use regular revision activities (Flashback 4) to practice and consolidate understanding. End of unit (WRM) and End of Term (WRM) assessments are analysed to identify targeted intervention for children. Pupil progress is discussed through department monitoring and between year group teachers at the end of year. In addition, staff are consistent in their approach to CPA and using a range of manipulatives, where appropriate, visual prompts and pictorial representations to help secure children's understanding. Teachers support children to develop their reasoning and explanation skills using stem sentence starters and relevant mathematical vocabulary.
The impact of moving to the White Rose Maths scheme has ensured progression and continuity throughout the school. Teachers identify gaps in learning and misconceptions and plan for appropriate interventions. Data from last year shows that this is particularly important for KS1 and Year 3. The impact of the EYFS focus on early number mastery (WRM) will underpin understanding as children progress to KS1.

By the end of Year 6, we aspire that our children will have developed a bank of efficient and accurate skills that can be used to calculate effectively. These will have been underpinned by the C-P-A process so children understand rather than just do, which ultimately will allow children to identify when answers do not make mathematical sense. Children will be able to apply these calculation skills and understanding to other areas to become confident and resilient problem-solvers with the ability to reason and articulate their ideas mathematically. Due to the embedding of stem sentences, children will have the language to be able to justify, reason and explain their answers.

Other Key Information if applicable (subject specific)