Maths: The Wray Common Way

At Wray Common Primary School, we aim to provide a high-quality mathematics education with a mastery approach so that all children:

- Become fluent in the fundamentals of Mathematics
- Are able to reason mathematically
- Can solve problems by applying their Mathematics

At Wray Common, we use Maths No Problem resources in Years 1-6 to support teachers in all aspects of their planning whilst delivering Singapore Maths Mastery methods effectively.

Our Maths curriculum predominately takes a problem solving approach. During each lesson, the key conceptual mathematical understanding is prioritised through the support of everyday problems, which children explore and investigate. Children work alongside each other in mixed ability pairs to reason, explain and justify their thinking using mathematical vocabulary. Misconceptions are addressed as and when they arise with teachers actively engaging children into proving their ideas and methods. Teachers carefully plan challenging, open-ended questions to support children in making connections, identifying patterns and drawing conclusions about the mathematical concepts.

During all lessons, children have access to a wide variety of concrete resources to support their conceptual understanding. As they progress through the lesson or series of lessons, children move towards using the pictorial and abstract representations of key mathematical concepts.

Our Approach to Maths at Wray Common

At Wray Common, our approach to teaching Maths is supported through the use of the Maths No Problem scheme. This allows for pitch and consistency of teaching across year groups and classes to ensure that all children are challenged. It supports teachers' subject knowledge and allows children to build upon methods and structures of learning each year. The support of the worksheets ensures a range of different questions and variations of structure which stops rote learning. As a result, we use the textbooks to support us teach, we don't support the textbooks.

Talk for Maths

Within our classrooms, the majority of the lesson is supported through Talk for Maths. By getting children to articulate their methods, teachers are able to see if a child has grasped the key learning and whether any misconceptions have arisen. This approach allows children to develop their thinking and reasoning skills as well as having to be reflective learners as they need to listen, articulate and respond to other children within the class. As the more we say it, the more they say it, the more they understand.

Whole Class Teaching

We carry out whole class teaching to ensure that 'no child is left behind'. By supporting all children to access the core learning, through adult support or resources, children are able to reach their full potential and are able to feel successful with their learning.

Multiple Methods

Children are encouraged to find and solve a problem in more than one way. We believe that, 'it is better to solve 1 problem 5 ways, rather than solve 5 problems in 1 way.' By developing children's resilience

towards this, they are better able to make connections, find the most efficient method, challenge each other's thinking and apply this to unfamiliar problems later on in the learning journey.

Mixed Ability Pairs

Within our Maths lessons, children sit in mixed ability pairs so that they are challenged to explain their thinking either by trying to understand a particular method or by trying to articulate it so that others understand their method or point of view. This approach supports 'all children in achieving' as both the lower attainers and higher attainers are challenged in different ways as we learn 90% of what we teach to others.

In-Depth Learning

At Wray Common, we spend a considerable amount of time on different units of learning to enable children to go deeper into their understanding as well as taking small steps in their learning which builds upon the previous day. This supports learning going from short term memory to long term memory.

Pre-Teaching

In order to support children so that 'no child is left behind', year groups carry out pre-teaching to support early intervention of Maths. This occurs at least three times a week in each year group and is a session run by the class teacher. During this session, teachers support identified individual children in looking ahead at the next lesson. By allowing these children to see what's coming up, they are already ahead of the game in developing their understanding about different methods and the next day's learning won't be 'new' to them. It also boosts children's confidence that they know a way that other children don't, particular when these are your low attaining children.

Magic Maths

Magic Maths aims to develop 'number sense' and fluency in the fundamentals of mathematics as well as to see the relationships between operations. It also aims to increase a child's ability to recall and apply knowledge rapidly and accurately. Magic Maths primarily focuses on key gaps identified through a range of AfL (Assessment for Learning) strategies. Year groups carry out a fifteen minute session at least three times a week. As a result of children coming back to units of learning, it allows them to transfer their understanding from short-term to long-term memory providing quicker recall of number facts and structures.

WRAY COMMON
Mental Maths
Passport

The Colosseum

Maths Passports

As well as whole class teaching, each child has their own individual personalised Mental Maths Passport. This helps develop children's mental maths at a level that is personal to them. They complete a 3-minute game on a particular target. The games are there to develop fluency of key number facts. Children's Maths Passports are an integral part of children's home learning and encourages children to develop responsibility for their own learning.

Times Table Rock Stars

To support children's times table fluency, accuracy and quick recall of times tables, we use the programme Times Table Rock Stars. This is a fun and challenging programme designed to help children master their times table knowledge.

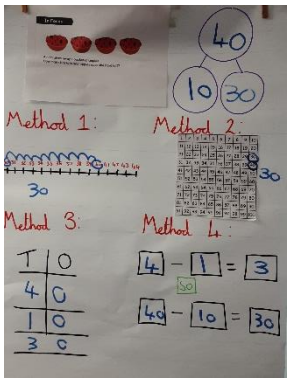
Lesson Structure

Flashback 4

To begin our Maths lessons, children start with a Flashback 4. This is where children complete four questions about key concepts that they have previously covered. Here the first question likely focuses on something the children have recently done. The second question relates to concepts they have likely learnt in the last unit. The third and fourth question focuses on concepts that children have studied earlier in the year or the previous year.

In Focus

At Wray Common, we set children off to explore an 'In Focus' task which is often a 'low floor, high ceiling' task. This allows all children to access these questions, with a focus on unpicking the question with their partner through exploring different methods and reasoning as well as making links and connections between these.



Discussion

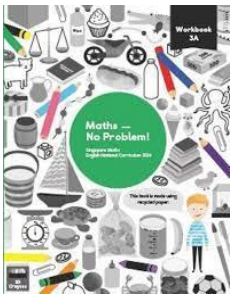
During this time, children bring and share their methods and ways of solving the 'In Focus' task to a whole class environment. The teacher draws out the knowledge and reasoning from the children rather than just 'telling' them what to do and how to solve the problem. Through this, children together with the teacher, identify the target method to use within the lesson. Here, children are supported by open –ended questions such as "prove it", "explain", "how do you know?", "is it possible?" to develop their understanding and challenge thinking.

Guided Practice

This section of our lesson is all about variation and children practising the target method in a way that varies the way the question is asked but deals with the same structure. By drawing attention to the changes in variation within the questions, children will be able to make more links and connections within different units of learning.

Independent Application

At this time, children independently complete their workbook which focuses children on using the key methods they have explored during the 'In Focus' task and follow up task. Initially, the workbook questions begin with scaffolding before this scaffolding is reduced and the questions gradually become more challenging. Children are still able to use resources to help them in completing these questions.



Challenges

At the end of the lesson, when children have completed their independent learning, they are given a deeper challenge. This is where children practise their skills learnt in the lesson through a problem solving, reasoning of fluency based task.