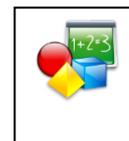




St Louis Catholic Primary School

To love, wonder and achieve together.

St Louis' Maths – We use the Maths No Problem programme of study.



What is Mastery? Teaching maths for mastery is a transformational approach to maths teaching which stems from high performing Asian nations such as Singapore. When taught to master maths, children develop their mathematical fluency without resorting to rote learning and are able to solve non-routine maths problems without having to memorise procedures. The approach helps pupils develop a deep, long-term and adaptable understanding of maths.

In November our Ofsted inspection endorsed the approach we have taken. The inspector noted that the teaching of mathematics is good and that our insistence that the children talk about mathematical concepts and write explanations about their understanding in mathematics results in most of our children being able to solve problems and reason in mathematics with confidence.

What is Singapore Maths? Maths - No Problem, is an approach to teaching maths developed in Singapore. Singapore established a new way of teaching maths following their poor performance in international league tables in the early 1980's. The Singapore Ministry of Education, decided to take the best practice research findings from the West and applied them to the classroom with transformational results. Based on recommendations from notable experts, Singapore maths is a combination of global ideas delivered as a highly-effective programme of teaching maths. The effectiveness of this approach is demonstrated by Singapore's position at the top of the international benchmarking studies and explains why their programme is now used in over 40 countries including the United Kingdom and the United States.

Why Singapore Maths? Problem solving is at the heart of mathematics. The focus is not on rote procedures, rote memorisation or tedious calculations but on relational understanding. Pupils are encouraged to solve problems working with their core competencies, such as visualisation, generalisation and making decisions.

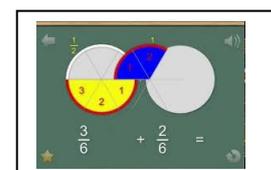
- Singapore consistently tops the international benchmarking studies for maths teaching.
- This highly effective approach to teaching maths is based on research and evidence.
- The approach builds students' mathematical fluency without the need for rote learning.
- Introduces new concepts using Bruner's Concrete Pictorial Abstract (CPA) approach.
- Pupils learn to think mathematically as opposed to reciting formulas they don't understand.
- Teaches mental strategies to solve problems such as drawing a bar model.



How are lessons taught? Concepts merge from one chapter to the next. Chapters are broken down into chunks called lessons. Lessons typically are broken into three parts and can last one or more days. Pupils master topics before moving on.

The three parts to a lesson are:

1. Anchor Task - the entire class spends time on a question guided by the teacher. The children are encouraged during this time to think of as many ways as possible to solve the question.
2. Guided Practice - practise new ideas in groups, pairs or individually guided by the teacher.



3. Independent Practice - practice on your own. Once children have mastered the concept they use their reasoning and problem solving skills to develop their depth of learning.

Taking a mastery approach, differentiation occurs in the support and intervention provided to different pupils, not in the topics taught, particularly at earlier stages. There is no differentiation in content taught, but the questioning and scaffolding individual pupils receive in class as they work through problems will differ. Pupils' difficulties and misconceptions are identified through immediate formative assessment and addressed with rapid intervention.

How are children challenged?

Children will:

- make links between previous learning
- think about problems in different ways
- have opportunities to explain their reasoning
- find and explain generalisations
- use rich mathematical language when explaining ideas
- solve complex problems which deepen and expands on their mathematical knowledge
- work with a range of manipulatives to consolidate their understanding
- work with a mix of children in groups, pairs and on their own

How are children supported?

Children will:

- make links between previous learning
- think about the way they know to solve problems
- have opportunities to listen to good vocabulary from peers
- be given more time to practice tricky concepts
- work with a range of manipulatives to solve problems visually
- work with a range of children in groups, pairs and on their own
- scaffold learning- extra clues and support

What impact will Maths No Problem have on our children?

- Children will have a greater conceptual understanding of number and calculation. They will be able to visualise and generalise more readily due to a more in-depth understanding.
- Learners will be fully supported through accessing concrete equipment and use of visual models to support understanding.
- Learners will be challenged through exposure to unfamiliar problems, development of reasoning skills and exploring multiple ways to manipulate numbers and solve problems.
- All learners will access teaching of content which matches the expectations of the new curriculum in England and be supported further if needed in order to access this. The resources match the expectations for formal written methods set by the government, alongside greater understanding.

For more information about Singapore Maths: Maths- No Problem please look at the links to parent videos on this page of our website. You will find Dr Yeap taking about the program and examples of how different approaches are taught in the classroom.