

## **Mathematics at Montem**



In order to help our pupils cope with the new, tougher national curriculum, we at Montem, have decided to adopt the Singaporean approach to teaching mathematics (initially from Reception to Year 3) through the use of the Maths No Problem resources. This approach relies on teaching fewer subjects, but in far greater depth – also known as ‘maths mastery’.

The Singaporean style of teaching mathematics develops pupils’ mathematical skills and confidence without having to resort to memorising procedures to pass a test – making mathematics more engaging and interesting.

Drawing heavily from the UK’s Cockcroft report (1982) and based on research from a variety of leading theorists (Piaget, Vygotsky, Bruner), the emphasis of the programme is on problem solving, discussion and evidence-based learning and teaching. Through the use of the programme, our teaching at Montem focuses on the use of core competencies: Questioning, Discussion, Feedback, Finding Patterns and Mental Strategies. We also place a large emphasis on the concrete and pictorial phases of learning before moving to the abstract, ensuring that the children are provided with ample opportunities in which to physically and visually make connections between what can sometimes be very challenging concepts.

What impact will Singapore Maths 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.
- Struggling learners will be fully supported through accessing concrete equipment and use of visual models to support understanding.
- Confident 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 (in order to reach ‘mastery’).

As already noted, initially, we will only be employing the Maths No Problem resources from Reception to Year 3. In Years 4-6, our teaching will continue to draw from a range of more traditional resources including Collins and NRich. In order for the children to fully access and gain maximum benefit from the Maths No Problem programme, the children will need to learn and understand an array of new strategies and approaches, visual models and images, multiple methods for calculation and be able to access more challenging word problems and heuristics. With this in mind, as our pupils become more familiar and confident with the Singapore content, we intend to roll the programme out across Years 4-6, year on year, thus ensuring that for the next 3 years, our Year 4, 5 and 6 pupils will receive the required balance, pace and depth of learning required in order to meet the national testing requirements at the end of Key Stage 2.