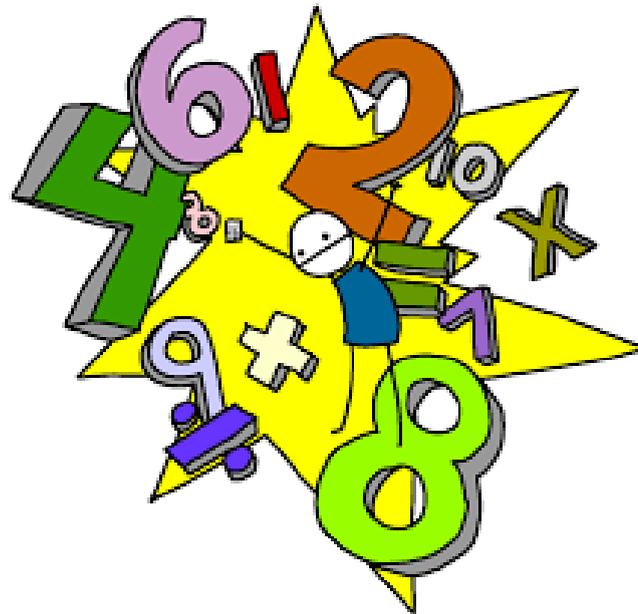




Inspiring all to learn and grow 

Singapore Maths



What is Singapore Maths?

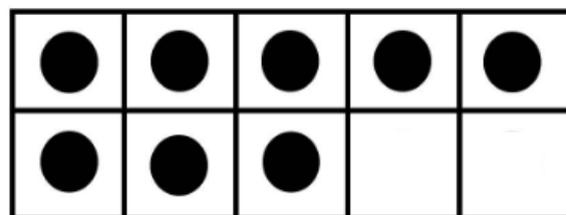
It is a Mastery Curriculum. It is an approach that has the expectation that all children will be able to access and achieve the targets for their year group. For many years now, Singapore has had exceptional results in Maths for children of all ages. Their approach is one that emphasises problem solving and mathematical comprehension and enables children to make links between concepts. It focuses on improving mental strategies to develop decision making skills and helps children to recognise patterns and make generalisations.

Concrete, Pictorial, Abstract (CPA)

CPA is the foundation for every Maths lesson. Children are actively encouraged to 'prove' their answers using apparatus, to see and explain their learning with pictures and then move onto applying their skills in an abstract context. This approach is proven to support and extend all learners, whatever their ability. Some children are able to move onto abstract work more quickly, others need longer using the concrete apparatus. This enables all children to access the same content of a lesson.

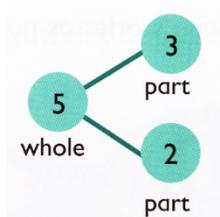
Ten Frame

A ten-frame is an essential way to develop early mathematical concepts about number bonds. Children learn, both concretely and pictorially, the relationship between numbers up to the number ten and beyond. For example $8+2=10$ so $2+8=10$. $10-2=8$ so $10-8=2$.



Part-Part-Whole

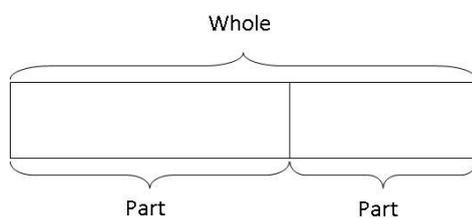
This concept helps children with addition, subtraction, multiplication and division. It helps to develop a secure understanding of number bonds and the different ways numbers a number can be partitioned.



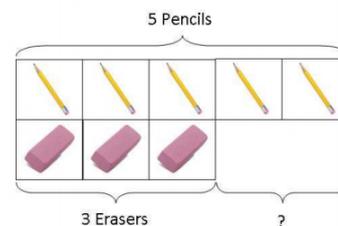
$$\begin{array}{c} 24 \\ \swarrow \searrow \\ 20 \quad 4 \end{array} + \begin{array}{c} 15 \\ \swarrow \searrow \\ 10 \quad 5 \end{array} = 39$$

Singapore Bar

This is an extension of the part-part-whole model and can be used to help understand and visualise problems. Children can often find it difficult to understand what a maths problem is asking them to do and the Singapore Bar helps them to represent a word problem pictorially before then solving it. It can be used to solve problems using all operations, fractions, ratio, algebra – the possibilities are endless!



Peter has 5 pencils and 3 erasers. How many more pencils than erasers does he have?



A typical lesson

Lessons begin with an 'Anchor Task', a real-life problem children tackle by drawing upon their skills. Lots of time to talk and reason using calculations, apparatus and drawings is given. A 'Let's Learn' session follows where the class looks at different ways of solving the problem before exploring them more formally. A practical activity or guided practice follows and the lesson is completed with independent work. Children also have a Maths Journal to record some of the practical work in the lesson or challenges they do.

Variation, not differentiation

A key belief at the heart of a 'Mastery Maths' approach is that all children can achieve in a lesson. The vast majority of children in a year group are taught the same content. Support and challenge are through questioning, apparatus, and targeted guidance at key points in a lesson. Variation allows children to explore the same concept in different contexts, with different methods to solve it. This allows a concept to be explored more deeply and enables children to understand it better.

Support and Challenge

There is no expectation that a particular group of children will struggle in a Maths lesson and support is open to all where needed. Children are encouraged to be independent by seeking support from classroom resources, displays, peers as well as adults. A challenge is a routine part of any Maths lesson and is open to all children. Children are taught to extend and challenge themselves and use their journals to show their deeper understanding.

How to help at home

Nothing has changed here – children still need your support from home! **Times Tables** and **number bonds** are an essential part of Maths learning and the more fluent and confident they are with these basics, the quicker children can apply these to more demanding Maths problems. On our school website, there are useful websites to help practise these. Children in Years 3 and 4 have log-ins for Times Table Rockstars. Real life activities like shopping, cooking, telling the time are all brilliant (and fun!) ways to support your child. The government's 'Age Related Expectations' for each year group can also be found on the school website so you can see the level of work they are doing in school.

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