

SINGAPORE MATHS

A new way to teach maths in Primary school

1. Introduction

Singapore developed 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 such as Jerome Bruner, Richard Skemp, Jean Piaget, Lev Vygotsky, and Zoltan Deines, Singapore maths is an amalgamation of global ideas delivered as a highly-effective programme of teaching methods and resources.



2. Objectives

- Make maths more concrete, accessible and attractive for children.
- Help pupils to develop a deep, long-term and adaptable understanding of maths.

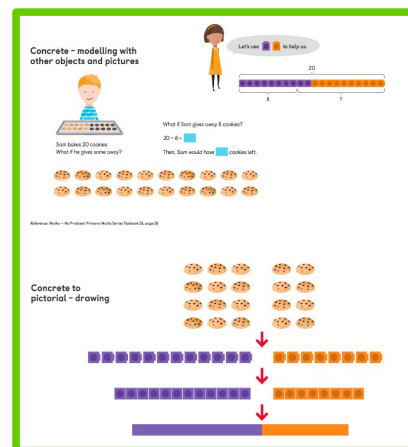
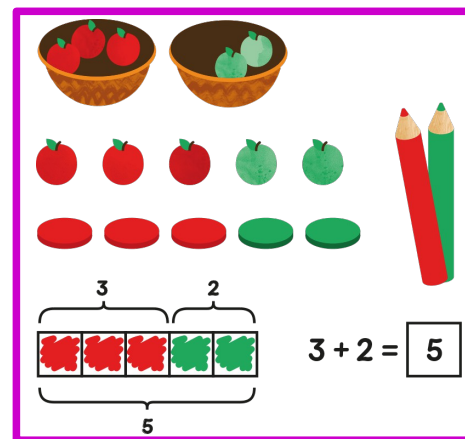
3. Methods

CPA

Concrete: the “doing” stage, using concrete objects to model problems.

Pictorial: the “seeing” stage, using representations of the objects to model problems.

Abstract: the “symbolic” stage, where children are able to use abstract symbols to model problems.

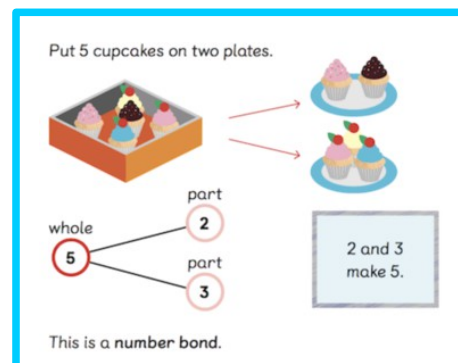


Number bonds

Number bonds a way of showing how numbers can be combined or split up. They are used to reflect the ‘part-part-whole’ relationship of numbers. Number bonds teach children how numbers join together and how they can be broken down into their component parts. From year 1, children use number bonds to build up their number sense before learning about addition and subtraction.

Bar modelling

Bar modelling is a strategy used by children to visualise mathematical concepts and solve problems. The method is a way to represent a situation in a word problem, usually using rectangles.



4. Results

PISA (Programme for International Student Assessment) is a test which compare the knowledge of 540,000 students aged of fifteen from 72 different countries in maths, science and reading.

1	Singapore	564
2	Hong Kong, China	548
3	Macau	544
4	Taiwan	542
5	Japan	532
	⋮	
26	France	493
27	United Kingdom	492
28	Czech Republic	492
29	Portugal	492
30	Italy	490
	⋮	

Results of the PISA 2015 in mathematics

5. Conclusion

As we can see, Singapore is first in mathematics (for example, to compare, France is only at the 26th rank). It proves that this new way to teach maths is very effective.

Today, 2000 classes adopted this method in France. A very hopeful future for mathematics !