Strong fundamentals based on proven Singapore Math® approach

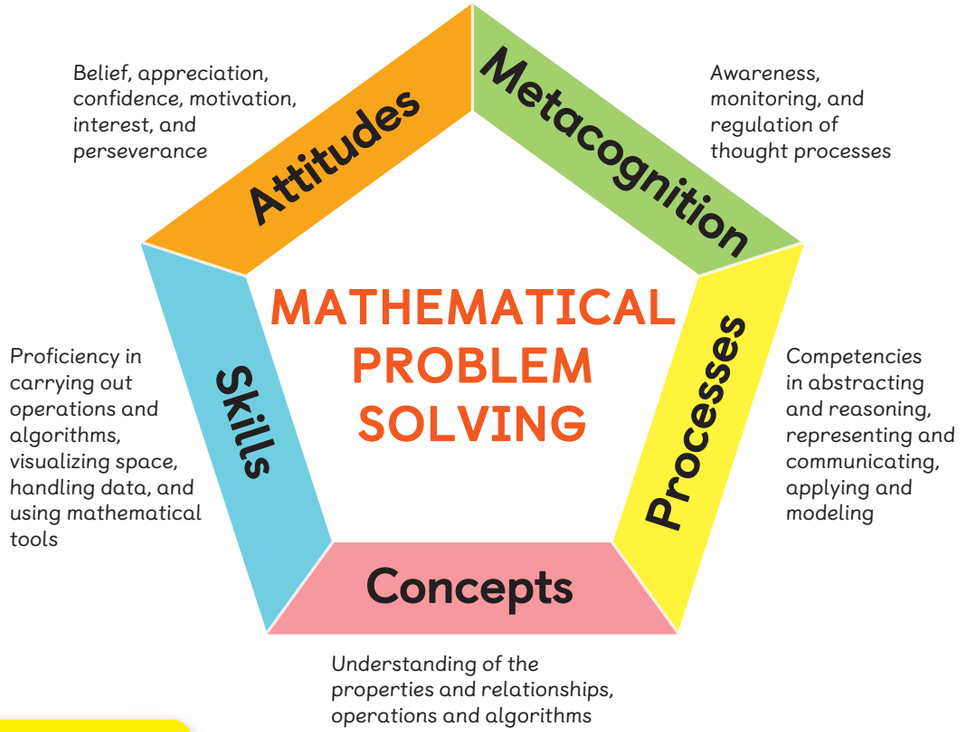
PRIMARY MATHEMATICS is centered on the approach developed and used in Singapore since the early 1980s. This approach is still used in Singapore schools today.

What is the SINGAPORE MATH® APPROACH?

The **Singapore Math®** approach emphasizes developing conceptual understanding, mathematical skills and processes, metacognition, and right attitudes. At the heart of this approach is mathematical problem solving.

Enabling Problem Solving

This is done with a consistent problem-solving process and the use of heuristics. Students are encouraged to persevere to discover mathematical results for varied situations and contexts.



Referred from Singapore Ministry of Education Math Curriculum

SINGAPORE STUDENTS CONSISTENTLY RANK TOP IN INTERNATIONAL BENCHMARK ASSESSMENTS

Singapore's consistently outstanding achievements in international Mathematical benchmark assessments such as **TIMSS** and **PISA** are well-documented.

Because of its proven effectiveness, the Singapore Math® approach has been adapted successfully in over 50 countries.

All data is taken directly from TIMSS reports, 2019 and PISA reports, 2018.

TIMSS 2019* Grade 4	
Singapore	625
United States	535
TIMSS Scale Centerpoint	500

PISA Mathematics Scale 2018**	
Singapore	569
OECD average	491
United States	470

*https://timss2019.org/reports/achievement/

**https://www.oecd.org/pisa/Combined_Executive_Summaries_PISA_2018.pdf

Key characteristics of the SINGAPORE MATH® APPROACH

CONCRETE-PICTORIAL-ABSTRACT	Students engage with mathematical concepts by first handling **physical objects**, then representing mathematical ideas using **diagrams**, and finally using **abstract representations**. Through the use of concrete materials and visual representations, students are able to "see" and make sense of the math and the abstract representations.
VISUAL MODELS	Visual models such as number bonds, bar models, and fraction models are hallmarks of the **Singapore Math®** approach. These models help students visualize and understand abstract mathematical concepts.
PROBLEM SOLVING	**Heuristics** are introduced at each grade level to equip students with strategies to solve increasingly complex problems. Students apply these heuristics to solve real-world problems through a **consistent problem-solving process**.
MATHEMATICAL & PERCEPTUAL VARIATIONS	**Mathematical variation** presents opportunities for students to experience the same mathematical concept through various applications. **Perceptual variation** showcases a mathematical concept using different representations. Variation deepens understanding as students apply mathematical concepts in different ways.
LEARNING PROGRESSION	Math is learned **incrementally**, with one concept building on the next. More depth is added, linking new concepts to the learning that has already taken place. Learning math this way leads to **deeper conceptual understanding**.
DIFFERENTIATION & ASSESSMENT	Students' learning is supported through **differentiated activities** and **practices**. Students receive timely feedback on their learning through **formative** and **summative assessments**.