

Math in Focus

Singapore Math[®]
by Marshall Cavendish[®]



NEW PATHWAYS TO SUCCESS:

The History of Singapore Math[®]

History of the Development of Singapore's Math Textbooks

From 1965 to 1979, many of the primary and secondary textbooks (and all mathematics textbooks) used in Singapore had been imported from other nations. But starting in 1980, Singapore began to take a new approach. The Curriculum Development Institute of Singapore (CDIS) was set up to develop primary and secondary textbooks for the New Education System. This initiative produced new developments in learning that propelled Singapore's math students to the top of the international community.

The First Singapore Math[®] Program

Singapore has a centralized educational system, meaning that the Ministry of Education sets all learning standards. As the CDIS began working to improve textbooks, the Ministry set new goals for math education. Many of the goals focused on problem solving and the heuristic of model drawing.

THE GOALS INCLUDED:

- acquisition and application of knowledge and skills
- use of math language
- foundation building
- development of a positive attitude
- appreciation of the power of math

Primary Mathematics 1–6, the first Singapore Math[®] program, was published in 1982. In 1992, the second edition of *Primary Mathematics* was revised to include more problem solving, with particular focus on using model drawing as a way of approaching solutions. The new math curriculum led to dramatic improvements in math proficiency. In 1984, Singapore scored 16th out of 26 nations in the Second International Science Study (SISS). Then in 1995, the nation's students placed first in the Trends in International Mathematics and Science Study (TIMSS). This survey, conducted every four years, is designed to provide reliable data on how math and science achievement in the U.S. compares to that in other nations.

A Tighter Focus on Content

In July of 1998, the Ministry of Education initiated another study of mathematics curricula, this time looking at the scope and sequence of their textbooks. The result of the study was a call for tighter content focus. Content removed or reduced from the subject syllabi included concepts that are not fundamental or that rely on plain recall, content covered at other levels or in other subjects, content that focused on technical details rather than conceptual understanding, and content no longer relevant in real-world practice.

Math in Focus[®] was one of the research models used to guide the Common Core.

DID YOU KNOW?

Math in Focus is the U.S. version of the most widely used program in Singapore.

DID YOU KNOW?



More Emphasis on Problem Solving

In 2006, Singapore once again revised the mathematics curriculum, this time placing greater emphasis on developing mathematical concepts and fostering the ability to apply them in mathematical problem-solving situations. In addition, the new guidelines:

- emphasize computational skills along with more conceptual and strategic thinking.
- cover fewer topics in-depth and are carefully sequenced grade by grade.
- cover concepts in one grade and in later grades at a more advanced level.
- ensure that students master prior content, not repeat it.
- encourage representing problems mathematically, using reasoning, and communicating mathematical content.

More Choices for Teachers and Students

In 2001, Singapore privatized production of its primary level mathematics textbooks. Officials hoped that the collaboration with commercial publishers would produce quality textbooks at more affordable prices, allowing more choices for teachers and students. Singapore required all publishers to use the same focused syllabus developed in 1999.

Singapore Math[®] Comes to the U.S.

The most widely used and highly rated textbook series in Singapore today is *My Pals Are Here! Maths* for Grades 1–6, published by Marshall Cavendish[®] (Singapore) Pte Ltd. In 2007, **Houghton Mifflin Harcourt** worked with Marshall Cavendish to produce a Singapore Math[®] program for the United States.

Math in Focus[®]: Singapore Math[®] by Marshall Cavendish[®] is the U.S. version of My Pals are Here! Maths. The program employs the same curriculum syllabus and pedagogy as the Singapore program, but includes additional resources, differentiated instruction, and technology for U.S. classrooms.

A Nation that Values Learning

Thanks to its remarkable mathematics program and the support of its people, Singapore has placed at the top of TIMSS results since 1995. Most years it ranked first and has never ranked lower than third highest nation. Those familiar with Singapore and its education system understand why. Anyone who visits Singapore or interacts with their educators learns quickly that the people of Singapore care deeply about their country and the education of the nation's children. In Singapore, the rule is: "No one owes me a job so everyone has to learn for himself."

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The only natural resource in Singapore is their people. The government of Singapore devotes 20% of its Gross National Product (GNP) to education. Parents are actively involved in making sure every child is well-educated. From the Ministry of Education to the schools, the principals, the teachers, and the parents, everyone in Singapore believes that education is the answer to the preservation of the nation and its economy. Perhaps this is why the history of Singapore Math[®] from 1980 up to the present day is so celebrated, and why it has captured the interest of the world.

DID YOU KNOW?