

NEWSLETTER

SPECIAL EDITION
FEATURING

Singapore Math®

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Singapore Math emphasizes the development of conceptual understanding prior to the teaching of procedures. A powerful, hands-on, visual approach—a progression from concrete to pictorial to abstract—is used to introduce concepts, which at the core include strong number sense, place value, and problem solving.

OttimmoMath.com

Ottimmo Math provides children in grades K - 6 with the proper math foundation using the principles of Singapore Math. Private lessons are available by appointment in Coppell. Classroom instruction is offered:

Sundays at North Hills Prep School | Saturdays at Coppell/Valley Ranch | Thursdays at Cimarron Rec Center

For more information, please visit OttimmoMath.com or call 972.332.2669, 214.766.4343

Ottimmo Math

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What is Singapore Math?

Singapore math (or Singapore maths in British English) is a teaching method based on the national math curriculum used for kindergarten through sixth grade in Singapore. It involves teaching students to learn and master fewer mathematical concepts in greater detail as well as having them learn these concepts using a three-step learning process. The three steps include concrete, pictorial, and abstract processes. In the concrete step, students engage in hands-on learning experiences using concrete objects such as chips, dice, or paper clips. This is followed by drawing pictorial representations of mathematical concepts. Students then solve mathematical problems in an abstract way by using numbers and symbols.



The Singapore Math Philosophy

It's the content that makes Singapore Math different than other methods; it's the philosophy of what's important and how it should be taught. Singapore Math focuses on building fundamental math skills based on the understanding that without a strong foundational base, students won't be able to have anything to draw on when it comes to increasingly complicated math learning.

This doesn't mean, however, that the skills elementary students learn are simplistic. The view is that when teaching a concept or skill, it's important to spend as much time as needed for students to master the skill. That way you're not moving on to the next concept with the thought that earlier skills can always be retaught if necessary. They can simply be revisited instead, opening up more instructional time.

The method uses a three-step learning model, which consistently introduces concepts in a progression. It moves from the concrete to visual representation and then on to the more abstract (questioning and solving written equations). Students are taught not only how to do something, but also why it works.



The Power of the Singapore Math Curriculum

1. Singapore Math emphasizes the development of strong number sense, excellent mental-math skills, and a deep understanding of place value.

The curriculum is based on a progression from concrete experience—using manipulatives—to a pictorial stage and finally to the abstract level or algorithm. This sequence gives students a solid understanding of basic mathematical concepts and relationships before they start working at the abstract level.

2.

3. Singapore Math includes a strong emphasis on model drawing, a visual approach to solving word problems that helps students organize information and solve problems in a step-by-step manner.

4. Concepts are taught to mastery and are then later revisited but are not retaught. It is said the U.S. curriculum is a mile wide and an inch deep, whereas the Singapore Math curriculum is said to be just the opposite.

5. The Singapore approach focuses on developing students who are problem solvers.

Key Differences between Singapore Math and Traditional U.S. Approaches

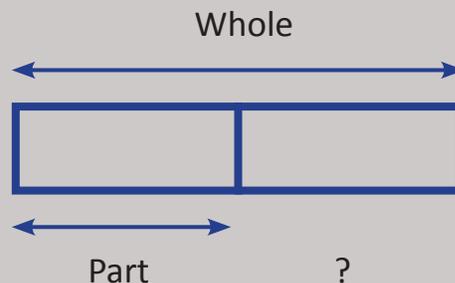
First, it's important to recognize that there is no single "U.S. approach." In this country, most curriculum decisions are made at the local or state level. In Singapore, the Ministry of Education determines what will be taught nationwide. That said, certain elements of the Singapore approach are distinctly different from what's typical in the U.S. Although some of these strategies may be used on their own in U.S. schools, it would be rare to find all of them in an American classroom that was not adopting or supplementing the curriculum with Singapore Math.

Examples include:

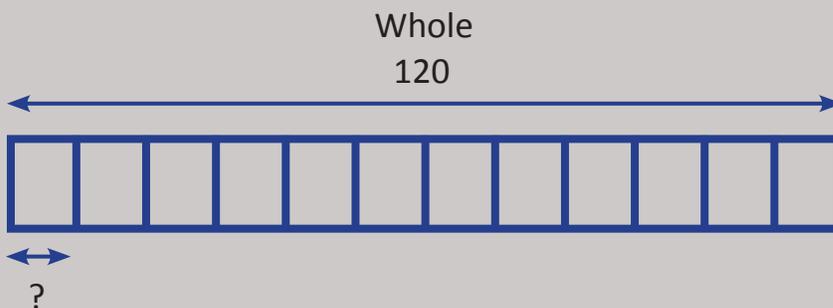
1. Model drawing and an emphasis on the concept of part-whole that precedes the teaching of model drawing
2. Mental math
3. Daily activities to build on teacher-directed lessons
4. "Look and talks" to build understanding of mathematical language
5. Number bonds, ten frames, and place value charts
6. The connection of pictures, words, and numbers

Sample: Bar Model

Part-Whole Model for Addition and Subtraction



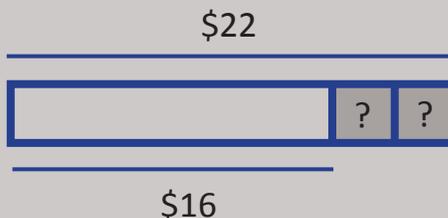
Part-Whole Model for Multiplication and Division



$$120 \div 10 = 12$$

Sample: Word Problem

Steven has \$22. Jane has \$16. How much money must Steven give to Jane so that each of them has the same amount of money?



$$\begin{aligned} \$22 - \$16 &= \$6 \\ \$6 \div 2 &= \$3 \end{aligned}$$

Steven must give \$3 to Jane.