

Singapore

Browse Singapore Math

Singapore Math's distinguished record in international competition first piqued our interest in the program, but it was the enthusiastic and detailed recommendations of so many customers that convinced us to add it to our catalog. We have never seen such passion for a math program!

In 1995 and again in 1999, the International Association for the Evaluation of Educational Achievement (IEA) conducted what it calls the TIMSS tests — variously known as the **T**rends in **M**athematics and **S**cience **S**tudy or the **T**hird **I**nternational **M**athematics and **S**cience **S**tudy tests — to assess the relative strengths and weaknesses of various countries' educational programs.

In both cases, Singaporean students came out Number 1 in math.

Some educators question if the curriculum Singapore uses should get all the credit for its students' achievements. Mathematically Correct, a website that is generally critical of American math education, warns that "[M]aking causal inferences from a cross-sectional study [like TIMSS that has] so many uncontrolled...variables is risky business."¹

And as one mom who is using the Singapore Math program put it: "Part of Singapore's success is their total schooling experience." Clearly, the curriculum itself is not the only secret to Singapore's success.

But, while TIMSS obviously doesn't prove the curriculum is the best in the world, it certainly can't be bad if so many kids are getting such good scores.

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One year's worth of work in the *Singapore **Primary Math*** programs (generally, K through 6 or 7) consists of two sets of paperback workbooks and textbooks. The textbooks are printed in full color and provide the introductory material. Many parents prefer to use them as non-consumable texts. The workbooks are consumable and are printed in black and white.

The junior and senior high school-level **New Elementary Math² (NEM)** programs each consist of textbooks, workbooks, and teacher's guides (the textbook with answers and explanatory text).

The **College Math** programs are textbooks alone with no additional helps. They provide a fundamental background knowledge of the mathematics required for college and university courses such as the physical and biological sciences, computer science, economics, management, social science, statistics, accounting and business.

The series is deliberately concise yet still comprehensive. It emphasizes theorems and definitions and includes examples to illustrate each new concept and to show different computational techniques involved.

Exercises form an integral part of each College Math book. They provide an opportunity for students to test their understanding of the concepts and to acquire confidence in handling computational techniques. The books include answers to problems, though not fully-worked, step-by-step solutions.

Sonlight Curriculum has developed Home Instructor Guides for the Primary Math 2A through 6B programs, and Solutions Manuals for the New Elementary Math 1 and 2 programs. (At this time, there are no solutions manuals for NEM 3 or 4.)

The Home Instructor's Guides bridge the gaps between the textbooks and workbooks. They walk you through the books in a logical step-by-step fashion. You'll find everything laid out for you: concepts you'll cover in each unit, pages you'll reference, and, best of all, numerous exercises to reinforce the concepts you're teaching. The Home Instructor's Guides include fully detailed, step-by-step solutions as well.

The guides coordinate everything and assist you so that you'll be able to give your children a top-notch math education with a minimum of preparation.

NOTE: Please don't assume you should use the same numbered Singapore Math program as you would if you were following a program such as you have used in the past! Singapore Math is generally a year "ahead" of math programs in the U.S. Most children need to begin Singapore Math with the "B" book of the year before. So please have your child take a [placement test](#).

Strengths

Extremely clear presentation of concepts with a focus on "mental math."

"Singapore introduces new concepts in a way that is logical, sequential, and makes it easy for the student to understand," JB continued. "It starts with a concrete example (usually using an appropriate diagram), then moves on to more work on the concept, eventually ending with two- and three-step problem solving.

"Also, there seems to be a focus on 'mental math,' teaching kids to solve problems in their heads using logical steps instead of using paper.

"Example: The sixth grade program teaches how to find percents using what I term the 'ten-percent rule.' Basically, it builds on the concept of finding 10 percent of a number (which is easy to do) and using that knowledge to find other percentages (5% is half of 10%; 20% is twice 10%; etc).

"This made perfect sense to my daughter who struggles with math.

"We practiced finding 10% first with concrete examples and then using the shortcut. We then moved on to finding 5% and 20%, then 30%, then even 1%, 2%, etc. And all of it made sense to her because we progressed from the concrete to the abstract. We didn't jump right in to the abstract.

"Now, when we go out to eat, she can easily calculate the tip without pencil and paper."

The "right" amount of practice; not too much repetition.

Katharine G wrote, "One big plus for me is that the pages in the workbook are not overwhelming for my children. There are few problems on each page, but between the textbook--which is colorful and attracts their attention--and the workbook, the lesson is complete. My 5-year-old son, who is doing 1B, said, 'Hey! This is great!' Progression without frustration would be my slogan. The pages have just enough info without being too much."

Donna in Louisiana commented, "My daughter is doing Singapore Math 2B. It is challenging for her, but not too much so. She has always struggled with math, and hates it. I go as slow with it as she needs. Today, she did Lesson 29. It was just one page and had maybe 10 problems on it. Only having a few problems enabled her to not be overwhelmed and to not be tempted to just get through it all, right or wrong. She double-checked her answers, and got every one correct. On things that are hard for her, this has never happened before! Some kids need lots of practice, some are hindered by it. I am learning that my daughter would rather fully understand and carefully do a few problems."

The word problems that force students to think and to apply math in all kinds of situations.

Laura in CT, who used Saxon before switching to Singapore Math, commented, "Singapore requires more thinking than Saxon, but the result is that my daughter is understanding more. The repetition in Saxon didn't really help her understand anything, it just gave her practice in executing algorithms. Her goal was simply to get it over with.

"She did very well with Saxon as long as the problems looked familiar. But she had no ability to figure out how to attack a new kind of problem.

"This was the way I learned math. I scored very well on tests, and even won the prize for junior mathematics in my private high school, but [that didn't mean I understood] what I was doing.

"Singapore doesn't let kids get away with memorizing algorithms. You can solve a few problems by following the pattern, but pretty soon the recipe-follower is over her head. You *have* to think the problems through, think through what is really going on in order to solve most of the problems. They are like puzzles, and require mathematical thinking.

"The word problems are also in a class of their own. I've never seen word problems that are as challenging as these! It's a great feeling to solve these problems; a real sense of accomplishment. My daughter is not crazy about math, even with Singapore, but I can see some sparks of interest with Singapore that I never saw with Saxon or any other math program.

"Another thing I like about Singapore is the way geometry is included all along the way. I know Saxon does some geometry in the middle grades, but Singapore does more, and more interesting stuff."

A highly dedicated user community offers support. Laura in CT noted, "Where I've been stumped (and it's happened a couple times), Jenny on the Singapore Math board (www.singaporemath.com) has helped me out." Laura and others have also mentioned the email support group <http://groups.yahoo.com/group/SingaporeMath>.

While there are lots of positives, there are also a number of downsides to the program of which you should be aware.

Weaknesses

The workbooks do not erase well.

Many students require more review and drill than is contained in the basal texts. That's why we carry some supplementary materials from Singapore Math as well as the other programs. But, obviously, you will have to buy more than the Core program itself.

Some parents with multiple students find Singapore Math requires more of their time than they'd prefer.

The sequence of Singapore Math doesn't completely follow U.S. custom. Some examples:

- It includes no introduction to, use of, or allusion to negative numbers until New Elementary Math (NEM) 1. (Miquon Math, however, makes extensive use of the number line and negative numbers—a good reason to use two math programs, one as supplement to the other!)
- Other things you will occasionally find in elementary U.S. texts that you won't find in the Singapore Primary texts: coordinate graphs, statistics, and probability (beyond mean, median, and mode—i.e., averages). Coordinate graphs and statistics are introduced in NEM 2, and probability in NEM 4.

Well, we just witnessed one of the biggest tantrums I have ever seen out of my 4-year old, because I refused to do any more of her **Singapore Math** workbook with her while we had company over. My husband sat there amazed because she rarely gets upset like that. Our company thought it was pretty funny after she had calmed down. She absolutely loves everything we have done, and is halfway through the first Singapore workbook. We had to lay down the law on Sunday and say no school work, just family time, which also didn't go over well.

— *Katie, 10 May 2005*

1. From "Mile Wide/Inch Deep Interpretations" at <http://mathematicallycorrect.com/interp.htm>

2. *Elementary* does not have any reference to "elementary school." It refers to the fact that this book teaches the fundamentals -- i.e., the *elements* -- of a mathematical system.