

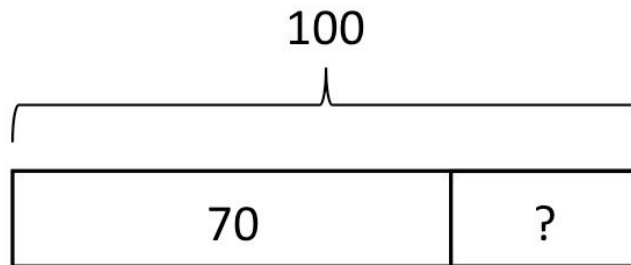
# ***What's the Big Deal About Singapore Math?***

Schools in Singapore developed an innovative approach to teaching elementary math that focuses on problem-solving with pictures and diagrams. Within a decade, the nation's test scores shot to the top of the Globe. Come hear how three Wisconsin teachers have used these math techniques and the concrete results it brought to their K-5 school system. You'll leave with strategies and concrete tools that you can use in your classroom immediately.

***Ann Molski, Grades 1 & 2***

***Rebecca Flaker, Grades 3 & 5***

***Michele Toppel, Grade 1***



$$100 - 30 = 70$$

## **A Brief History of Singapore Math...**

\*Singapore Math was created by Ben Har of Singapore and was brought to the United States by Char Forsten who worked closely with Ben Har.

\*It was used primarily as a homeschool program when it was first brought to the U.S.

\*It is a mastery program that helps students understand math concepts and builds in a way that makes sense. First Grade builds the foundation for all other grades and moves from hands-on to pictorial to abstract. It is also a language-based program.

(Handout from Singapore Math website: [www.singaporemath.com](http://www.singaporemath.com))

## **How Pacelli Catholic Schools found it, why we chose it, & how we implemented it**

\*SDE (Staff Development Educators) First Grade Conference in Madison in 2007--attended a math session and heard about it

\*Our system was in the process of revamping our Math curriculum at the time; presented it to our principal and began the research into the program; it was just what we were looking for

\*Brought in Annie Stipek from SDE to present at an inservice for K-8 teachers; the strategies & concepts she shared sold us on the program and we adopted it

\*Implemented it in 2008--first class will be seniors this fall; tried to implement first and second grade at the same time but it didn't work as the second graders did not have the foundational skills from first grade; ended up implementing it one grade at a time over 6 years

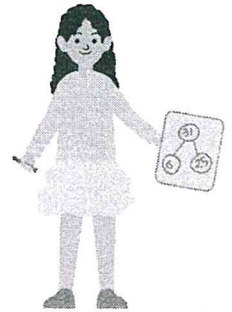
\*This is our 12th year using Singapore Math and we have found it to be an asset our students and curriculum; Standardized Test Scores have increased; students understand math concepts better; can adapt it easily for advanced learners as well as struggling learners; hands on activities and games to reinforce learning



# Getting Started: What is Singapore Math?



With a 20-year record of success, rigor, and independence, our Singapore Math® programs continue to challenge students and produce remarkable results.



## Singapore Math® programs...

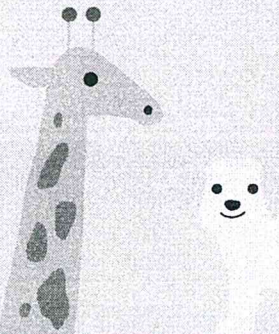
Produce the world's math leaders

Focus on mastery, not just passing tests

Enable visual, auditory, and kinesthetic learners to thrive

Layer concepts to build progressive confidence

Enhance math skills both immediately and long-term



## Success

The Singapore math method is a highly effective teaching approach based on research of math mastery in Singapore, which consistently ranks at the top of international math tests, such as TIMSS and PISA. For over twenty years Singapore math has been widely used in the U.S. with proven results. Our mission is to raise U.S. student performance internationally and at home by providing the best Singapore Math® programs at the most affordable prices.

## Rigor

The Singapore math approach works through an intentional progression of concepts. It teaches the how and why of math, creating a deep foundation and preparing students for advanced topics. Some of the key features of the Singapore math method include the CPA (Concrete Pictorial Abstract) approach, number bonds, bar modeling, and mental math.

The approach encourages perseverance and experimentation over rote memorization, and naturally gives students confidence as they become equipped to solve problems from several angles using many different tools.

## Independence

Singapore Math Inc. first introduced Singapore Math® programs to the United States in 1998 with a series called Primary Mathematics. That original series is so popular among schools and home-schoolers that its name is synonymous with Singapore math for many in the U.S.

Today, Primary Mathematics has become the template for several adaptations of the Singapore math approach. Our new series, Dimensions Math® PK–5, was designed with a renewed focus on clarity and approachability for U.S. students, while preserving all the unique things we love about our Singapore Math® offerings.

Learn more at [www.singaporemath.com](http://www.singaporemath.com)



## **Singapore Math: Interactive Tools**

### **Number Bonds---Kindergarten & Grade 1**

#### **1. Lids & part-part-whole diagram:**

- \*use to teach what numbers go together to make a particular number
- \*helps students understand what numbers represent
- \*helps students to understand how numbers go together and come apart (addition & subtraction)

#### **2. Unifix Cubes**

- \*use to show ways to make a particular number
- \*use to show ways to make 10
- \*use for addition and subtraction

#### **3. Disks with Tens & Ones boards**

- \*helps students to see how larger numbers can be rearranged into tens and ones in order to add and subtract more easily
- \*helps students understand trading (carrying/borrowing)

#### **4. Manipulatives**

- \*a variety of manipulatives can be used to help your students grasp Concepts

### **Multiplication & Division--Grade 2 & 3**

- 1. Graph Paper- Multiplication and Division work**
- 2. Yarn-Division work**
- 3. Pictures**

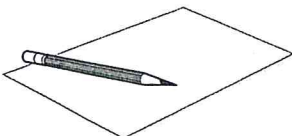
Alicia had \$6 more than Bobby. If Bobby had \$10, how much did they have altogether?

Cam reads 23 pages per night. Addie reads 6 times as many pages each night. How many pages per night does Addie read?

# Step-by-Step Model Drawing



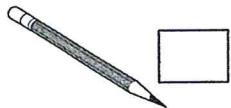
**1. Read** the entire problem.



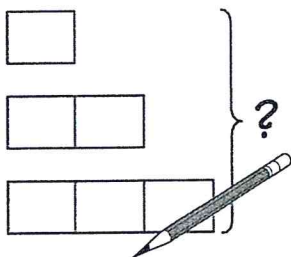
**2. Rewrite** the question in sentence form, leaving a space for the answer.



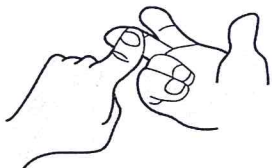
**3. Determine **who** and/or **what**** is involved in the problem.



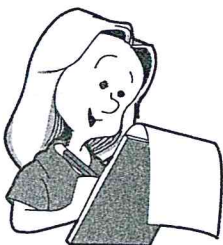
**4. Draw** the unit bar(s).



**5. Chunk** the problem, **adjust** the unit bars, and fill in the **question mark**.



**6. Correctly **compute**** and solve the problem.



**7. Write** the answer in the sentence, and make sure the answer makes **sense**. *& explain*