Math in Focus Singapore Math by Marshall Cavendish ${ }^{\circ}$

## Program Overview <br> KINDERGARTEN

## Why Singapore Math'?

The reason is simple-Singapore students consistently demonstrate exceptional math achievement on international studies.
The way they teach and learn math in Singapore is a key factor to their success. Now, U.S. students also have the opportunity to benefit from the same approach with Math in Focus ${ }^{\circledR}$ : Singapore Math ${ }^{\circledR}$ by Marshall Cavendish ${ }^{\circledR}$, the U.S. edition of Singapore's most widely used elementary and middle school program.


For online evaluation, visit www-k6.thinkcentral.com. 1. Click Evaluators Click Here. Click Register. 2. Enter the Access Word: NLMIFK5. Click Next. 3. Enter your contact information. Click Register. 4. Select a role (e.g., teacher). Click Log in.

A closer look at Singapore's exceptional results


OECD Programme for International Student Assessment (PISA) In 2015, Singapore participated in the PISA study, which assesses 15 -year-olds in industrialized countries. Singapore not only ranked $1^{\text {st }}$, but also scored significantly above the international average of 490 with a score of 564 while the United States scored below the average with a score of 470 .
while the Unisporg/pisa/pisa-2015-results-in-focus. .pdf
*oed


## Focus on mastery with an effective, research-based pedagogy

It's all about problem solving.
Singapore Math ${ }^{\circledR}$ is based on a pentagon framework developed by the Singapore Ministry of Education. This framework draws on best practices from around the world and highlights problem solving as the key focus of mathematical learning. All other aspects of mathematics instruction support problem solving-the heart of the curriculum.
Additionally, a key differentiator for Singapore Math ${ }^{\circledR}$ is its focus on attitudes and metacognition. In order for students to excel, they must develop positive attitudes about math, have the confidence to persevere, and have the ability to monitor their own thinking. This sets the stage for international achievement

Singapore Math ${ }^{\circledR}$ Framework


## Build understanding with

## CONCRETE-PICTORIAL-ABSTRACT LEARNING

Numbers and symbols can be confusing when you don't have a grasp of what they actually mean. Singapore Math ${ }^{\otimes}$ teaches concepts using a concrete-pictorial-abstract learning progression to anchor earning in real-world, hands-on experiences.


Concepts are introduced through hands-on experiences with manipulatives.


Students visualize the concept and represent it pictorially through models like number bonds and bar models.

Students only use abstract numbers and symbols when they have enough context to understand what they mean.

## Choose the complete solution for U.S. classrooms

Math in Focus ${ }^{\circledR}$, the U.S. edition of Singapore's most widely used program, offers you a seamless solution. Robust print and technology resources provide everything you need to develop students' foundational understanding.


## The complete curriculum

 includes resources for:$\checkmark$ Easy Planning
$\checkmark$ Instruction and Practice
$\checkmark$ Differentiated Instruction, including RtI and Enrichment
$\checkmark$ Assessment
$\checkmark$ Online Tools and Instructional Resources

## Kindergarten Components

Everything you need to support and engage young learners

eacher's Edition A

raparound Teacher's Editions and B include Chapter verviews with math background , erentiation resources, a planning aide, assessment andremediation , best practices, checks for understanding and more!


Big Book A
The Kindergarten Big Books are colorfully illustrated and engaging. They are used during core instruction for investigation, meaningful discussion, and application of concepts.


Big Book B


The direct correlation of the Big Book and the Student Books allows for age-appropriate and mathematically sound practice, assessment, and development of problem-solving and thinking skills.
Additional learning activities, found in the Teacher's Editio complete the instructiona sequence for each lesson.


Differentiation Resources
Available as print blackline masters and online

Extra Practice provides additional problems and activities for struggling and on-level students.

Enrichment provides advanced students opportunities to extend and apply concepts, skills, and strategies.

Additional Resources STUDENT ACTIVITY CARDS Cardstock sets of domino cards, numeral cards, and more allow students to easily manipulat pictorial and symbolic representations

TEACHER ACTIVITY CARDS Demonstration-size duplicates of the Studen Activity Cards.

## ASSESSMENTS

"Paper-and-penci"" assessments for every chapter provide a clear picture of individual progress. Corresponding interviewstyle assessments provide an alternative assessment opportunity that allows students to interact with the teacher and actively demonstrate understanding.

SCHOOL-TO-HOME CONNECTIONS School-to-Home Connections contain parent involvement letters in English and Spanish. These communications provide "do at home" activities aligned to curriculum and key learning objectives for each chapter.


## Easy Planning

Chapter Overviews in the Teacher's Edition highlight the math concepts and skills covered in each chapter.


The Introduction and Resources section identifies the Big Ideas, author notes, and resources supporting the instruction.


## Easy Planning

The range of Differentiation, Assessment, Practice, and Enrichment resources for each chapter are highlighted in the Teacher's Edition.


Chapter Planning Guides make it easy to prepare for lessons.

Planning information is clearly outlined for each lesson at the beginning of the chapter.


[^0]
## Instructional Pathway

Investigate-Discover-Explore-Apply (IDEA)

Math in Focus Kindergarten gives students opportunities to investigate, discover, explore, and apply solutions to math problems. Students learn to use numbers to make connections and realize the relationships among them in real-world situations


Math in Focus ${ }^{\star}$ : Singapore Math ${ }^{\circledR}$ by Marshall Cavendish ${ }^{*}$

## Instructional Pathway

A closer look at Chapter 4, Lesson 2
Investigate uses the Big Book to introduce concepts in an engaging, interactive way.


## Instructional Pathway

After students are introduced to new concepts through Investigate activities, they then deepen their understanding and reinforce their learning through Discover and Explore.


Teacher's Edition

Students apply their learning in their write-in Student Books.


[^1]
## Instructional Pathway

Students continue to apply their understanding through multiple

## activities in their Student Books.



## Differentiated Instruction

In addition to differentiated instruction suggestions embedded in the Teacher's Edition, additional resources are available for teachers to support students who need additional practice or those who are ready for a challenge.

EXTRA PRACTICE


ENRICHMENT


## Assessment

Formative assessment support is available throughout the Teacher's Edition Summative assessment resources are available in the Assessments book.


## Authors

## Kindergarten Program Author

DR. PAMELA SHARPE
Dr. Pamela Sharpe has been involved in training teachers in both Singapore and the United Kingdom for 38 years and has also played a major role in setting up early childhood programs in Singapore. She was formerly an associate professor at the National Institute of Education, Nanyang Technological University, Singapore. She is currently a part-time lecturer there, as well as a consultant for early childhood programs and early childhood intervention programs.
Dr. Sharpe specializes in teaching both high-ability children and children who have problems in mathematics at the preschool level. Her research includes studying the adjustment patterns of children in transition from preschool to primary school, as well as identifying and assessing preschool children with special needs. Dr. Sharpe has also been deeply involved in the ar the preschool mathematics curriculum in Singapore.

## Kindergarten U.S. Consultant

PATSY F. KANTER
Patsy F. Kanter is an author, teacher, and math consultant. Until 1997, Kanter was the Lower School Math Coordinator and Assistant Principal at Isidore Newman School in New Orleans, Louisiana, for 13 years where she developed and implemented a hands-on activity-based math program. Kanter is the senior author of numerous supplemental math programs including ffterschool Achievers: Math Club K-5 and Summer Success ${ }^{\circ}$ : Math K-8, and co-author of Every Day Counts: Calendar Math K-6 and Every Day Counts: Partner Games K-6.

## Flip me over!


...to learn more about Math in Focus!

## Grades 1-5 Program Overview <br> Classroom Manipulative Kits <br> Technology

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Math in Focus

## Singapore Math

 by Marshall Cavendish
## Program Overview GRADES 1-5

FLIP OVER
for Grade K
International Results. Proven Pedagogy. Engaged Students.

## Why Singapore Math'?

The reason is simple-Singapore students consistently demonstrate exceptional math achievement on international studies.
The way they teach and learn math in Singapore is a key factor to their success. Now, U.S. students also have the opportunity to benefit from the same approach with Math in Focus ${ }^{\circledR}$ : Singapore Math ${ }^{\circledR}$ by Marshall Cavendish ${ }^{\ominus}$ the U.S. edition of Singapore's most widely used elementary and middle school program.

## Math in Focus <br> Singapore Math ${ }^{\circ}$

 by Marshall CavendishFor online evaluation, visit www-k6.thinkcentral.com.

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2. Enter the Access Word: NLMIFK5. Click Next.
3. Enter your contact information. Click register.
4. Select a role (e.g., teacher). Click Log in.

## A closer look at Singapore's

 exceptional resultsTrends in International Math and Science Study (TIMSS)
Since the Trends in International Math and Science Study (TIMSS) began in 1995, Singapore has consistently ranked at the top. The table displayed here shows the top countries from the most recent report, with Singapore ranked $1^{\text {st }}$ and outperforming the United States by 79 points.
timss2015.org/timss-2015/mathematics/student-achievement

OECD Programme for International Student Assessment (PISA) In 2015, Singapore participated in the PISA study, which assesses 15 -year-olds in industrialized countries. Singapore not only ranked $1^{\text {st }}$, but also scored significantly above the international average of 490 with a score of 564 while the United States scored below the average with a score of 470
**oecd.org/pisa/pisa--2015-results-in-focus.pdf

PISA Mathematics Scale 2015**
Singapore 56

## Iceland

## Spain

## Focus on mastery with an effective, research-based pedagogy

## It's all about problem solving.

Singapore Math ${ }^{\circledR}$ is based on a pentagon framework developed by the Singapore Ministry of Education. This framework draws on best practices from around the world and highlights problem solving as the key focus of mathematical learning. All other aspects of mathematics instruction support problem solving-the heart of the curriculum.

Additionally, a key differentiator for Singapore Math ${ }^{\circledR}$ is its focus on attitudes and metacognition. In order for students to excel, they must develop positive attitudes about math, have the confidence to persevere, and have the ability to monitor their own thinking. This sets the stage for international achievement

Singapore Math ${ }^{\oplus}$ Framework


[^2]
## Build understanding with

## CONCRETE-PICTORIAL-ABSTRACT LEARNING

Numbers and symbols can be confusing when you don't have a grasp of what they actually mean Math in Focus teaches concepts using a concrete-pictorial-abstract learning progression to anchor learning in real-world, hands-on experiences.

$2+1=3$
ABSTRACT

Concepts are introduced through hands-on experiences with manipulatives.

Students visualize the concept and represent it pictorially through models like number bonds and bar models.

Students only use abstract numbers and symbols when they have enough context to understand what they mean.

## Choose the complete solution for U.S. classrooms

Math in Focus, the U.S. edition of Singapore's most widely used program, offers you a seamless solution. Robust print and technology resources provide everything you need to support student mastery.


## Print Components

Everything you need to help all students engage and succeed!


Teacher's Edition B
Wraparound Teacher's Editions A and $\mathbf{B}$ contain complete program support, including Chapter Overviews with math background, cross-curricula connections, differentiation resources, lanning guide, assessment and mediation, common error alerts. best practices, checks for understanding, and more


Student Books and Workbooks are designed to work together. The Student Books focus on learning, Class, Workbok problems are assigne for independent work.


ASSESSMENTS Diagnostic chapter pretests help teachers plan instruction. Chapter tests in test-prep format provide formal assessment opportunities Benchmark, Mid-Year, and End-o Year Assessments provide furthe measures of students' mastery of conetion formats muliple or quetion formats whiple short answer, and extended respons

Differentiation Resources
FOR ENGLISH LANGUAGE LEARNERS
The powerful mathematical models and visual aspect of Math in Focus mean the entire program is inherently accessible to English language learners. Additionally, the Teacher's Edition provides point-of-use suggestions for facilitating instruction for English language learners.


FOR STRUGGLING
LEARNERS
eteach provides more exposure concepts for those students who need more time to master new skills or concepts.


FOR ON-LEVEL STUDENTS
Extra Practice pages correlate directly to the Workbook practices. Put on Your Thinking Cap! questions provide more practice on both nonroutine and strategy-based questions.

## ADDITIONAL COMPONENTS

chool-to-Home Connections contains parent involvement etters in English and Spanish. These communications provide "do at home" activities aligned to the curriculum

The Teacher's Guide to Transition (Grades 2-5) provides a map o help transition students into the Math in Focus program. The help transition students into the Math in Focus program. The presented in prior years to identify background knowledge necessary for student success.


FOR ADVANCED STUDENTS
nrichment exercises of varying complexity provide advanced tudents opportunities to extend earning.


## Technology

Enhance the learning experience in the classroom and at home! Flexible, engaging online tools and content help students learn and track progress while offering ease of access and a personalized experience.

TEACHER EXPERIENCE


Online Teacher's Edition eBooks Provide online access to the Teacher's Editions.

Online Workbooks (Grades 1-5)
Teachers can access PDFs of all of the Student Workbook pages.

Online Big Book eBooks (Grade K)
The Big Book eBooks provide online access to the Kindergarten Big Book content. Ideal for projection or on an interactive whiteboard.

Math in Focus Online Assessment Generator
(Grades 1-5) sets for students. Teachers can choose from multiple-
choice, short-response, and extended-response problems
using any computer with an Internet connection.

Teacher's Guide to Transition (Grades 2-5) This resource provides math background information for teachers to address key concepts from a Singapore Math ${ }^{\circledR}$ perspective. Teaching strategies and student skill worksheets are also provided to fill student prerequisite knowledge gaps. This resource is also available online.


Online Videos and Podcasts for Teachers and Parents
Learn more about Singapore Math ${ }^{\text {® }}$ with online videos and podcasts. Teachers can access math background videos and podcasts. Teachers can access math background videos and
author podcasts. Parents can learn more about Singapore Math ${ }^{\circ}$ and how to help their children succeed.

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Online Teacher Resources
Printable PDFs of:
> Reteach (Grades 1-5)
>Problem of the Lesson (Grades 1-5)
> Extra Practice
> School-to-Home Connections
    > Enrichment
    > Additional resources
```



## STUDENT EXPERIENCE

Online Student Book eBooks
Provide online access to the interactive student ebooks.


Online Virtual Manipulatives
Students can interact with the Math in Focus manipulatives online, at school, and at home. Includes Singapore Math ${ }^{\circ}$ place value, number bonds, and bar modeling tools.


Online Student Interactivities
Online Stud
Grades 1-5)
Bring Singapore Math ${ }^{\circ}$ to life with fun, interactive online tutorials, activities, and quizzes-a great way to differentiat instruction and to practice at home!

Singapore Math ${ }^{\circledR}$ Bar Models for iPad ${ }^{\oplus}$ App*
Grades 2-5)
Practice bar modeling on your iPad
*Available in the App Store

## NEW!

Math in Focus ${ }^{\oplus}$
D/G/+ ${ }^{\text {TN }}$
(Grades 1-5)

Your one-stop resource for interactive teaching and learning tools!
Math in Focus ${ }^{\oplus}$ Digi+ ${ }^{+m}$ is an online curriculum designed to complement the core materials of the Math in Focus program, using the same pedagogical principles of the Singapore Math ${ }^{\text {a }}$ approach. Math in Focus Digi+ combines multimedia technology with instructional strategies to offer an engaging teaching and learning experience!


Key Features of Math In Focus Digi+ include:

- Lessons that contain all seven components of any Math in Focus lesson: Pretest, Teach, Learn, Guided Learning, Practice, Posttest, and Intervention.
Intervention solution: Math in Focus Digi+allows teachers to easily identify students who need help and assign lessons based on results.

Thousands of multimedia resources that animate math concepts in an engaging way to develop deeper understanding.
Assessment: Pretests and posttests can be assigned, delivered, and automatically graded to save time and support remediation.

Built-in Interactive Whiteboard features that let teachers write notes and highlight important parts of the lesson.

## Manipulative Kits

Everything you need to promote student mastery

30-STUDENT KITS These comprehensive kits provide everything a classroom will need to implement the Math in Focus program

| 30-Student Kits | Gr K | Gr 1 | Gr 2 | Gr 3 | Gr 4 | Gr 5 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Attribute block trays | 9 sets | 10 sets | 12 sets |  |  |  |
| Balance bucket | 6 | 3 |  |  |  |  |
| Base 10 thousand cube |  |  | 3 | 6 |  |  |
| Base 10 hundred flats |  | 30 | 90 | 90 | 30 |  |
| Base 10 rods |  | 300 | 600 | 600 | 150 |  |
| Base 10 units |  | 600 | 600 | 600 | 300 |  |
| Clock |  | 1 | 1 | 1 |  |  |
| Coin set | 3 sets | 6 sets | 6 sets | 3 sets | 3 sets |  |
| Color number cubes | 96 | 36 | 36 | 36 | 36 | 36 |
| Counters | 1,125 |  |  |  |  |  |
| Craft sticks |  | 3,000 | 3,000 | 3,000 | 3,000 | 3,000 |
| Decahedra dice |  |  | 30 | 45 | 30 |  |
| Dice | 36 |  | 18 | 18 |  |  |
| Dual scale rulers |  |  | 36 | 36 |  |  |
| Flexible plastic rulers |  |  |  |  |  | 30 |
| Fraction circles |  |  |  | 6 sets | 6 sets |  |
| Geoboards |  |  |  | 30 | 30 |  |
| Geometric solids | 108 | 84 | 72 |  |  | 27 |
| Geometry sets |  |  |  |  | 30 sets |  |
| Liter volume cube |  |  |  |  |  | 10 |
| Math balance |  | 3 |  |  |  |  |
| Measuring pitchers |  |  | 18 | 18 | 18 |  |
| Paper clips | 720 |  |  |  |  |  |
| Paper money |  | 6 sets | 6 sets | 3 sets | 3 sets |  |
| Penny sets | 3 sets |  |  |  |  |  |
| Place value chips |  |  |  |  | 3 sets | 3 sets |
| Place value strips |  |  |  | 30 |  |  |
| Protractors |  |  |  |  | 2 sets | 2 sets |
| Scales |  |  | 4 | 3 |  |  |
| Snap cubes | 900 | 1,800 | 600 | 600 |  | 900 |
| Spinners |  | 30 | 30 | 30 | 30 | 30 |
| Tape measures |  |  | 30 | 30 | 30 | 30 |
| Transparent counters |  | 1,500 | 750 | 750 | 750 | 750 |

Also available separately:

## MATH BALANCE

ncluded in Grade 1 Core and 30-Student kits; available separately to enhance any K-2 math center.



STUDENT WHITEBOARDS Grades 1-5
Convenient wipe-off boards help students solve and show practic poble They are packaed in sets of five.


Other manipulative kit configurations also available.
Math in Focus ${ }^{\circledR}$ : Singapore Math ${ }^{\circledR}$ by Marshall Cavendish ${ }^{\circledR}$

## Easy Planning

Chapter Overviews in the Teacher's Edition highlight the math concepts and skills covered in each chapter.


## Easy Planning

Chapter Planning Guides in the Teacher's Edition make it easy to prepare for lessons.


## Instructional Pathway

Math in Focus follows a consistent lesson structure that incorporates hands-on activities and explorations to promote mastery.


## earn

 mathematical concepts in a straightforward visual format with frequent use of manipulatives and models.


## Guided Learning

Teacher-directed practice in small and large groups allows students to check their understanding while working with some guidance.

Build understanding with

## CONCRETE-PICTORIAL-ABSTRACT LEARNING

Numbers and symbols can be confusing when you don't have a grasp of what they actually mean. Singapore Math ${ }^{\oplus}$ teaches concepts using a concrete-pictorial-abstract learning progression to anchor learning in real-world, hands-on experiences.


## Let's Practice

Independent practice consolidates learning and prepares students to be successful on homework assignments.

## ON YOUR OWN

Go to Workbook A: Practice 2, pages 149-150

## ON YOUR OWN

Independent work in
class or at home directs
students to Workbook pages.
Other activities you will see
throughout the lesson:

- Put on Your Thinking Cap!
- Problem Solving
- Hands-On Activities
- Math Journal
- Let's Explore!
- Games


## Instructional Pathway

Each lesson begins with Learn, where new concepts are introduced and modeled.



## Activities to Deepen Learning

Games and activities provide hands-on and collaborative learning experiences to develop students' understanding.


## Differentiated Instruction

Differentiation Resources for all levels are outlined in the Teacher's Editions for seamless integration.


Resources for all levels:


STRUGGLING LEARNERS Reteach offers additional support for struggling students. Resources are available for every lesson


ON-LEVEL LEARNERS Extra Practice is ideal for
solidifying understanding for on-level students. Resources are vailable for every lesson.


ADVANCED LEARNERS Enrichment offers challenging problems to extend learning Resources are available for every chapter.

## Assessment

Prepare students for rigorous assessments with tests that evaluate and assess true mastery and flexible thinking.


Formative assessment is supported throughout the Teacher's Edition through Quick Checks and
Guided Practice

The Assessments book,
available in print and online, provides summative assessments including pretests, chapter tests, and benchmark tests.


## Math in Focus Online

Assessment Generator (Grades 1-5)
Create unlimited online customized tests and practice sets for students. Teachers can choose from multiple choice, short-response, and extended-response problems using any computer with an Internet connection

## Transition

Fill prerequisite knowledge and skill gaps for a seamless transition to Singapore Math ${ }^{\circledR}$.


The Teacher's Guide to Transition: Grades 2-5 provides math background information for teachers to address key concepts from a Singapore Math perspective. Teaching strategies and tudent skill worksheets are also provided to fill student prerequisite knowledge gaps. This resource is also available online


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Chapter 2 Numbers to 10
Chapter 3 Order by Size, Length, or Weight

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Chapter 5 Size and Position
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Chapter 7 Solid and Flat Shapes
Chapter 8 Numbers to 100
Chapter 9 Comparing Sets
Chapter 10 Ordinal Numbers
Chapter 11 Calendar Patterns
Chapter 12 Counting On and Counting Back
Chapter 13 Patterns
Chapter 14 Number Facts
Chapter 15 Length and Height
Chapter 16 Classifying and Sorting
Chapter 17 Addition Stories
Chapter 18 Subtraction Stories
Chapter 19 Measurement
Chapter 20 Money

| GRADE 1 |  |
| :---: | :---: |
| Chapter 1 | Numbers to 10 |
| Chapter 2 | Number Bonds |
| Chapter 3 | Addition Facts to 10 |
| Chapter 4 | Subtraction Facts to 10 |
| Chapter 5 | Shapes and Patterns |
| Chapter 6 | Ordinal Numbers and Position |
| Chapter 7 | Numbers to 20 |
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Chapter 7 Metric Measurements of Length
Chapter 8 Mass
Chapter 9 Volume
Chapter 10 Mental Math and Estimation
Chapter 11 Money
Chapter 12 Fractions
Chapter 13 Customary Measurement of Length

Chapter 14 Time
Chapter 15 Multiplication Tables of 3 and 4
Chapter 16 Using Bar Models: Multiplication and Division

Chapter 17 Picture Graphs
Chapter 18 Lines and Surfaces
Chapter 19 Shapes and Patterns

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Chapter 3 Addition up to 10,000
Chapter 4 Subtraction up to 10,000
Chapter 5 Using Bar Models: Addition and Subtraction

Chapter 6 Multiplication Tables of 6, 7, 8, and 9

Chapter 7 Multiplication
Chapter 8 Division
Chapter 9 Using Bar Models: Multiplication and Division
Chapter 10 Money
Chapter 11 Metric Length, Mass, and Volume

Chapter 12 Real-World Problems: Measurement

Chapter 13 Bar Graphs and Line Plots
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Chapter 9 Angles
Chapter 10 Perpendicular and Parallel Line Segments

Chapter 11 Squares and Rectangles
Chapter 12 Conversion of Measurements
Chapter 13 Area and Perimeter
Chapter 14 Symmetry
Chapter 15 Tessellations

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| :--- | :--- |
| Chapter 2 | Whole Number Multiplication |
|  | and Division |
| Chapter 3 | Fractions and Mixed Numbers |
| Chapter 4 | Multiplying and Dividing |
|  | Fractions and Mixed Numbers |
| Chapter 5 | Algebra |
| Chapter 6 | Area |
| Chapter 7 | Ratio |
| Chapter 8 | Decimals |
| Chapter 9 | Multiplying and |
|  | Dividing Decimals |
| Chapter 10 | Percent |
| Chapter 11 | Graphs and Probability |
| Chapter 12 | Angles |
| Chapter 13 | Properties of Triangles and |

## Authors

## Program Authors

R. FONG HO KHEONG, LEAD AUTHOR GRADES 1-5

Dr. Fong Ho Kheong is an associate professor and the head of the math and science department of Emirates College for Advanced Education in Abu Dhabi, United Arab Emirates. He was involved in training mathematics teachers in the National Institute of Education, Nanyang Technological thematics ducators, Singapore

Dr. Fong specializes in teaching both high-ability students and students who have problems in
mathematics. His research work includes diagnosing students with mathematical difficulties, teaching hinking to solve mathematical problems, and applying psychological theories for the teaching and earning of mathematics. His experience in curriculum development has led him to innovate the use of he model drawing approach to tackle challenging problems. He is the consultant and principal author of Marshall Cavendish's My Pals Are Here! Maths series, which is currently being used by $80 \%$ of the rimary schools in Singapore

## CHELVI RAMAKRISHNAN

Chelvi Ramakrishnan has been teaching for 25 years and has authored primary mathematics books since 1997.

BERNICE LAU PUI WAH
Bernice Lau Pui Wah has been teaching for 36 years in
rimary and secondary schools. She has authored primary mathematics books since 1997.

## MICHELLE CHOO

Michelle Choo has been teaching in Singapore for 20 years, ncluding five years in the Gifted Education Program. She has been writing primary mathematics books for he past 12 years and also conducts math review classes and workshops on the use of problem-solving skills and strategies.

## GAN KEE SOON

Gan Kee Soon has been an inspector of schools, a principa fa secondary school, and a lecturer at the Nationa Institute of Education, Nanyang Technological University, primary mathematics teachers.

## U.S. Consultants

ANDY CLARK
Andy Clark was the math coordinator for Portland Public Schools in Portland, Oregon, where he was previously an elementary and middle school teacher. Clark is co-autho Alvis Algebra Readiness, Every Day Counts: Partner Games, and Summer Success: Math.

DR. RICHARD BISK
Dr. Richard Bisk is a professor in the mathematics department at Worcester State College. For over 30 years, he has taught a wide array of mathematics courses and has focused on improving the mathematical understanding of teachers. He has provided professional development using the Singapore Math ${ }^{6}$ materials since 2000.

## Flip me over!


...to learn more about Math in Focus!

## Kindergarten Program Overview


[^0]:    83D Chaptre 4 : Pamming Guoe

[^1]:    Teacher's Edition

[^2]:    From the Singapore Ministry of Education

