

PRE-K-12 PROFESSIONAL RESOURCES



# MATH SOLUTIONS GUIDING PRINCIPLES

Drawing from academic work and our own classroom-grounded research and experience, Math Solutions has identified the following four instructional needs as absolutely essential to improving instruction and student outcomes in mathematics:

- Robust Content Knowledge
- Understanding of How Students Learn
- · Insight into Individual Learners Through Formative Assessment
- Effective Instructional Strategies

Math Solutions publications have been carefully curated to meet these needs in robust, accessible, friendly ways. You'll find everything you need within these pages, and if you don't—let us know.

# MARILYN BURNS Founder, Math Solutions

Marilyn Burns is one of today's most highly respected mathematics educators. Over the course of more than 50 years, Marilyn has taught children, led professional learning sessions, spoken at conferences, contributed to professional journals, written more than a dozen books for children, and created more than 20 professional learning resources for teachers and administrators

In 1984, Marilyn formed Math Solutions Professional Development, an organization dedicated to the improvement of math instruction in grades K–8. Working with a highly qualified team of educators, Marilyn offered specialized courses to teachers and administrators nationwide.

In collaboration with Scholastic in 2007, Marilyn developed *Do The Math*\*, a 13–module intervention program for grades 2 and up that focuses on number and operations. *Do The Math*\* targets addition and subtraction, multiplication, division, and fractions. In 2011, Marilyn developed *Do The Math Now!*\*, extending *Do The Math*\* to serve students in grades 6 and up.

In 2012, working with a team of Math Solutions colleagues, Marilyn developed *Math Reasoning Inventory* (MRI), a web-based formative assessment tool suitable for grades 5 and up, which was funded by the Bill & Melinda Gates Foundation. That same year, Marilyn and Scholastic developed *Math Reads*, a program that helps teachers use children's literature for teaching mathematics.

In celebration of the thirtieth anniversary of the founding of Math Solutions, Marilyn has revised her classic K–8 resource, *About Teaching Mathematics*, now in its fourth edition.

Marilyn continues to teach regularly in the classroom, finding the experience essential to developing and testing new ideas and materials.

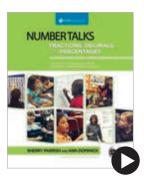
For more on Marilyn, see pages 4-5 of this catalog.

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# **NEW**



# Number Talks: Fractions, Decimals, and Percentages, A Multimedia Professional Learning Resource

Sherry Parrish and Ann Dominick

This second resource in the best-selling Number Talks series supports teachers who want to implement number talks but are unsure of how to begin and teachers who are seasoned in this art of instruction but desire additional support in crafting purposeful problems. This resource is intended to help teachers begin or refine their use of number talks with fractions, decimals, and percentages.

More than 30 video clips give readers the opportunity to access authentic classroom number talks

ISBN: 978-1-935099-75-8

Grades 3-7 404 pages \$75.95

### **ALSO IN THIS SERIES**



Number Talks: Whole Number Computation, Grades K-5, A Multimedia Professional Learning Resource

Sherry Parrish

See page 11 for a complete description of this resource.

ISBN: 978-1-935099-65-9

Grades K-5 432 pages \$75.95



# COMING SOON! It Makes Sense! Using Number Lines to Build Number Sense, Grades K-2

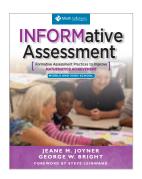
Ann Carlyle

This collection of lessons and games promotes the use of number paths and number lines to help students develop the skills they need to become flexible and fluent problem solvers, as well as meet the requirements of many state standards.

ISBN: 978-1-935099-51-2

Grades K-2 Pages TBD \$36.95

See page 10 for other books in this series.



# INFORMative Assessment: Formative Assessment Practices to Improve Mathematics Achievement, Middle and High School

Jeane M. Joyner and George W. Bright

INFORMative Assessment goes inside more than 30 classrooms to take "A Closer Look" at how to: create learning targets from instructional standards; design and use probing questions, intentional listening, and follow-up tasks to reveal students' thinking; use mathematically rich tasks to gather evidence about students' thinking; identify students' "logic" that leads to correct, incomplete,

or incorrect responses; provide actionable feedback to students; and plan with colleagues to implement formative assessment in instruction.

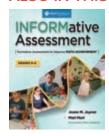
ISBN: 978-1-935099-45-1

Middle and High School 472 pages \$41.95

"For too long, instruction has been an act separated from assessment for middle school and high school mathematics teachers. In *INFORMative Assessment*, Joyner and Bright provide a remarkable road map for the seamless blending of these two high-impact teacher responsibilities. . . [A] must-read that will inform the deep and successful practice of every teacher and teacher team!"

-Timothy D. Kanold, Past President, National Council of Supervisors of Mathematics

#### **ALSO IN THIS SERIES**



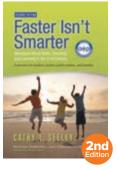
INFORMative Assessment: Formative Assessment Practices to Improve Math Achievement, Grades K-6

Jeane M. Joyner and Mari Muri

See page 24 for a complete description of this resource.

ISBN: 978-1-935099-19-2

Grades K-6 336 pages \$41.95



# Faster Isn't Smarter: Messages About Math, Teaching, and Learning in the 21st Century, Second Edition

Cathy L. Seeley

Featuring 41 entirely updated messages and 4 new ones, this second edition continues to offer straight talk and common sense about some of today's most important, thought-provoking issues in education. With themes ranging from equity, intelligence, and the incredible potential of all students to challenging students to think with a problem-centered approach focused on student engagement

and classroom discourse, the book provides a base for lively discussion among elementary, middle, and high school teachers; leaders; policy makers; and families.

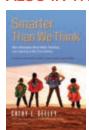
#### ISBN: 978-1-935099-72-7

All Grade Levels 392 pages \$34.95

"Cathy has a unique talent for isolating an area of educational controversy, boiling down the key issues in simple, straightforward language, and then stimulating productive conversation around the central ideas. This collection is a much-needed resource."

—Barbara Reys, Distinguished Professor at University of Missouri and former President of the Association of Mathematics Teacher Educators

#### **ALSO IN THIS SERIES**



Smarter Than We Think: More Messages About Math, Teaching, and Learning in the 21st Century

Cathy L. Seeley

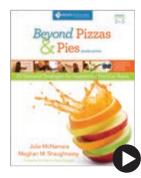
In this second volume of messages, Seeley tackles common misconceptions about students, and she challenges teachers and teacher educators to engage students by turning their classrooms "upside-down" and to rethink what "everyone knows" about teaching mathematics.

ISBN: 978-1-935099-36-9

All Grade Levels 424 pages \$34.95

"Parents, teachers, and school leaders all have different concerns and speak different languages about math education. Cathy Seeley speaks fluently to each group with advice and understanding in her brisk and useful book."

—Dan Meyer, Math Educator



# Beyond Pizzas & Pies: 10 Essential Strategies for Supporting Fraction Sense, Grades 3–5, Second Edition, A Multimedia Professional Learning Resource

Julie McNamara and Meghan M. Shaughnessy

Now in a second edition that includes video clips, this must-have resource continues to support teachers in addressing students' foundational understandings of fractions. In each of the eight stand-alone chapters, the authors discuss one common dilemma that students have with fractions, share current research, and present

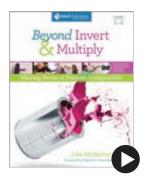
classroom strategies and activities for preventing and addressing it. Includes 30 video clips filmed in actual classrooms.

ISBN: 978-1-935099-53-6

Grades 3-5 232 pages \$62.95

"Beyond Pizzas & Pies is smart, accessible, and usable. McNamara and Shaughnessy assemble the key resources and insights teachers need to help students develop robust understanding of fractions."

—Deborah Loewenberg Ball, William H. Payne Collegiate Professor, University of Michigan



# Beyond Invert & Multiply: Making Sense of Fraction Computation, Grades 3–6, A Multimedia Professional Learning Resource

This resource builds on the foundational understandings that are described in *Beyond Pizzas & Pies: 10 Essential Strategies for Supporting Fraction Sense* and applies them to situations involving fraction computation. Each chapter offers classroom activities for investigating the meaning of fractions, fractions as numbers, fraction addition and subtraction, fraction multiplication and division, and classroom

discussions on fractions. Includes 30 video clips filmed in actual classrooms.

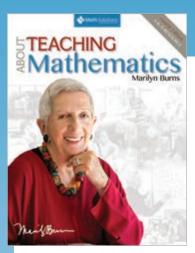
ISBN: 978-1-935099-57-4

Grades 3–6 240 pages \$62.95

"Beyond Invert & Multiply not only helps teachers identify what's important about operations involving fractions but also provides contexts, classroom video clips, and activities—all backed up by research."

—Francis (Skip) Fennell, L. Stanley Bowlsbey Professor of Education and Graduate and Professional Studies McDaniel College, Westminster, Maryland

# **RESOURCES BY MARILYN BURNS**



**About Teaching Mathematics, Fourth Edition** 

See page 5.



50 Problem-Solving Lessons: The Best from 10 Years of Math Solutions Newsletters, Grades 1–6

See page 23.



A Collection of Math Lessons Series

See page 23.



Lessons for Algebraic Thinking® Series, Grades K-2 and 3-5

See page 14.



The Marilyn Burns Fraction Kit<sup>®</sup>, Grades 4–6

See page 9.



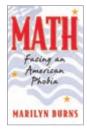
Math and Literature Series, Grades K-1 and 2-3

See page 19.



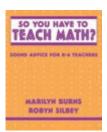
Math By All Means®; Probability, Grades 3–4

See page 13.



Math: Facing an American Phobia

See Math Solutions bookstore on website for product details.



So You Have to Teach Math? Sound Advice for K-6 Teachers

See page 25.

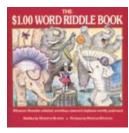


**Teaching Arithmetic® Series** See page 8.



Writing in Math Class: A Resource for Grades 2–8

See page 19.

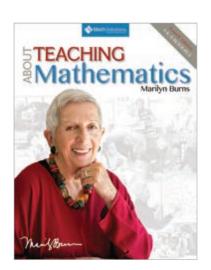


The \$1.00 Word Riddle Book

See Math Solutions bookstore on website for product details.

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# ABOUT TEACHING MATHEMATICS



# About Teaching Mathematics, Fourth Edition

In this fourth edition of her signature resource, Marilyn presents her current thinking and insights and includes ideas from her most recent teaching experiences. Part 1, "Starting Points," reflects the major overhaul of this book and addresses 23 issues important to thinking about teaching mathematics today. Part 2, "Problem-Solving Investigations," and Part 3, "Teaching Arithmetic," offer whole-class, smallgroup, and individual investigations. In Part 4, Marilyn responds to questions she has received from teachers over the years.

ISBN: 978-1-935099-32-1 Grades K-8 536 pages \$89.95

# **Special Features**

#### **Sample Whole-Class Lessons**

Detailed plans are provided for using problem-solving investigations in whole-class lessons. These instructional suggestions are offered for all the content areas in Part 2 and for all arithmetic topics in Part 3.

#### **About the Mathematics**

Over the years, teachers have written to Marilyn asking for help with some of the investigations in *About Teaching Mathematics*. In these sections, Marilyn addresses the underlying mathematics for those problem-solving investigations.

## Marilyn's Notes

Marilyn's personal (and dog-eared) copy of the third edition is filled with her notes, some scribbled in the margins and some jotted on sticky notes. In this new fourth edition, Marilyn has reproduced many of these notes, added new ones, and organized them into categories to make them even more useful. Look for notes titled "Teaching Tip," "Management Suggestion," "FYI," "When Observing," "Vocabulary Suggestion," "Literature Connection," "Parent Connection," and more.

Includes more than 250 math investigations!



Designed to support struggling students in Grades 1–5, *Do The Math* offers comprehensive teacher support and high-quality instruction to help students develop the skills they need to compute with accuracy and efficiency, the number sense they need to reason, and the ability to apply their skills and reasoning to solve problems.



Math Reads is a math and literature program for students in Grades K–5. Each book in Math Reads invites students into the world of mathematics through lessons inspired by delightful children's books.



# Marilyn is Blogging and Tweeting!

Hear directly from Marilyn regarding her current thinking about math education and her ongoing classroom experiences and learning.

# marilynburnsmathblog.com





# MATH TALK™



# Talk Moves: A Teacher's Guide for Using Classroom Discussions in Math, Grades K-6, A Multimedia Professional Learning Resource

Suzanne H. Chapin, Catherine O'Connor, and Nancy Canavan Anderson

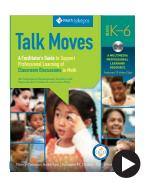
This resource offers an award-winning, unparalleled look at the significant role that classroom discussions can play in teaching mathematics and deepening students' mathematical understanding and learning. Based on a four-year research project funded by the U.S. Department of Education, this resource is divided into three sections:

- Section I: Getting Started: Mathematics Learning with Classroom Discussions
- · Section II: The Mathematics: What Do We Talk About?
- Section III: Implementing Classroom Discussions

This multimedia third edition offers 46 video clips from kindergarten through grade 6, showing students and teachers engaged in successful classroom discussions. This title was formerly *Classroom Discussions in Math*.

Intended for Individual Teacher Use ISBN: 978-1-935099-826

Grades K-6 448 pages \$73.95



# Talk Moves: A Facilitator's Guide to Support Professional Learning of Classroom Discussions in Math, Grades K-6, A Multimedia Professional Learning Resource

Nancy Canavan Anderson, Suzanne H. Chapin, and Catherine O'Connor

Featuring 20 professional development sessions and 75 video clips, this facilitator's guide can be used in conjunction with the above teacher's guide or separately. See page 27 for a complete description of this resource. This title was formerly *Classroom Discussions in Math.* 

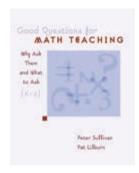
Intended for Group/Professional Learning Use ISBN: 978-1-935099-12-3

Grades K-6 240 pages \$149.95

### **Talk Moves Bundle**

Includes one copy of the above Talk Moves: Teacher's Guide and one copy of Talk Moves: Facilitator's Guide.

ISBN: 978-1-935099-30-7 Grades K-6 \$179.00



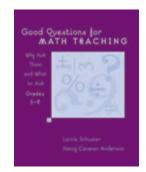
# Good Questions for Math Teaching: Why Ask Them and What to Ask, Grades K-6

Peter Sullivan and Pat Lilburn

Do you think it makes sense to split a day into 24 hours? Would another number have been a better choice? *Good questions* promote students' mathematical thinking and understanding. This best-selling book offers a wealth of sample questions as well as guidance on how to create your own good questions.

ISBN: 978-0-941355-51-3 Grades K-6 112 pages \$28.95

Good Questions: Complete Set of 2 Books ISBN: 978-0-941355-94-0 \$47.52



# Good Questions for Math Teaching: Why Ask Them and What to Ask, Grades 5–8

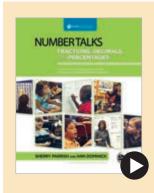
Lainie Schuster and Nancy Canavan Anderson

This second book in the series continues to inspire teachers to develop open-ended questioning techniques. *Good questions*—or open-ended questions—promote students' mathematical thinking, understanding, and proficiency. By asking careful, purposeful questions, teachers create dynamic learning environments, help students make sense of math, and unravel misconceptions.

ISBN: 978-0-941355-69-8 Grades 5–8 208 pages \$28.95



Math Talk is a collection of professional development resources and programs created to help teachers encourage and leverage classroom communication to boost math learning. By encouraging students to "talk math," teachers gain insight into students' understanding of critical math concepts. Students benefit from learning to reason more deeply, use accurate math language, and build stronger math memory.

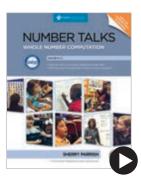


# **NEW!** Number Talks: Fractions. Decimals, and Percentages, A Multimedia Professional **Learning Resource**

Sherry Parrish and Ann Dominick

This second resource in the bestselling Number Talks series supports teachers who want to implement number talks but are unsure of how to begin and teachers who are seasoned in this art of instruction but desire additional support in crafting purposeful problems. This resource is intended to help teachers begin or refine their use of number talks with fractions, decimals, and percentages. The more than 30 video clips give readers the opportunity to access authentic classroom number talks.

ISBN: 978-1-935099-75-8 Grades 3-7 \$75.95



# **Number Talks: Whole Number** Computation, Grades K-5, A Multimedia Professional **Learning Resource**

**Sherry Parrish** 

This multimedia professional learning resource offers:

- More than 850 purposefully designed number talks
- Video clips featuring 19 number talks filmed in actual classrooms

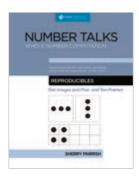
See page 11 for a complete description of this resource.

ISBN: 978-1-935099-65-9 Grades K-5 432 pages \$75.95

#### **Number Talks Bundle**

Purchase Number Talks: Whole Number Computation, Grades K-5 and Number Talks: Whole Number Computation Reproducibles and save 20%. Enter code BNDLNT at checkout.

ISBN: 978-1-935099-11-6 Grades K-5 \$83.52



# Number Talks: Whole Number Computation Reproducibles, Dot Images and Five- and Ten-Frames (download only)

Sherry Parrish

Now the dot images and five- and ten-frames from Chapter 4 of the bestselling Number Talks resource are in a user-friendly, reproducible format! This downloadable file contains more than 250 reproducibles for immediate use.

ISBN: 978-1-935099-47-5 279 pages \$29.95

Downloadable products are non-refundable.



#### Math Talk Moves Poster

Talk moves are strategies that teachers can use to facilitate whole-class discussions that deepen students' mathematical understanding. This friendly and fun poster is perfect to display in the classroom for teacher reference

24 x 36 inches, shrink-wrapped

ISBN: 978-0-545-84883-1 Package of 10 \$29.95

#### Math Talk Bundles

Save on Math Talk resources by purchasing our Big Talk, Small Talk, and Complete Math Talk Bundles. See page 18.

# **NUMBER & OPERATIONS | FRACTIONS**

# **Teaching Arithmetic® Series**

Support mathematical understanding in your instructional program through this rich collection of easy-to-use teaching resources. Each book focuses on a specific arithmetic topic and offers a series of classroom-tested lessons addressing the three important aspects of arithmetic instruction—computation, number sense, and problem solving. The lessons include step-by-step directions, amount of time needed, materials required, classroom vignettes, samples of student work, reproducibles, and a discussion of the math underlying the lesson.

#### **Lessons for First Grade**

Stephanie Sheffield

ISBN: 978-0-941355-34-6 176 pages

\$37.95

# Lessons for Introducing Place Value, Grade 2

Maryann Wickett and Marilyn Burns

ISBN: 978-0-941355-45-2

200 pages \$37.95

# Lessons for Addition and Subtraction, Grades 2–3

Bonnie Tank and Lynne Zolli ISBN: 978-0-941355-32-2

200 pages \$37.95

# Lessons for Extending Place Value, Grade 3

Maryann Wickett and Marilyn Burns

ISBN: 978-0-941355-57-5

256 pages \$37.95

# Lessons for Introducing Multiplication, Grade 3

Marilyn Burns

ISBN: 978-0-941355-41-4

208 pages \$37.95

# Lessons for Introducing Division, Grades 3–4

Maryann Wickett, Susan Ohanian, and Marilyn Burns

ISBN: 978-0-941355-42-1

216 pages \$37.95

# Lessons for Extending Multiplication, Grades 4–5

Maryann Wickett and Marilyn Burns

ISBN: 978-0-941355-31-5

224 pages \$37.95

# Lessons for Extending Division, Grades 4–5

Maryann Wickett and Marilyn Burns

ISBN: 978-0-941355-46-9 296 pages

\$37.95

# Lessons for Introducing Fractions, Grades 4–5

Marilyn Burns

ISBN: 978-0-941355-33-9

192 pages 37.95

# Lessons for Extending Fractions, Grade 5

Marilyn Burns

ISBN: 978-0-941355-43-8

232 pages \$37.95

# Lessons for Multiplying and Dividing Fractions, Grades 5–6

Marilyn Burns

ISBN: 978-0-941355-64-3

200 pages \$37.95

# Lessons for Decimals and Percents, Grades 5–6

Carrie De Francisco and Marilyn Burns

ISBN: 978-0-941355-44-5

232 pages \$37.95



\* Not all covers are shown.

Teaching Arithmetic® Series: Complete Set of 12 Books

ISBN: 978-0-941355-91-9

\$376.89



# **FRACTIONS**

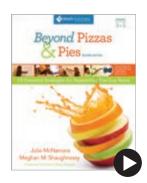


# NEW! Number Talks: Fractions, Decimals, and Percentages, A Multimedia Professional Learning Resource

Sherry Parrish and Ann Dominick

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ISBN: 978-1-935099-75-8 Grades 3-7 \$75.95

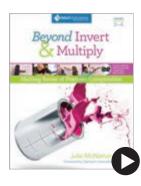


# Beyond Pizzas & Pies: 10 Essential Strategies for Supporting Fraction Sense, Grades 3–5, Second Edition, A Multimedia Professional Learning Resource

Julie McNamara and Meghan M. Shaughnessy

The focus of Beyond Pizzas & Pies, Second Edition, is on foundational understandings. The authors help teachers and students understand fractions as numbers, including the use of equivalency and thinking about benchmark numbers, so that when students start to compute with fractions (see the companion resource, Beyond Invert & Multiply), they have a solid foundation.

ISBN: 978-1-935099-53-6 Grades 3–5 232 pages \$62.95



# Beyond Invert & Multiply: Making Sense of Fraction Computation, Grades 3–6, A Multimedia Professional Learning Resource

Julie McNamara

Beyond Invert & Multiply builds on the foundational understandings that are described in Beyond Pizzas & Pies: 10 Essential Strategies for Supporting Fraction Sense, Second Edition, and applies them to situations involving fraction computation. Each chapter offers classroom activities for investigating the meaning of fractions, fractions as numbers, fraction addition and subtraction, fraction multiplication and division, and classroom discussions on fractions.

ISBN: 978-1-935099-57-4 Grades 3–6 240 pages \$62.95



# The Marilyn Burns Fraction Kit® Grades 4–6

Discover the single most effective manipulative material that Marilyn Burns uses for teaching fractions. Playing a prominent role in the three fraction books from the Teaching Arithmetic® series, the kit contains *The Fraction Kit Guide®*, *Grades 4*–6; 30 sets of 8 colored 2-by-15-inch strips with student storage bags; 15 beginner and 15 advanced fraction dice; and a teacher set of magnetic strips.

Complete Fraction Kit Grades 4–6 Item no. 600215 \$49.95

#### Replacements:

15 beginner fraction dice (red) Item no. 617983 \$14.95

15 advanced fraction dice (blue) Item no. 617982 \$14.95

30 sets of 8 colored strips Item no. 617984 \$24.95

Teacher set of magnetic strips Item no. 617985 \$17.95

# **NUMBER SENSE**



# COMING SOON! It Makes Sense! Using Number Lines to Build Number Sense. Grades K-2

Ann Carlyle

See page 2 for a complete description of this resource.

ISBN: 978-1-935099-51-2

Grades K-2 Pages TBD \$36.95



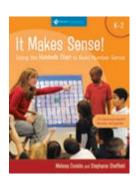
# It Makes Sense! Using Ten-Frames to Build Number Sense, Grades K-2

Melissa Conklin

This resource includes 20 classroom-tested lessons that provide friendly, meaningful support for using ten-frames, one of the most important models teachers can use to help students anchor to the landmark number ten and develop all aspects of number sense. Three types of step-by-step lessons—routines, games, and problem-solving activities—provide students with opportunities to think, reason, and communicate about numbers.

ISBN: 978-1-935099-10-9

Grades K-2 320 pages \$36.95



# It Makes Sense! Using the Hundreds Chart to Build Number Sense, Grades K-2

Melissa Conklin and Stephanie Sheffield

Twenty classroom-tested lessons and games in this resource transform the hundreds chart from a poster on the classroom wall into a hands-on, interactive tool used by both teachers and students. The hundreds chart is one of the most important tools teachers can manipulate to help students think about our base-ten number system and to build a mental model of the mathematical structure of it.

ISBN: 978-1-935099-37-6

Grades K-2 288 pages \$36.95

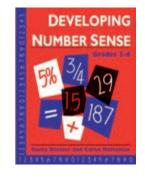
## **Developing Number Sense, Grades 3–6**

Rusty Bresser and Caren Holtzman

Imaginative lessons in this resource give students practice with mental computation, basic operations, navigating the number system, and estimation. The content is crafted to show that number sense is not a specific skill, but encompasses a student's ability to think and reason flexibly, as well as make sound numerical judgments.

ISBN: 978-0-941355-23-0

Grades 3-6 192 pages \$29.95



## **Teaching Number Sense Series**

The goals of this series are to help children to see numbers as tools and not barriers, to be able to reason their way to solutions should they forget a procedure, and to be comfortable using numbers to make sense of the world. Each lesson is organized in an accessible, easy-to-read format that includes a lesson overview, a list of needed materials, the time required to teach the lesson, step-by-step teaching directions, reproducibles, and a vignette of how the lesson actually unfolded in a classroom. Each lesson concludes with a list of assessment questions.

## Kindergarten

Chris Confer

ISBN: 978-0-941355-58-2

Grade K 160 pages \$32.95

#### Grade 1

Chris Confer

ISBN: 978-0-941355-59-9

Grade 1 160 pages \$32.95

### Grade 2

Susan Scharton

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#### It Makes Sense! Series

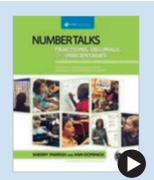
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# **NUMBER TALKS**



# **NEW!** Number Talks: Fractions, Decimals, and Percentages, A Multimedia Professional Learning Resource

Sherry Parrish and Ann Dominick

This second resource in the best-selling Number Talks series supports teachers who want to implement number talks but are unsure of how to begin and teachers who are seasoned in this art of instruction but desire additional support in crafting purposeful problems. This resource is intended to help teachers begin or refine their use of number

talks with fractions, decimals, and percentages. More than 30 video clips give readers the opportunity to access authentic classroom number talks.

ISBN: 978-1-935099-75-8

Grades 3-7 404 pages \$75.95



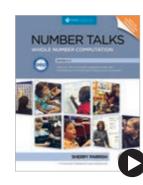
# Number Talks: Whole Number Computation Reproducibles, Dot Images and Five- and Ten-Frames (download only)

**Sherry Parrish** 

Now the dot images and five- and ten-frames from Chapter 4 of the best-selling Number Talks resource are in a user-friendly, reproducible format! This downloadable file contains more than 250 reproducibles for immediate use.

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# Number Talks: Whole Number Computation, Grades K-5, A Multimedia Professional Learning Resource

Sherry Parrish

This multimedia professional learning resource offers:

- More than 850 purposefully designed number talks
- Video clips featuring 19 number talks filmed in actual classrooms

While the book may be used as an independent resource, it is also structured to provide a framework for

collaborative learning groups or to provide professional development opportunities through grade-level teams, schools, or districts. Chapter 9 serves as a facilitator's guide, providing guidance for use of the video clips by grade level, along with discussion questions to support reflection and collegial conversations about number talks and student learning.

ISBN: 978-1-935099-65-9

Grades K-5 432 pages \$75.95

### **Number Talks Bundle**

Purchase Number Talks: Whole Number Computation, Grades K–5 and Number Talks: Whole Number Computation Reproducibles and save 20%.

Enter code BNDLNT at checkout.

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"Sherry Parrish outlines the very best way to teach math to young children and gives educators access to the ideas and methods that they will need. This book is a valuable resource for anyone who cares about children's mathematical development."

—Jo Boaler, professor, Stanford University, and author of What's Math Got to Do With It? Helping Children Learn to Love Their Least Favorite Subject



# **MEASUREMENT**

Measurement requires estimation, making comparisons, mental math, and number sense. Students need to add, subtract, multiply, divide, and perceive numerical relationships in many different ways. Measurement must be an important part of the mathematics curriculum, because it helps students make mathematical sense of their lives and prepares them for their future.

# **Sizing Up Measurement Series**

In this series, expert teachers share a wealth of classroom-tested lessons that focus on essential measurement concepts in a problem-solving context, as well as connect to other strands of the math curriculum and other disciplines, such as literature, social studies, and science. Each lesson is organized in an accessible, easy-to-use format that includes an overview, a list of materials, a vocabulary list, step-by-step teaching directions, and reproducibles.

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Measurement

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# (C) + (C)

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ISBN: 978-0-941355-12-4

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#### Area and Perimeter, Grades 5-6

#### Cheryl Rectanus

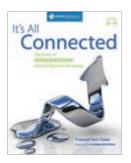
Hands-on investigations with regular and irregular shapes help students go beyond learning the traditional formulas for finding area and perimeter. Lessons use color tiles, string, rulers, and measuring tapes.

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correlations to the Common Core State Standards; teaching insights, and more.

ISBN: 978-1-935099-42-0

Grades 6–9 208 pages \$37.95



## It's All Connected: The Power of Proportional Reasoning to Understand Mathematics Concepts, Grades 6–8

Carmen Whitman

It's All Connected provides teachers of mathematics the support they need to improve their instruction. This in-demand collection of lessons for grades 6 through 8 explores proportionality, proportional relationships, and proportional reasoning, acknowledging that the ability to reason proportionally is crucial in the middle school

mathematics curriculum. The lessons support teachers and students in thinking of proportionality as the big idea that connects across all strands. Each lesson features: Common Core State Standards correlations; connections to the 5 content strands of middle-school mathematics; engaging themes, from *Zapping Zombies* to *Downloading Music*; carefully detailed teaching suggestions; three sets of question types to ask students as they progress through lessons—questions for struggling students, students on task, and students who need extensions; reproducible student recording pages; and "Check for Success" assessment ideas.

ISBN: 978-1-935099-24-6

Grades 6-8 304 pages \$37.95

#### It's All Connected bundle

Includes It's All Connected: Power of Representation and It's All Connected: Power of Proportional Reasoning.

ISBN: 978-1-935099-49-9

\$62.82



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Dan Brutlag

Based on recent research on the adolescent brain, *Active Algebra* presents a living, working example of how teachers can use active learning techniques to make linear relationships more meaningful for students. In addition to the 10 reproducible, sequenced lessons, this award-winning resource includes seven chapters of guidance in teaching algebra. It offers comprehensive coverage of active learning strategies,

mental math, student presentations, graphing calculators, classroom management, and more. It also provides connections to NCTM's *Principles and Standards for School Mathematics*. (NCTM, 2000)

ISBN: 978-1-935099-05-5

Grades 7-10 192 pages \$40.95



## **Lessons for Algebraic Thinking® Series**

Algebra, once a topic relegated to high school, is now one of the top priorities for elementary and middle school. Lessons in this series build on instruction teachers already provide in arithmetic. Each classroom-tested lesson features an overview, vocabulary used, time needed, materials required, and a vignette of how the lesson actually unfolded in a classroom. Books also include authentic samples of student work, an abundance of reproducibles, and key ideas to help teachers understand the math being taught.

Grades K-2

Leyani von Rotz and Marilyn Burns

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Grades 3-5

Maryann Wickett, Katharine Kharas, and Marilyn Burns

ISBN: 978-0-941355-48-3

Grades 3-5 336 pages \$38.95

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\$96.77

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Free classroom lessons



Articles and videos on topics that include math talk, number sense, fractions, assessment, and more



**Articles and interviews by Marilyn Burns** 

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www.youtube.com/user/mathsolutions150



www.marilynburnsmathblog.com





# PROFESSIONAL LEARNING COURSES

# **Math Solutions Professional Learning Courses**

More than "workshops" or "training," Math Solutions courses are designed and delivered by our team of professional development experts to address critical instructional needs. Our accelerated, sustainable, best-practice strategies and methods target universal teaching challenges efficiently and effectively.

# **NEW!** Number Talks: Fractions, Decimals, and Percentages (Grades 3-7)

This one-day course focuses on number talks that build conceptual understanding of fractions, decimals, and percentages. Participants learn how to use this routine as a vehicle to focus on the essential understandings of rational numbers and develop a robust fluency.

#### **Outcomes**

- Facilitate number talks to draw attention to student thinking and bring their reasoning to the forefront of the class.
- Shift instruction about rational numbers from procedure- and rule-based toward sense-making and understanding.
- Highlight contexts and models during number talks to develop and anchor flexible and efficient strategies for reasoning and computing with rational numbers.

Target Audience: Math Coaches, Teacher Leaders, Teachers

Grades: 3-7

Format: Full Day

For more information visit: http://mathsolutions.com/ms\_course/

number-talks-fractions/

### Number Talks, Grades K-5

This course introduces teachers, math coaches, and curriculum specialists to the theory, structure, and focus of number talks. As participants interact throughout the day, they reflect on their current practices and target essential understandings about numbers and operations called for in their state standards. Content from our award-winning and best-selling title *Number Talks* is woven throughout this course.

#### Outcomes

- Recognize number talks as a valuable classroom routine for making sense
  of mathematics, developing efficient computation strategies, communicating
  reasoning, and proving solutions.
- Characterize the key components of number talks and understand the importance of each.
- Explore ways to support students' development of common strategies for addition and subtraction.
- Describe student strategies that emphasize the important mathematical ideas inherent in the strategies.
- Use models and tools that support student understanding and proficiencies with whole number operations.

Target Audience: Math Coaches, Teacher Leaders, Teachers

**Grades:** K-2, K-5, 3-5

Format: Full Day

For more information visit: http://mathsolutions.com/ms\_course/number-talks/



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# PROFESSIONAL LEARNING COURSES

## **Differentiating Mathematics Instruction**

This course helps teachers understand what it means to support all students by differentiating three aspects of the math curriculum: content, process, and product. Teachers examine a variety of approaches that help them make instructional adjustments to content, provide activities that accommodate different students' learning styles, and offer a variety of ways for students to demonstrate what they've learned. Content from *How to Differentiate Your Math Instruction* is woven throughout this course.

#### **Outcomes**

- Experience and analyze strategies to adapt classroom practices to address the wide range of learners in classrooms and make learning accessible for all students.
- Gather and use information about what students already know, their interests, and how they learn best.
- Choose, analyze, and adjust tasks to accommodate students' varying levels of readiness.
- Experience a classroom atmosphere that stimulates and supports students' learning of mathematics.

Target Audience: Math Coaches, Teacher Leaders, Teachers

**Grades:** K-2, K-5, 3-5

Format: Two Day; Additional Options May Be Available

For more information visit: http://mathsolutions.com/ms\_course/differentiating-mathematics-instruction/

# **Teaching Preschool and Kindergarten Math**

This course offers teachers of young children hands-on experiences with instructional strategies that promote thinking and reasoning. Video clips are used to bring teachers into the young child's classroom to see students grapple with counting and building and dealing with data. Participants have multiple and varied opportunities to consider instructional decisions, differentiation, and assessment. Content from *Teaching Preschool and Kindergarten Math* is woven throughout this course.

#### **Outcomes**

- Strengthen math content and pedagogical knowledge to make math accessible to all students.
- · Increase understanding of how young children learn mathematics.
- Identify ways to develop students' number sense and flexibility around numerical reasoning.
- Implement instructional strategies that promote thinking, reasoning, and sense-making.
- Appreciate and delight in working with young children as they build foundations in number.

Target Audience: Math Coaches, Teacher Leaders, Teachers

**Grades:** PreK–K

Format: Four Day; Additional Options May Be Available

For more information visit: http://mathsolutions.com/ms\_course/

teaching-pre-school-and-kindergarten-math/

For more Math Solutions courses visit mathsolutions.com/courses.



# **BUNDLES & LIBRARIES**



## Math Solutions Math Talk Bundle\*

**Small Talk Bundle** 

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Full list price: \$207.80 Discounted price: \$169.00

#### **Big Talk Bundle**

Item no. 514030

Full list price: \$357.75 Discounted price: \$299.00

#### The Complete Math Talk Bundle

Item no. 514032

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#### **Talk Moves Bundle**

Includes one copy of the teacher's guide and one copy of the facilitator's guide.

ISBN: 978-1-935099-30-7

Full list price: \$223.90 Discounted price: \$179.00 Grades K-6 \$179.00

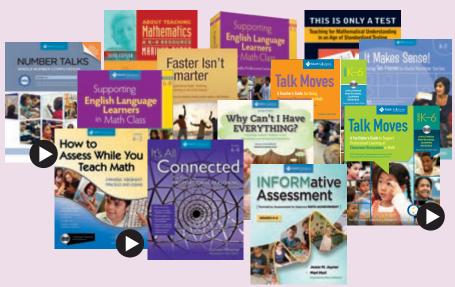
#### **Math Solutions Assessment Bundle**

Bundle includes: INFORMative Assessment: Formative Assessment Practices to Improve Mathematics Achievement, Grades K–6 and How to Assess While You Teach Math, Grades K–2, A Multimedia Professional Learning Resource.

Item no. 514031

Full list price: \$104.90 Discounted price: \$89.00

\*Go to store.mathsolutions.com for bundle and library details.



## Math Solutions Library\*

Math Solutions libraries by grade span include research-based, classroom-tested books and resources to support educators in implementing best practices and effective strategies that advance student learning in math. From theory to lessons, these collections cover key mathematical topics and strands addressed in elementary and middle school.

#### Complete K-12 Library

Includes 95 books and resources

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Full list price: \$3,690.30 Discounted price: \$2,400.00

#### **Essential K-5 Library**

Includes 83 books and resources

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Full list price: \$3,273.90 Discounted price: \$2,100.00

#### Essential 6–12 Library

Includes 26 books and resources

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Full list price: \$828.70 Discounted price: \$535.00

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# MATH & LITERACY



#### **Math and Literature Series**

From Quack and Count to Harry Potter, the imaginative ideas in children's books come to life in math lessons through this unique series. Each resource provides more than 20 classroom-tested lessons that engage children in mathematical problem solving and reasoning. Each lesson features an overview, materials required, and a vignette of how the lesson actually unfolds in a classroom.

#### Grades K-1

Marilyn Burns and Stephanie Sheffield

ISBN: 978-0-941355-66-7 152 pages \$32.95

#### Grades 2-3

Marilyn Burns and Stephanie Sheffield

ISBN: 978-0-941355-67-4 160 pages \$32.95

### **Grades 4–6, Second Edition**

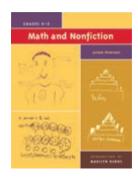
**Rusty Bresser** 

ISBN: 978-0-941355-68-1 240 pages \$32.95

#### Grades 6-8

Jennifer M. Bay-Williams and Sherri L. Martinie

ISBN: 978-0-941355-63-6 184 pages \$32.95



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From *The Wing on a Flea* to *If the World Were a Village*, the curiosities of nonfiction children's books invigorate math lessons through this innovative series. Books include authentic student work, reproducibles, and a special introduction by Marilyn Burns.

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Jamee Petersen

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Stephanie Sheffield and Kathleen Gallagher

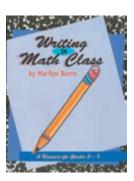
ISBN: 978-0-941355-62-9 232 pages \$32.95

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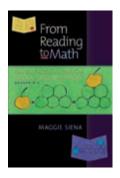


# Writing in Math Class: A Resource for Grades 2–8

Marilyn Burns

How can writing help students think more deeply and clearly about mathematical ideas? Marilyn Burns shares numerous examples illustrating how students sort, clarify, and define their thinking through different types of writing—journal writing, solving math problems, explaining mathematical ideas, and linking creative writing to math. Includes assessment strategies, answers to frequently asked questions, and samples of authentic student work.

ISBN: 978-0-941355-13-1 Grades 2–8 208 pages \$34.95



# From Reading to Math: How Best Practices in Literacy Can Make You a Better Math Teacher, Grades K-5

Maggie Siena

Are your students engaged and motivated to read and write but hesitant during math instruction? Do you want your students to be as excited about math as they are about literacy? This unique resource explores how best practices for teaching reading and writing can help you become a better math teacher. Drawing on the work of such educators as Richard Allington, Carl Anderson, Marilyn Burns, Cathy Fosnot, Stephanie Harvey, Heidi Hayes Jacobs, Ellin Keene, and Diane Snowball, the author describes strategies that work in teaching literacy and how to successfully implement them in the math class.

ISBN: 978-1-935099-04-8

Grades K-5 168 pages \$27.95



# FINANCIAL LITERACY



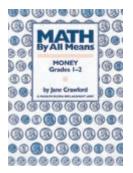
# Why Can't I Have Everything? Teaching Today's Children to Be Financially and Mathematically Savvy, Grades PreK-2

Jane Crawford

In today's financial climate, it's more crucial than ever to equip children with monetary and economic sense. This timely resource features more than 40 lessons categorized by seven important financial literacy themes for young learners. The lessons include literature connections, corresponding formative assessments, games, suggestions for differentiating instruction, ideas for parents, and alignments to the Common Core State Standards for Mathematics. In the appendices, you'll find reproducible letters for parents to go with the lessons, plus a final project that ties all the lessons together.

ISBN: 978-1-935099-25-3

Grades PreK-2 272 pages \$35.95



# Math By All Means®: Money, Grades 1–2

Jane Crawford

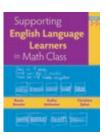
Give students in-depth experience with identifying coins and their values, counting money, and applying their learning to problem-solving situations by using this resource's more than 30 lessons. Extensive references to children's literature, along with engaging games and activities, help strengthen children's number sense and computation skills.

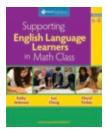
ISBN: 978-0-941355-17-9

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# **ENGLISH LANGUAGE LEARNERS**







## **Supporting English Language Learners in Math Class Series**

This lesson-based series gives teachers the essential tools for simultaneously meeting math content goals and language development goals. Teachers will get a wealth of strategies and activities for modifying their instruction, as well as sentence frame structures and dozens of instant-use reproducibles.

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Rusty Bresser, Kathy Melanese, and Christine Sphar

ISBN: 978-0-941355-85-8

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#### Grades 6-8

Kathy Melanese, Luz Chung, and Cheryl Forbes

ISBN: 978-1-935099-18-5

256 pages \$36.95

# Supporting English Language Learners in Math Class, A Multimedia Professional Learning Resource, Grades K-5

See page 27 for a complete description of this resource.

ISBN: 978-1-935099-07-9 Grades K-5 \$149.95

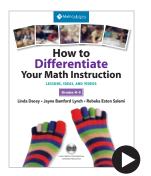
Grades K-5 \$149.95

Supporting English Language Learners in Math Class Series: Set of 2 Books, Grades K-2 and 3-5

ISBN: 978-0-941355-99-5

\$62.82

# DIFFERENTIATED INSTRUCTION



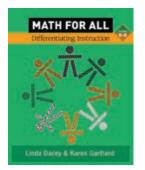
# How to Differentiate Your Math Instruction: Lessons, Ideas, and Videos, Grades K-5, A Multimedia Professional Learning Resource

Linda Dacey, Jayne Bamford Lynch, and Rebeka Eston Salemi

How can teachers meet the growing diversity of learning needs in their classrooms? Furthermore, how do teachers meet this challenge in the midst of increasing pressures to master specified content? This resource shares classroom practices that help all students be successfu. It features 21 video clips that illustrate how everything from menus and tiered tasks to math workshops and multiple intelligences centers can be carried out in the classroom.

ISBN: 978-1-935099-40-6

Grades K-5 384 pages \$72.95



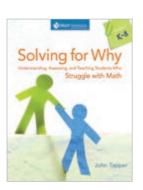
# Math for All: Differentiating Instruction, Grades 6–8

Linda Dacey and Karen Gartland

This resource is a must-read for teachers, administrators, math coaches, special education staff, and any other educator who wishes to ensure that all students are successful learners of mathematics. Focusing on the specific needs for teaching and learning mathematics in middle school, the book includes dozens of ready-to-use, research-based tasks plus strategies for structuring choice within classrooms.

ISBN: 978-1-935099-00-0

Grades 6-8 312 pages \$39.95



# Solving for Why: Understanding, Assessing, and Teaching Students Who Struggle with Math, Grades K-8

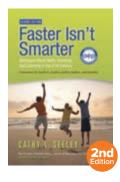
John Tapper

This resource offers educators the tools and guidance essential for successfully solving for why students struggle with mathematics. The step-by-step, Response to Intervention (RTI)-like approaches, focused on assessment and communication with students, help teachers gain insight into student understanding in a remarkably different way than recipe-type approaches that assume the same solution applies to learners with similar struggles.

ISBN: 978-1-935099-33-8

Grades K-8 256 pages \$37.95

# **LEADERSHIP**



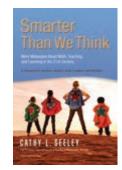
## NEW! Faster Isn't Smarter: Messages About Math, Teaching, and Learning in the 21st Century, Second Edition

Cathy L. Seeley

Featuring 41 entirely updated messages and 4 new ones, this second edition continues to offer straight talk and common sense about some of today's most important, thought-provoking issues in education. With themes ranging from equity, intelligence, and the incredible potential of all students to challenging students to think with a problem-centered approach focused on student engagement and classroom discourse, the book provides a base for lively discussion.

ISBN: 978-1-935099-72-7

All Grades 392 pages \$34.95



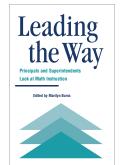
# Smarter Than We Think: More Messages About Math, Teaching, and Learning in the 21st Century

Cathy L. Seeley

Smarter Than We Think is a must-read for parents, teachers, policy makers, or anyone who cares about mathematical education. Seeley tackles common misconceptions about students, and challenges teachers and teacher educators to engage students by turning their classrooms "upsidedown" and to rethink what "everyone knows" about teaching mathematics. She exhorts policy makers to put mathematics first when making choices about technology in the classroom, restructuring curriculum, and high-stakes testing.

ISBN: 978-1-935099-36-9

All Grades 272 pages \$34.95



## Leading the Way: Principals and Superintendents Look at Math Instruction

Edited by Marilyn Burns

This collection of essays provides a firsthand glimpse into the challenges administrators face and the efforts they've made to promote the best in mathematics education. This book is a must for superintendents, principals, math coordinators, teacher leaders, math coaches, and other administrators who are supporting high-quality, standards-based mathematics instruction in their schools and districts.

ISBN/Item Number: 978-0-941355-21-6

All Grades 128 pages \$21.95

# **CURRICULUM PLANNING**

Planning math instruction is a demanding aspect of teaching. Teachers need to have an overall sense of the curriculum for the whole year, of what's going to be taught each month, and of what specifically to teach each day. The guides in this series make it easy to plan all three.

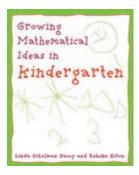


# Teaching Preschool and Kindergarten Math: Ideas, Lessons, and Videos for Building Foundations in Math, Grades PreK–K

Ann Carlyle and Brenda Mercado

Through an exciting multimedia format, Teaching Preschool and Kindergarten Math takes you into an early childhood classroom for a "seeing-isbelieving" look at how to create a focused, successful mathematics program while deepening your knowledge of the mathematical ideas that need to be developed at an early age. In addition, research indicates that mastery of math concepts in early childhood is the most powerful predictor of later learning. These factors and more make this an essential go-to resource for the teaching and learning of early childhood mathematics.

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Linda Schulman Dacey and Rebeka Eston

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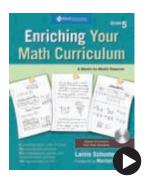
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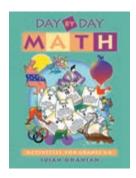


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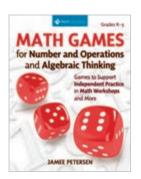
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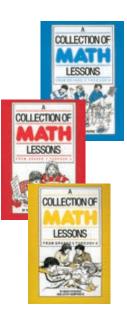
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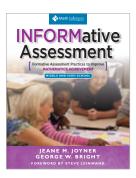
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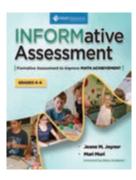


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INFORMative Assessment goes inside more than 30 classrooms to take "A Closer Look" at how to: create learning targets from instructional standards; design and use probing questions, intentional listening, and follow-up tasks to reveal students' thinking; use mathematically rich tasks to gather evidence about students' thinking; identify students' "logic" that leads to correct, incomplete, or incorrect responses; provide actionable feedback to students; and plan with colleagues to implement formative assessment in instruction.

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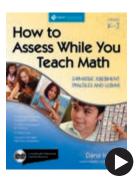


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Jeane M. Joyner and Mari Muri

What is formative assessment? Why do we do it and what do students gain? Formative assessment is not a one-time event. It is not the product or end result of a set of well-defined steps. Rather, formative assessment is a process identified in this resource as "INFORMative assessment" when it is a collection of strategies that engage teachers and students in becoming partners to support students' learning. This resource uniquely presents a collaborative learning journey in which educators understand the INFORMative perspective, explore must-have practices, and discuss how to implement them.

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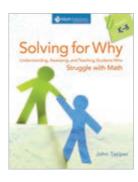


# How to Assess While You Teach Math: Formative Assessment Practices and Lessons, Grades K-2, A Multimedia Professional Learning Resource

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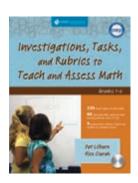
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This resource offers educators the tools and guidance essential for successfully solving for why students struggle with mathematics. The step-by-step, Response to Intervention (RTI)-like approaches, focused on assessment and communication with students, help teachers gain insight into student understanding in a remarkably different way than recipe-type approaches that assume the same solution applies to learners with similar struggles.

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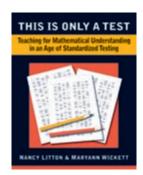


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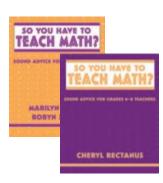


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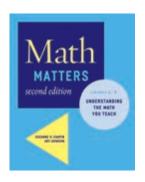
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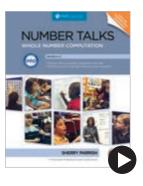


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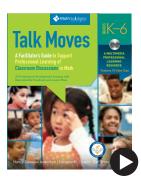
# Talk Moves: A Teacher's Guide for Using Classroom Discussions in Math, Grades K-6, A Multimedia Professional Learning Resource

Suzanne H. Chapin, Catherine O'Connor, and Nancy Canavan Anderson

This resource looks at the significant role that discourse plays in teaching mathematics. Based on a four-year research project funded by the U.S. Department of Education, it is divided into 3 sections: Section I: Getting Started: Mathematics Learning with Classroom Discussions, Section II: The Mathematics: What Do We Talk About? and Section III: Implementing Classroom Discussions.

This edition offers 46 video clips from illustrating classroom discussions in grades K-6. This title was formerly *Classroom Discussions in Math.* 

Intended for Individual Teacher Use ISBN: 978-1-935099-56-7 Grades K-6 448 pages \$73.95



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Nancy Canavan Anderson, Suzanne H. Chapin and Catherine O'Connor

The resource provides preservice and inservice instructors, coaches, and facilitators with real, classroombased video examples that illustrate the principles and practices covered in the authors' best-selling book, Classroom Discussions: Using Talk Moves: A Teacher's Guide for Using Classroom Discussions in Math. Ideally the two resources— the teacher's guide and the facilitator's guide —are used together. The video clips demonstrate how talk tools can be used successfully in typical classrooms.

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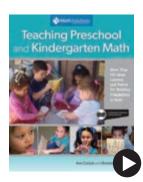


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Linda Dacey, Jayne Bamford Lynch, and Rebeka Eston Salemi

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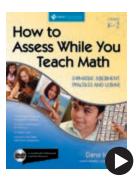
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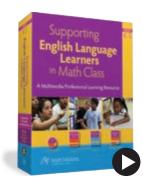


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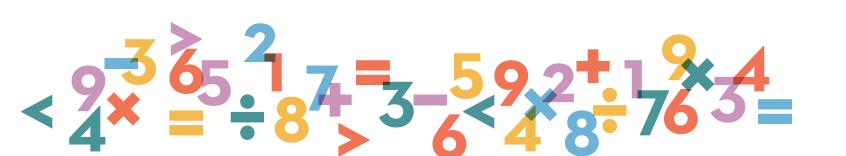
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Dana Islas

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# **BOOKS & RESOURCES MATRIX**

Grade Level

Grade Level												
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Grade Level												
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- formative assessment.

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# Math Solutions Coaching Model





