Inspire a Culture of Math Achievement

with Professional Learning for Grades PreK–12
Marilyn Burns, founder of Math Solutions®, is one of today’s most highly respected mathematics educators. In 1984, Marilyn formed Math Solutions, dedicated to improving students’ learning of mathematics by providing educators with the highest-quality professional learning services and resources. Working with a team of mathematics teaching and learning experts to offer specialized professional learning to teachers and administrators, Marilyn and the Math Solutions team have contributed to the transformation of thousands of school districts nationwide. High-quality teaching and learning are the most important factors for raising student achievement.

Twitter  
@mburnsmath

www.mathsolutions.com/about-us/marilyn-burns
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How We Inspire a Culture of Math Achievement

Learning is a journey. When we activate students’ curiosity and elevate teachers’ potential, we are shaping the future of education, one learning moment at a time.

Whether you are looking to focus on your mathematical instructional goals, deepen content knowledge in each grade level, or implement your program effectively, Math Solutions will provide a consistent focus on your needs. We’ll identify your goals and create a plan that builds the foundation, deepens and builds capacity, and ensures sustained progress.

All of us are learners and every day we encounter new learning moments. What we do with those moments makes the difference. Math Solutions professional learning create these learning moments by driving teacher engagement and student achievement.

YOUR LEARNING JOURNEY WITH MATH SOLUTIONS

For those implementing our HMH® programs, our Implementation Support and Follow-Up incorporate specific strategies related to your program implementation.
Plan Your Journey
We will create a strategic plan that not only identifies where you are and where you need to be, but includes the tactical steps necessary to help you reach your goals. Together, we will help set specific student learning targets and develop a focused plan to support instruction and get results!

Build the Foundation
Courses are designed to strengthen math content and pedagogical knowledge and build the foundations to improve instruction and achieve the desired student outcomes.

Initial Implementation Support and Follow-Up
For those implementing HMH programs, you’ll be provided the support you need to get started with your implementation and focus on how to gain momentum in the first and second year of your implementation.

• Getting Started participants will learn to use the program components in the context of lesson planning and classroom instruction, and they will experience lessons from both the teacher and student perspectives.

• Follow-Up provides additional guidance to deepen mastery, hone teaching skills, and build confidence when teaching the program.

Grow Your Practice with Coaching
Coaches from HMH use a research-based model focused on your goals. They’ll be there to support you as you analyze and set your goals, learn new instructional practices, and apply them in your classroom.

Deepen Learning
Content courses are designed to explain math content by grade level necessary for growth on assessments, and instructional strategy courses support all learning, providing the tools that every teacher can bring into their classroom.

Monitor Progress
Measure results and analyze student progress data to ensure that school improvement plans are moving forward successfully.

Measure Results and Ensure Sustainable Success
With data to measure and maintain performance, Math Solutions is the ultimate partner for long-term math achievement.
The Backbone of Everything We Do
Your Guide to an Effective Math Classroom

Schools and districts need examples of model math classrooms that provide observable guidelines to help teachers implement best practices quickly and efficiently. Based on more than 35 years of focusing exclusively on the teaching and learning of math, Math Solutions has developed the Instructional Practices Inventory (IPI), a comprehensive guide to instructional excellence for both teachers and students.

These instructional practices help schools focus on and improve four key areas of instruction in order to reach math achievement goals: learning environment, reasoning and sense making, focus and coherence, and formative assessment. This tool is also used by administrators to recognize what to look for in math classrooms and is the foundation of our Needs Assessment and Progress Monitoring.

Download the IPI at www.mathsolutions.com/ipi

Hear Lisa Rogers, Director of Professional Learning, explain the impact of the IPI.
<table>
<thead>
<tr>
<th>LEARNING ENVIRONMENT</th>
<th>TEACHER</th>
<th>STUDENTS</th>
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<tbody>
<tr>
<td>Provides a respectful, safe learning environment in which mistakes are seen as an opportunity to learn.</td>
<td>Take an academic risk and rely on their own thinking and the thinking of other students.</td>
<td></td>
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<tr>
<td>Structures the class for independent work, pairs, groups, and whole class in a thoughtful and deliberate way</td>
<td>Listen and ask questions to each other to clarify information; respectfully challenge ideas; make conjectures.</td>
<td></td>
</tr>
<tr>
<td>Asks questions that both build and reveal new understanding of content and practice. Avoids yes/no questions unless they also ask for justification.</td>
<td>Explain their reasoning, construct viable arguments and critique the reasoning of others.</td>
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<tr>
<td>Makes appropriate tools available and encourages their use.</td>
<td>Communicate using appropriate mathematical language both orally and in writing.</td>
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<tr>
<td></td>
<td>Work well in a variety of grouping structures.</td>
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<thead>
<tr>
<th>REASONING &amp; SENSE MAKING</th>
<th>TEACHER</th>
<th>STUDENTS</th>
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</thead>
<tbody>
<tr>
<td>Selects rigorous learning experiences.</td>
<td>Persevere in making sense of rigorous problems.</td>
<td></td>
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<tr>
<td>Makes learning experiences accessible to all students without compromising the rigor in the problem.</td>
<td>Seek out multiple approaches to solving a problem.</td>
<td></td>
</tr>
<tr>
<td>Expects students to justify their reasoning for all answers, whether correct or incorrect.</td>
<td>Use multiple representations when solving problems, such as symbols, diagrams, graphs, words, etc.</td>
<td></td>
</tr>
<tr>
<td>Selects learning experiences that represent a balance of conceptual understanding and procedural fluency.</td>
<td>Understand math concepts and use procedures appropriately.</td>
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<tr>
<td></td>
<td>Use appropriate tools strategically, including mental calculations, that fit the situation.</td>
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<tr>
<th>FOCUS &amp; COHERENCE</th>
<th>TEACHER</th>
<th>STUDENTS</th>
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<tr>
<td>Understands the expectation of the standard to be taught and its connection to previous standards; aligns the lesson to grade-level content and practice standards.</td>
<td>Connect their current learning to previously learned standards.</td>
<td></td>
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<tr>
<td>Differentiates instruction based on student needs.</td>
<td>Use math to contextualize and/or decontextualize problems.</td>
<td></td>
</tr>
<tr>
<td>Selects problems that provide opportunities for students to contextualize and/or decontextualize.</td>
<td>Apply the math they know to solve real-world problems.</td>
<td></td>
</tr>
<tr>
<td>Selects problems that provide opportunities for students to apply math to real-world situations.</td>
<td>Take responsibility for their learning by monitoring their progress toward a learning target.</td>
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</tbody>
</table>

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<tr>
<th>FORMATIVE ASSESSMENT</th>
<th>TEACHER</th>
<th>STUDENTS</th>
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<tr>
<td>Uses data to make instructional decisions based on student need.</td>
<td>Evaluate the reasonableness of their results using feedback from the teacher or a peer.</td>
<td></td>
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<tr>
<td>Provides feedback to students or structures opportunities for students to provide feedback to each other.</td>
<td>Articulate what they are learning and why.</td>
<td></td>
</tr>
<tr>
<td>Identifies and communicates the learning target(s) of the lesson.</td>
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Partnering with Math Solutions Is Proven to Work

Math Solutions services are based on the most current research in the field of instruction and deliver proven results. Our partner districts report high educator satisfaction and student achievement. Whether you are a rural school or a large urban district, Math Solutions can help you reach your goals. For more than 35 years, we have partnered with thousands of districts and schools across the country and have learned that every school has its own unique set of strengths, challenges, and resources.

North Kansas City Schools, MO

In 2012 the North Kansas City School District student test scores in mathematics had plateaued. Chad Sutton, Assistant Superintendent – Pre-K–8, decided to target a solution that centered on enhancing the skills and competency of the classroom teacher. The school district identified two main challenges. The first challenge was deepening the content knowledge of teachers to align with new standards. The second challenge was identifying instructional methods that would support students’ ability to think abstractly about math and develop conceptual understanding—allowing kids to talk about and make sense of math as opposed to only memorizing computations.

Beginning in the spring of 2012, the school district implemented the use of Math Solutions in elementary and secondary schools and established a sustainable, collaborative model for training and self-sufficiency across the district.

DISTRICT PROFILE

Metro Status: Large City
Total Schools: 31
Grades: Kindergarten–Grade 12
Total Enrollment: 19,300 Students
Student Demographics:
- EL Students: 1,289
- Students with IEPs: 1,687
Numbers Are Just the Beginning
In state exams, the district achieved its highest level of third-grade math proficiency in over ten years with about 71% earning scores in the advanced or proficient categories in 2016, an increase of 14% in two years. In Grade Four, achievement scores jumped from 44% in 2014 to 72% in 2016 in advanced or proficient categories and from 55% to 65% in the same categories in Grade Five, outperforming the state by 23% and 17%, respectively. At the secondary level, the district reported a 7% increase in proficient and advanced scores for Algebra I, Geometry, and Algebra II. This success was not measured solely by achievement scores, but also by a noticeable change in the energy in classrooms, increased pride in teachers, and positive attitudes toward math among students.

Hear from other district partners here: https://mathsolutions.com/our-solutions/research-and-resources/case-studies/

“The kids feel powerful. They know it’s changing them, and it’s also empowering the teachers. It’s eye opening to see students excited and believing that they can do the hard math. And it’s because of the practices that have been introduced to teachers.”

—Dr. Chad Sutton
Assistant Superintendent, NKC
Assess and Address

Immediate and Long-Term Needs

Turning Challenges into Strengths . . . The Math Solutions team will help you identify your journey and **develop a plan** of action to address them!

Through a series of online surveys, classroom observations, and interviews with administrative and instructional leadership, Math Solutions helps your team pinpoint what you do well and, in turn, address critical challenges needing immediate attention.

**Following this assessment, Math Solutions will deliver:**

- A data-rich Instructional Needs Assessment Report and Professional Learning Plan that identifies math instruction strengths and opportunities for improvement
- Specific, prioritized recommendations to address critical challenges required to meet state standards and assessments
Plan Your Journey

The following instructional needs—absolutely essential to improving instruction, program implementation, and student outcomes—drive the design of all Math Solutions courses, consulting, coaching, and resources.

BUILD THE FOUNDATION

Leadership
This course is designed to help leaders define a vision for their role as instructional leaders of mathematics and increase their understanding of and ability to communicate about current state standards.

Mathematical Practices
Designed to strengthen math content and pedagogical knowledge as well as provide instructional strategies, these courses promote thinking, reasoning, and sense making.

IMPLEMENTATION SUPPORT AND FOLLOW-UP

Getting Started and Follow-Up
For those implementing HMH programs, a Getting Started Course, Professional Learning Guide, and embedded support are provided so you have the tools you need to be successful and implement program with fidelity. Follow-Up will focus on how to hone your craft when teaching the program and allow you to ramp up quickly and effectively.

DEEPEN LEARNING

Content Standards by Grade Level
Content courses explain math content by grade level necessary for growth on assessments and how to achieve your instructional goals. Each course is aligned to your particular state standards.

Instructional Strategies
Supporting all learning—every teacher needs a toolkit of instructional strategies to bring into his or her classroom.

GROW YOUR PRACTICE

Coaching
Our coaches are there to support you as you analyze and set your goals, learn new practices, and apply them in the classroom.
Leadership

Leading the Transformation of Mathematics Teaching and Learning

Target Audiences: Administrators, Curriculum Directors Specialists, Principals, Superintendents

Grades: K–12

Format: Full Day

A strategic plan is only as effective as the team that implements it. Ensuring quality instruction requires the support of a strong instructional leadership team with the vision and confidence to initiate and sustain a cultural and tactical shift in instruction.

Math Solutions courses and coaching will guide the members of your leadership team as they learn how to observe, assess, and support the incorporation of “best-practice” instructional strategies that promote thinking, reasoning, and sense making in the classroom.

This full-day course refines participants’ vision for their role as instructional leaders of mathematics. Participants increase their understanding of and ability to communicate about current state standards. They engage in mathematical tasks and discover the use of tools and structures to lead stakeholders toward effective mathematics teaching and learning.

OUTCOMES

- Identify and support math instruction that promotes thinking, reasoning, and sense making.
- Provide instructional leadership and support to empower teachers to become more effective in their teaching of mathematics.
- Articulate a vision for leadership that includes collaboration among all stakeholders to promote effective mathematics teaching and learning.

“We really appreciate your commitment to excellence and support regarding our delivery of math instruction, analysis of data, and the ongoing push to create the most productive math learning environments throughout our school. **We really believe we have the momentum to make dramatic gains in math** and know your support will only strengthen our efforts. Thank you!”

—Dominic Cipollone
Principal, New York City Schools, NY
Mathematical Practices

Making Sense of Math—Reasoning and Discourse

Target Audience: Math Coaches, Teacher Leaders, Teachers
Grades: K–2, 3–5, 6–8, 9–12
Format: Full Day

Students need to build a deep understanding of mathematics and use that understanding to reason about problems, make sense of new learning, and communicate their thinking to others. This course is designed to introduce participants to the processes and habits of mind students need to develop, with particular emphasis on the role of reasoning and discourse in mathematics. In addition, they will analyze the complexity of mathematical tasks and consider strategies for transforming grade-level tasks to increase the level of rigor.

DEVELOPING TASKS THAT PROMOTE REASONING

For students to develop habits of mind that rely on reasoning and making sense of mathematics, teachers must provide multiple practice opportunities with mathematical tasks and questions that require students to do more than memorize a procedure or answer. The National Council of Teachers of Mathematics (NCTM) recommends that teachers use tasks that:

- Invite exploration of important mathematical concepts
- Allow students the opportunity to solidify and extend knowledge
- Encourage students to make connections and develop a coherent framework for mathematical ideas
- Call for problem formulation, problem solving, and mathematical reasoning
- Provide more than one solution path
- Promote the development of all students’ dispositions to do math

OUTCOMES

- Use strategies to help all students deepen and communicate their mathematical reasoning.
- Identify the difference between social conventions of mathematics and mathematical knowledge that students need to make sense of for themselves.
- Select tasks and use classroom discussions to develop students’ mathematical habits of mind and to assess understanding.

“Words would not do justice to articulate and express how productive, effective, and mind-altering an experience it was for us.”

—E.S. Bherwani
Assistant Principal, NYC School District, NY

“Good Questions for Math Teaching” by Lainie Schuster and Nancy Canavan Anderson

“Making Sense of Math—Reasoning and Discourse” by Lainie Schuster and Nancy Canavan Anderson

Grades 5–8

OUTCOMES
Students need to develop knowledge of computational procedures along with knowledge of when and how to use them appropriately. The goal is for students to become skillful in performing computational procedures flexibly, accurately, efficiently, and with understanding.

FLEXIBLE, ACCURATE, AND EFFICIENT

For many students, procedures have been the mainstay of learning mathematics. “Yours is not to reason why, just invert and multiply” was a phrase used by teachers to help students remember the procedure for dividing fractions. The approach to learning computational procedures was based on a set of steps, or an algorithm, learned through repeated practice and memorization.

This full-day course provides teachers with a deeper understanding of procedural fluency beyond merely the ability to memorize procedures and apply them with little understanding. In addition, teachers will learn strategies to support students in representing ideas visually, symbolically, and verbally, as well as strategies for helping students make connections between these different representations.

OUTCOMES

- Expand understanding of procedural fluency to include carrying out procedures appropriately with flexibility and accuracy.
- Connect multiple representations for the purpose of helping all students better understand underlying mathematical ideas.
- Consider students’ use of tools and representations for the purpose of assessing student understanding of math and reasoning.

“I am so glad that I signed up for this course. It has helped me to take a closer look at the way I teach math and realize the changes I need to make. I’ve always wanted students to enjoy math and now I have some tools to begin to make this happen.”

—Teacher, Grade 4
Savannah-Chatham County, Georgia
Problem Solving—
Developing Disposition, Competence, and Confidence

Target Audience: Math Coaches, Teacher Leaders, Teachers
Grades: K–2, 3–5, 6–8, 9–12
Format: Full Day

Students need to make sense of problems and persevere in solving them. Teachers’ instructional practices directly affect students’ confidence in their mathematical skills and their willingness to persevere to solve difficult problems.

This full-day course provides teachers with a deeper look at building perseverance in problem solving and applying mathematics to everyday situations. Participants will learn strategies for engaging students in appropriate levels of constructive struggle, thus allowing all students to approach mathematics with confidence and competence.

SUPPORTING CONSTRUCTIVE STRUGGLING
It is important for all students to experience some struggle in order to make sense of mathematics and develop new knowledge. Students will not persevere and be confident in their mathematical skills if we do not provide opportunities to make sense of the math and support them in the process.

Teachers maintain the integrity of high-level tasks by structuring lessons to allow students to make connections and develop new mathematical knowledge.

OUTCOMES
- Describe the features of a classroom environment that support student learning and promote confidence and perseverance in students.
- Engage students in constructive struggle that develops mathematical habits of mind.
- Structure lessons in ways that require critical thinking and sense making.

“Thank you for the wealth of knowledge you shared as we learned with you. It was truly an interesting and awakening time for me to improve my teaching and my coaching practices”

—Dr. Nefertitti T. Washington
Math Specialist, Fort Bend Independent School District, TX
Student-Centered Science: An Overview of the Next Generation Science Standards

Target Audience: Science Coaches, Teacher Leaders, Teachers and Leaders
Grades: K–12
Format: 6-hour session or combine this with another topic in 2, 3-hour sessions.

The Next Generation Science Standards* (NGSS) open the door to more effective, student-centered science exploration. It also presents an opportunity for teachers to combine their tried-and-true instructional practices with the latest research on student success in the science classroom. In this session, you will explore Performance Expectations, Science and Engineering Practices, Disciplinary Core Ideas, and Crosscutting Concepts as they join forces to comprise the NGSS. Through an understanding of these dimensions of learning, coupled with collaboration around ways to increase student engagement, you will complete this session with an action plan that can be implemented in your classroom.

Outcomes
- Gain a deeper understanding of the design and organization of the science standards.
- Examine the three dimensions of science learning in the document (Science and Engineering Practices, Disciplinary Core Ideas, and Crosscutting Concepts).
- Identify strategies to increase student engagement in science.

Develop Scientific Thinking: Claims, Evidence, and Reasoning

Target Audience: Science Coaches, Teacher Leaders, Teachers and Leaders
Grades: K–12
Format: 6-hour session or combine this with another topic in 2, 3-hour sessions.

In this course participants explore the Claim-Evidence-Reasoning-Rebuttal process and how it ties into the Three Dimensions of Learning. Through several engaging and interactive activities, participants analyze each part of Claim-Evidence-Reasoning-Rebuttal and identify examples and non-examples of CER while building and refining their own understanding of the CER process. Finally, participants discuss the use of CER to deepen student understanding in multiple curricular areas, find opportunities in their science curriculum for CER, and establish a plan for how they will implement CER with their students.

Outcomes
- Explain the Claim-Evidence-Reasoning-Rebuttal process and its importance with the scientific and engineering inquiry practices.
- Analyze the CER process by focusing on each part of Claim-Evidence-Reasoning-Rebuttal and identifying examples and non-examples of CER.
- Connect and apply principles of how students learn science to constructing a CER related to a scientific phenomenon.
- Identify where opportunities exist in your science curriculum for CER and establish a plan for how you will implement CER with your students.
- Relate the use of CER to benefit student understanding across the curriculum (K–5).
Science Is All Around You: Phenomenon-Based Learning

**Target Audience:** Science Coaches, Teacher Leaders, Teachers and Leaders  
**Grades:** K–12

In this course, you will take part in learning experiences that introduce and explore the practice of phenomenon-based learning. Through experiential professional learning you will learn what constitutes phenomena, evaluate phenomena for alignment with your instructional goals, and incorporate anchor, investigative, and everyday phenomena in your instruction to engage and challenge student concept development.

Inspire Problem Solvers: Engineering Design Process

**Target Audience:** Science Coaches, Teacher Leaders, Teachers and Leaders  
**Grades:** K–12  
**Format:** 6-hour session or combine this with another topic in 2, 3-hour sessions.

In this course, participants will explore the relationship between science and engineering, the roots of the Engineering Design Process (EDP), and how the EDP is used by many to design solutions to real-world problems. Participants will relate the EDP to a growth mindset and consider its application within science classrooms.
Initial Implementation Support and Follow-Up

HMH math core and intervention programs focus on building student competency. We provide extensive professional learning services to help schools and districts implement with fidelity while building teachers’ content knowledge and providing instructional strategies to enhance the effectiveness of the program.

You’ll start with implementation support that includes our Getting Started Course, a Professional Learning Guide to use in your first year of implementation, and embedded professional learning within your platform including videos, teacher tips, and more.

In the first and second year of implementation our Follow-Up provides additional guidance to deepen mastery, hone teaching skills, and build confidence when teaching the program.

Our professional learning is flexible so you can choose to learn in person; via live, online sessions; or using a blend of both.

YOUR LEARNING JOURNEY WITH MATH SOLUTIONS

For those implementing our HMH programs, our Implementation Support and Follow-Up incorporate specific strategies related to your program implementation.
Getting Started Courses

Build a Strong Foundation

In the foundational Getting Started courses, educators learn how to use their HMH programs in the context of lesson planning and classroom instruction.

Each Getting Started course comes with a comprehensive Professional Learning Guide, which provides even more support for:

- Instructional Routines
- The Student Experience
- Teaching and Planning
- Assessment

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Embedded Professional Learning Support

Your implementation will begin with a **Getting Started Course**. But, we know how important initial support is when you start using your program, so we also provide a **Professional Learning Guide** to use in your first year of implementation and **embedded professional learning** within your platform like videos, teacher tips, and more.
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<tr>
<th>Section</th>
<th>Description</th>
<th>PRINT</th>
<th>DIGITAL</th>
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<tbody>
<tr>
<td><strong>Professional Learning Guide</strong></td>
<td>This interactive guide allows for detailed note-taking and reflection, serving as a reference for the Getting Started Course and for your first year of implementation. The guides complement the Teacher Editions (print or digital).</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td><strong>Getting Started Modules</strong></td>
<td>Find a library of on-demand professional learning topics that support your understanding of the pedagogy and components.</td>
<td>IN PERSON</td>
<td>✔</td>
</tr>
<tr>
<td><strong>Teacher Tips</strong></td>
<td>Aligned to NCTM’s Mathematics Teaching Practices, these tips were written by educators for educators. They are included at the beginning of each module.</td>
<td>IN PERSON</td>
<td>✔</td>
</tr>
<tr>
<td><strong>Professional Learning Cards</strong></td>
<td>When planning your daily and weekly lessons, these cards give you the real examples you can use to guide students’ learning, including Talk Moves and Language Routines.</td>
<td>IN PERSON</td>
<td>✔</td>
</tr>
<tr>
<td><strong>Classroom and Expert Videos</strong></td>
<td>These videos showcase real experts and real classrooms and help give you an example of how to guide student learning in your classroom.</td>
<td>IN PERSON</td>
<td>✔</td>
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Follow-Up Sessions

Deepen Your Knowledge and Skills

Follow-Up sessions build upon the foundational knowledge of Getting Started to help teachers take full advantage of their HMH program’s components, assessment, differentiation, and digital tools in meeting the needs of their students. Topics are classroom-focused, hands-on, and offer opportunities to apply understanding. All HMH professional learning is available in person, online, or blended (in person + online).

Follow-Up sessions are modular and flexible, with topics and lengths designed to meet the needs of different groups of teachers within the same district and even within the same school. Sessions can range from 60 to 120 minutes for a single topic to a full day with multiple topics. Or multiple groups of teachers can explore just a few topics in a single day.

Some of the most-requested Follow-Up topics are:

- Create an Effective Learning Environment
- Make Math Accessible for All Learners through Differentiation
- Leverage Data and Reporting to Accelerate Growth
- Maximize Learning with Digital Resources
- Plan Effective Math Learning Experiences
- Explore the Eight Effective Mathematics Teaching Practices
- Supporting English Learners in Mathematics

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Follow-Up

Personalized Follow-Up sessions inspire and empower teachers by giving them the confidence to use their math program classroom and digital resources. Topics are 90 minutes in length, but can be condensed to 60 minutes or extended to 2 hours.

**Target Audience:** Leaders and Teachers  
**Grades:** K–12  
**Format:** In Person, Webinar

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**CREATE AN EFFECTIVE LEARNING ENVIRONMENT**  
Participants will evaluate and refine the learning environment to ensure students are accountable for their learning and feel confident, safe, and respected.

**LEARNING OUTCOMES**
- Establish clear expectations for math instruction.
- Identify student and teacher actions that support effective facilitation of learning tasks.
- Employ strategies for engaging students through classroom discourse.
- Implement best practices to develop social emotional skills using the Learning Mindset features.

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**MAKE MATH ACCESSIBLE FOR ALL LEARNERS THROUGH DIFFERENTIATION**  
To ensure equity, participants will explore the powerful teaching support and differentiation options to help all students access the mathematical content.

**LEARNING OUTCOMES**
- Use strategies to support instruction before, during, and after math to provide access to all learners.
- Connect language, culture, and literacy to math to deepen student understanding.
- Plan instruction that explicitly addresses varying needs and supports for all learners.

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**LEVERAGE DATA AND REPORTING TO ACCELERATE GROWTH**  
To accelerate student growth, participants will utilize a collaborative model that focuses on data, instructional skills, and results.

**LEARNING OUTCOMES**
- Describe the roles of formative and summative assessment.
- Select appropriate assessments and use data to monitor student learning.
- Identify and use instructional strategies and resources to accelerate growth.
**MAXIMIZE LEARNING WITH DIGITAL RESOURCES**
Participants will identify and integrate program-specific digital resources to enhance learning.

**LEARNING OUTCOMES**
- Understand current research around effective Blended Learning.
- Explore digital resources to determine how they can support instruction.
- Prepare lessons that meaningfully integrate digital resources, including projectibles, interactive lessons, and assessments.

**PLAN EFFECTIVE MATH LEARNING EXPERIENCES**
Participants will learn to plan effective, student-centered learning experiences that increase learner engagement throughout instruction.

**LEARNING OUTCOMES**
- Understand how to support productive perseverance throughout instruction.
- Practice and apply strategies to increase student engagement.
- Structure instruction to build shared understanding.

**EXPLORE THE EIGHT EFFECTIVE MATHEMATICS TEACHING PRACTICES**
Participants will understand the NCTM® Mathematics Teaching Practices, make connections to effective student practices, and use program-specific resources to implement each practice.

**LEARNING OUTCOMES**
- Explore and unwrap the NCTM Mathematics Teaching Practices.
- Connect effective teaching practices to effective student practices.
- Implement the Mathematics Teaching Practices using Into Math™ resources.

**SUPPORTING ENGLISH LEARNERS IN MATHEMATICS**
Participants will learn strategies to promote the use and development of math language for all learners, especially English learners.

**LEARNING OUTCOMES**
- Understand the design principals from the Stanford Center for Assessment, Learning, and Equity (SCALE).
- Explore and select resources that support language development.
- Practice and apply Language Routines to everyday instruction.
Getting Started with Into Math

Target Audience: Leaders and Teachers
Grades: K–5, 6–8
Format: In Person (Full Day, Half Day) or Live Webinar

OVERVIEW

Into Math emphasizes the importance of the “why” behind the “how” with an inverted gradual release model that asks students to first figure out a problem on their own before learning the best practices for solving the problem.

In this introductory course, participants have meaningful, hands-on or virtual experiences to learn about this gradual release model by using the program resources from both a student and teacher perspective.

Follow-Up

CHOOSE FROM THE FOLLOWING TOPICS

Topics are 90 minutes in length, but can be condensed to 60 minutes or extended to 2 hours.
Format: In person Full Day, 2-hour webinar, or webinar bundle

- Create an Effective Learning Environment
- Maximize Learning with Digital Resources
- Plan Effective Math Learning Experiences
- Leverage Data and Reporting Tools to Accelerate Growth
- Make Math Accessible for ALL Learners through Differentiation
- Teach the Language of Mathematics to Support English Learners
- Explore the 8 Effective Mathematics Teaching Practices

Coaching

Individual and team coaching is available in person, online, or blended to provide teachers with the support they need to positively impact students every day.
GO Math! is flexible and has parallel print and digital pathways. No matter what the technology situation is in your classroom, GO Math! has an abundance of resources to keep students engaged and on track. Learn about them in this introductory course.

**Follow-Up**

**CHOOSE FROM THE FOLLOWING TOPICS**
Topics are 90 minutes in length, but can be condensed to 60 minutes or extended to 2 hours.

**Format:** In person Full Day, 2-hour webinar, or webinar bundle

- Create an Effective Learning Environment
- Maximize Learning with Digital Resources
- Plan Effective Math Learning Experiences
- Leverage Data and Reporting Tools to Accelerate Growth
- Make Math Accessible for ALL Learners through Differentiation
- Teach the Language of Mathematics to Support English Learners
- Explore the 8 Effective Mathematics Teaching Practices

**Coaching**

Individual and team coaching is available in person, online, or blended to provide teachers with the support they need to positively impact students every day.
Getting Started with Saxon Math™

Target Audience: Leaders and Teachers  
Grades: K–5, 6–8  
Format: In Person (Full Day, Half Day) or Live Webinar

OVERVIEW
In this introductory course, participants engage in a variety of hands-on activities to learn about program organization and design. Through direct instruction and guided practice, participants will also experience program resources both from a student and teacher perspective.

OUTCOMES
- Build understanding and confidence to ensure a strong implementation.
- Support differentiation, assessment, and effective whole- and small-group instruction using HMH program resources and instructional tools.
- Enhance instructional delivery and student learning using HMH technology.

1. Power up  
Focuses on reinforcing and building foundational skills, mental math, and problem-solving strategies.

2. New Concepts  
Introduces new material with hands-on activities, concise explanations, and meaningful discussion.

3. Written Practice  
Gives students the opportunity to review, maintain, and build on concepts and skills.

Coaching
Individual and team coaching is available in person, online, or blended to provide teachers with the support they need to positively impact students every day.
Getting Started with Math Expressions

Target Audience: Leaders and Teachers
Grades: Pre-K–6
Format: In Person (Full Day, Half Day) or Live Webinar

OVERVIEW
Math Expressions combines elements of standards-based instruction with the best traditional approaches. Through drawings, conceptual language, and real-world examples, it helps students make sense of mathematics. National Science Foundation (NSF) funded and research-based, Math Expressions is proven to be effective in raising student achievement. Put your students on the path to becoming lifelong learners—and lovers—of all things math and get started with your implementation in this introductory course.

Follow-Up

CHOOSE FROM THE FOLLOWING TOPICS
Topics are 90 minutes in length, but can be condensed to 60 minutes or extended to 2 hours.
Format: In person Full Day, 2-hour webinar, or webinar bundle

- Plan effective Math Expressions lessons.
- Differentiate Math Expressions instruction using the HMH Player®.
- Personalize and adapt student learning with the Personal Math Trainer® Powered by Knewton™

Coaching

Individual and team coaching is available in person, online, or blended to provide teachers with the support they need to positively impact students every day.
Getting Started with *Math in Focus*®

**Target Audience:** Leaders and Teachers  
**Grades:** K–8  
**Format:** In Person (Full Day, Half Day) or Live Webinar

**OVERVIEW**  
During this course, participants gain an understanding of lesson structure, problem-solving strategies, and the *Math in Focus* trajectory. Special attention is paid to how students learn and the role of the teacher in *Math in Focus*.

In addition to investigating specific grade-level content, teachers are introduced to key program components and gain an understanding of how carefully sequenced and paced instruction enhances students’ math achievement. Finally, teachers examine the available technology and explore ways to implement these important resources to support transition and enhance instruction.
Follow-Up

**FLEXIBLE INSTRUCTIONAL TOPICS DESIGNED TO SUSTAIN YOUR IMPLEMENTATION**
They are designed to be 90 minutes in length and can be condensed to 60 minutes or expanded to 120 minutes. They can be delivered in person or in a live-webinar format.

- Plan Effectively
- Maximize Learning with Digital Resources
- Leverage Assessment Data to Accelerate Student Growth
- Engage and Empower Diverse Learners in Math

Coaching

Individual and team coaching is available in person, online, or blended to provide teachers with the support they need to positively impact students every day.

“Math Solutions, in general, is making the teaching of math more accessible—helping teachers use their tools wisely by evaluating the learning situation in front of them.”

—Valerie Samn
Math Coach, New York
Getting Started with Into AGA™

Target Audience: Leaders and Teachers
Grades: 9–12
Format: In Person (Full Day, Half Day) or Live Webinar

OVERVIEW
Through insightful, data-driven assessments and professional learning opportunities that can be tailored to any teacher’s preference, Into AGA invests in you.

This introductory Getting Started Course focuses on developing deeper understanding of concepts and procedural fluency.

Follow-Up

CHOOSE FROM THE FOLLOWING TOPICS
Topics are 90 minutes in length, but can be condensed to 60 minutes or extended to 2 hours.
Format: In person Full Day, 2-hour webinar, or webinar bundle

- Create an Effective Learning Environment
- Maximize Learning with Digital Resources
- Plan Effective Math Learning Experiences
- Leverage Data and Reporting Tools to Accelerate Growth
- Make Math Accessible for ALL Learners through Differentiation
- Teach the Language of Mathematics to Support English Learners
- Explore the 8 Effective Mathematics Teaching Practices

Coaching

Individual and team coaching is available in person, online, or blended to provide teachers with the support they need to positively impact students every day.
Getting Started with HMH AGA & Integrated Mathematics 1, 2, 3

Target Audience: Leaders and Teachers
Grades: 9–12
Format: In Person (Full Day, Half Day) or Live Webinar

OVERVIEW
Teachers engage in a variety of hands-on experiences to learn about program organization, design, and resources. Through direct instruction, guided practice, and cooperative exploration, teachers experience HMH AGA and Integrated Math 1, 2, 3 resources both from a student and teacher perspective.

OUTCOMES
- Enrich daily instruction by applying knowledge of program organization and pedagogy.
- Support differentiation, assessment, and effective whole- and small-group instruction using HMH AGA and Integrated Math 1, 2, 3 resources and instructional tools.
- Enhance instructional delivery and student learning using HMH technology.

“We were amazed at the professionalism, knowledge, and way each one delivered the services. We could not be happier.”

—Tara Nichols
Director of Instruction, Mesquite School District, TX

Coaching
Individual and team coaching is available in person, online, or blended to provide teachers with the support they need to positively impact students every day.
Target Audience: Leaders and Teachers
Grades: K–5, 6–8
Format: In Person (Full Day, Half Day) or Live Webinar

OVERVIEW
In this introductory course, participants engage in a variety of hands-on activities to learn about program organization and design. Through direct instruction and guided practice, participants will also experience program resources both from a student and teacher perspective.

OUTCOMES
- Build understanding and confidence to ensure a strong implementation.
- Support differentiation, assessment, and effective whole- and small-group instruction using HMH program resources and instructional tools.
- Enhance instructional delivery and student learning using HMH technology.

Follow-Up

CHOOSE FROM THE FOLLOWING TOPICS
Topics are 90 minutes in length, but can be condensed to 60 minutes or extended to 2 hours.
Format: In person Full Day, 2-hour webinar, or webinar bundle

OUTCOMES
- Make science assessable for all learners.
- Maximize learning with digital resources.
- Integrate meaningful STEM experiences.
- Plan effective science learning experiences.
- Build literacy and science content knowledge.

Coaching
Individual and team coaching is available in person, online, or blended to provide teachers with the support they need to positively impact students every day.
Getting Started with ScienceFusion®

Target Audience: Leaders and Teachers
Grades: K–5, 6–8
Format: In Person (Full Day, Half Day) or Live Webinar

OVERVIEW
In this introductory course, participants engage in a variety of hands-on activities to learn about program organization and design. Through direct instruction and guided practice, participants will also experience program resources both from a student and teacher perspective.

OUTCOMES
- Build understanding and confidence to ensure a strong implementation.
- Support differentiation, assessment, and effective whole- and small-group instruction using HMH program resources and instructional tools.
- Enhance instructional delivery and student learning using HMH technology.

Follow-Up

CHOOSE FROM THE FOLLOWING TOPICS
Topics are 90 minutes in length, but can be condensed to 60 minutes or extended to 2 hours.
Format: In person Full Day, 2-hour webinar, or webinar bundle

OUTCOMES
- Make Science Assessable for All Learners
- Maximize Learning with Digital Resources
- Plan Effective Science Learning Experiences
- Integrate Meaningful STEM Experiences
- Build Literacy and Science Content Knowledge

Coaching
Individual and team coaching is available in person, online, or blended to provide teachers with the support they need to positively impact students every day.
Moment by moment each student builds his or her own learning journey. Watch Olvin’s journey take shape.

hmhco.com/math180
Initial Implementation Support and Follow-Up for Supplemental and Intervention Solutions

For students who need extra support, targeted intervention accelerates math achievement using explicit instruction and growth mindset strategies.

We offer personalized learning to help all students accelerate achievement and prepare for success.
Getting Started with Do The Math®

Target Audience: Leaders and Teachers
Grades: K–5
Format: In Person (Full Day, Half Day) or Live Webinar

OVERVIEW
This professional learning develops teachers’ understanding of the Do The Math methodology and how it supports students who are below grade level in math. Teachers learn how to support the development of whole-number and fraction proficiency for struggling students. Teachers consider what it means to provide intervention instruction as they spend time exploring the program and planning for their first week of instruction.

OUTCOMES
Do The Math Getting Started professional learning is designed to help teachers:
- Develop an understanding of the Do The Math program design and how it supports struggling students.
- Investigate the print and digital resources of Do The Math for the purpose of effectively implementing the program.

Follow-Up

Do The Math: Addition and Subtraction

Format: In Person (Full Day)

OVERVIEW
This course deepens participants’ understanding of addition and subtraction concepts and the Do The Math methodology. Participants gain familiarity with lessons and increase their confidence in the use of the eight instructional principles. They explore the Instructional Practices Inventory and consider how it can elevate instructional decisions.

OUTCOMES
- Articulate key concepts and strategies from the addition and subtraction modules.
- Support students’ ability to make sense of addition and subtraction concepts, solve problems, reason, and use appropriate tools.
- Make learning experiences accessible to all students without compromising the rigor in the lessons.
- Utilize the Instructional Practices Inventory to reflect on effective Do The Math instruction.

Coaching

Individual and team coaching is available in person, online, or blended to provide teachers with the support they need to positively impact students every day.
**Do The Math: Multiplication**

**Format:** In Person (Full Day)

**OVERVIEW**
This course deepens participants’ understanding of multiplication and the Do The Math methodology. Participants gain familiarity with the mathematical content of the modules and increase their confidence in the use of the eight instructional principles. They explore the Instructional Practices Inventory and consider how it can elevate instructional decisions.

**OUTCOMES**
- Articulate key concepts and strategies from the multiplication modules.
- Support students’ ability to make sense of multiplication concepts, solve problems, reason, and use designated strategies.
- Make learning experiences accessible to all students without compromising the rigor in the lessons.
- Utilize the Instructional Practices Inventory to reflect on effective Do The Math instruction.

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**Do The Math: Division**

**Format:** In Person (Full Day)

**OVERVIEW**
This course prepares participants to develop students’ essential understanding of division, and strengthens their own number sense. Participants gain confidence in the progression of learning in the modules and value the importance of fidelity to the program. They explore the Instructional Practices Inventory and consider how it can elevate their instructional decisions.

**OUTCOMES**
- Articulate key concepts and strategies from the division modules.
- Support students’ ability to make sense of division concepts, solve problems, reason, and use designated strategies.
- Make learning experiences accessible to all students without compromising the rigor in the lessons.

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**Do The Math: Fractions**

**Format:** In Person (Full Day)

**OVERVIEW**
This course prepares participants to develop students’ essential understanding of fractions, and strengthens their own fraction sense and ability to meaningfully compare, add, and subtract fractions. Participants gain confidence in the progression of learning in the modules and value the importance of fidelity to the program. They explore the Instructional Practices Inventory and consider how it can elevate their instructional decisions.

**OUTCOMES**
- Articulate key concepts and strategies from the fraction modules.
- Use designated strategies to support students’ ability to reason and make sense of essential fraction understandings.
- Make learning experiences accessible to all students without compromising the rigor in the lessons.
Getting Started with MATH 180

Getting Started with MATH 180 Course I

**Target Audience:** Leaders and Teachers  
**Grades:** 5–12  
**Format:** In Person (Two-Day) or Webinar

**OVERVIEW**
This two-day course helps teachers gain a deeper understanding of instructional strategies and underlying mathematics content embedded in MATH 180 Course II. Teachers learn alternative teaching approaches that engage and motivate struggling students, pace students for success, and bolster their confidence and competence. Teachers learn how to use the dynamic software of MATH 180 and progress monitoring to make informed choices about the instruction as they plan for the first six weeks with MATH 180.

Getting Started with MATH 180 Course II

**Format:** In Person (Two-Day) or Webinar

**OVERVIEW**
This two-day course helps teachers gain a deeper understanding of instructional strategies and underlying mathematics content embedded in MATH 180 Course II. Teachers learn alternative teaching approaches that engage and motivate struggling students, pace students for success, and bolster their confidence and competence. Teachers learn how to use the dynamic software of MATH 180 and progress monitoring to make informed choices about the instruction as they plan for the first six weeks with MATH 180.

OUTCOMES
MATH 180 professional learning is designed to help teachers:

- Understand the research behind MATH 180.
- Learn how state standards and assessments impact teaching, curriculum, and learning.
- Experience the MATH 180 Instructional Model from the teacher’s perspective.
- Explain and use the role of talk to support learning of mathematics.
- Use SAM™ Central to support teaching, planning, and progress monitoring.
- Interpret MATH 180 progress, performance, and assessment data to inform instruction.
- Prepare for the first six weeks with MATH 180.
Follow-Up

Exploring Content, Tools, and Strategies in MATH 180

**Format:** In Person (Two Day)

**OVERVIEW**
This MATH 180 course uses models, tools, and alternative strategies to help students understand content and communicate their learning. This course provides the opportunity for collaboration between MATH 180 teachers and core teachers as they focus on mathematical content using the tools and strategies introduced in MATH 180. Explicit connections between core content and MATH 180 content promote instructional practices that impact student learning.

**OUTCOMES**
- Identify common misconceptions and errors in students’ mathematical thinking.
- Interact with and use the following models and tools found in MATH 180 as vehicles for making meaning of numbers, properties, and operations: fraction pieces and shapes, area model, open number lines, bar model, and decimal grids.
- Use instructional strategies employed in MATH 180 that exemplify process standards and support students’ understanding.
- Connect the foundational math content and representations of MATH 180 to middle school core content.

Data & Differentiation

**Format:** In Person (Full Day)

**OVERVIEW**
This professional learning option is designed to help teachers understand how both the learning environment and classroom culture impact the differentiated mathematics classroom. They review and interpret progress, performance, and assessment data of their current MATH 180 students to make instructional decisions that meet the needs of all students.

**OUTCOMES**
- Understand how both the learning environment and classroom culture impact the differentiated mathematics classroom.
- Interpret progress, performance, and assessment data of MATH 180 students to inform instruction.
- Use assessments, data, and instructional strategies to support the needs of all MATH 180 learners.

Classroom Discourse

**Format:** In Person (Full Day)

**OVERVIEW**
During this professional learning day, participants take a deeper look at the high-leverage teaching practices that improve classroom discourse. Teachers identify strategies that can help even the most reluctant learner to communicate mathematically and discover how the MATH 180 instructional routines support classroom discourse.

**OUTCOMES**
- Articulate the importance of classroom discourse in the mathematics classroom.
- Use the instructional strategies highlighted in MATH 180 to develop students’ ability to communicate mathematically.
- Support reluctant learners as they take ownership of their learning in the mathematics classroom.
Getting Started with WAGGLE®

Target Audience: Leaders and Teachers
Grades: K–5, 6–8
Format: In Person (Full Day, Half Day) or Live Webinar

OVERVIEW
In this introductory course, participants engage in a variety of hands-on activities to learn about program organization and design. Through direct instruction and guided practice, participants will also experience program resources both from a student and teacher perspective.

OUTCOMES
- Build understanding and confidence to ensure a strong implementation.
- Support differentiation, assessment, and effective whole- and small-group instruction using HMH program resources and instructional tools.
- Enhance instructional delivery and student learning using HMH technology.

Coaching
Individual and team coaching is available in person, online, or blended to provide teachers with the support they need to positively impact students every day.
Getting Started with *Math Reads*®

**Target Audience:** Leaders and Teachers  
**Grades:** K–5, 6–8  
**Format:** Live Webinar

**OVERVIEW**  
In this introductory course, participants engage in a variety of hands-on activities to learn about program organization and design. Through direct instruction and guided practice, participants will also experience program resources both from a student and teacher perspective.

**Outcomes**
- Build understanding and confidence to ensure a strong implementation.  
- Support differentiation, assessment, and effective whole- and small-group instruction using HMH program resources and instructional tools.  
- Enhance instructional delivery and student learning using HMH technology.

**Coaching**

Individual and team coaching is available in person, online, or blended to provide teachers with the support they need to positively impact students every day.

Getting Started with *Math Inventory*®

**Target Audience:** Leaders and Teachers  
**Grades:** K–5, 6–8  
**Format:** In Person (Full Day, Half Day) or Live Webinar

**OVERVIEW**  
In this introductory course, participants engage in a variety of hands-on activities to learn about program organization and design. Through direct instruction and guided practice, participants will also experience program resources both from a student and teacher perspective.

**Outcomes**
- Build understanding and confidence to ensure a strong implementation.  
- Support differentiation, assessment, and effective whole- and small-group instruction using HMH program resources and instructional tools.  
- Enhance instructional delivery and student learning using HMH technology.

**Coaching**

Individual and team coaching is available in person, online, or blended to provide teachers with the support they need to positively impact students every day.
Monitor Progress

Monitoring and assessing progress during implementation allows you to make adjustments in your professional learning plan and provides accountability for your investment with data and reporting.

![LEARNING ENVIRONMENT graph]

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Support and Follow-Up
Grow Your Practice with Coaching
Your Learning Journey Continues...

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Monitor Progress

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Deepen Learning

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Build the Foundation
Plan your Journey
Content Standards by Grade Level

**Number & Operations—Base Ten**

**Target Audience:** Math Coaches, Teacher Leaders, Teachers  
**Grades:** K–2, 3–5  
**Format:** Three Day | Additional Options May Be Available

This three-day course focuses on Number and Operations in Base Ten for students in Grades K–5. The emphasis of this course is on developing a foundation of understanding of multiplication and division, and on extending understanding of place value with whole numbers to decimals. Experiences and discussions help participants discern the role of place-value understanding and properties of operations.

For more professional learning resources visit store.mathsolutions.com.

**Ratios & Proportional Relationships**

**Target Audience:** Math Coaches, Teacher Leaders, Teachers  
**Grades:** 6–8  
**Format:** Two Day | Additional Options May Be Available

This two-day course explores proportionality, proportional relationships, and proportional reasoning, acknowledging that the ability to reason proportionally is at the forefront of the middle school mathematics curriculum. The course supports teachers with strategies to help make this content accessible to all students.

For more professional learning resources visit store.mathsolutions.com.
Expressions, Equations, and Functions

Target Audience: Math Coaches, Teacher Leaders, Teachers

Grades: 6–8

Format: Two Day

This course focuses on how students develop algebraic reasoning and an understanding of the different representations for functions. Teachers and coaches explore the progression of middle school content that develops an understanding of expressions, equations, and functions and prepares students for success in high school and beyond.

### OUTCOMES

- Engage with current state standards that address expressions, equations, and functions.
- Analyze problem-solving activities that develop students’ skills in these areas.
- Design problem-solving lessons that address expressions, equations, and functions.
- Integrate effective instructional strategies to facilitate the learning of all students.
- Challenge students with rigorous math problems that require habits of mathematical thinking called for in current state standards.

Algebra and Functions—High School

Target Audience: Math Coaches, Teacher Leaders, Teachers

Grades: 9–12

Format: Two Day | Additional Options May Be Available

This two-day course focuses on the conceptual aspects of algebra and functions for students in high school, with an emphasis on strategies and tools to help leverage students’ ways of thinking so they can approach any type of function, work with it, and understand how it behaves.

### OUTCOMES

- Apply a fundamental understanding of standards addressing algebra and functions to implement effective tasks.
- Integrate effective instructional strategies such as the use of classroom discourse, real-world applications, and multiple representations to facilitate the learning of all students.
- Challenge students with rigorous math problems that require the habits of mind called for in current state standards.
- Identify purposeful ways to organize the classroom—whole-class, small-group, and individual learning—to maximize the learning of all students.
Instructional Strategies

**Math Workshop: Structures and Practices for Student Learning**

**Target Audience:** Curriculum Directors/Specialists, Math Coaches, Teacher Leaders, Teachers, Principals  
**Grades:** K–8  
**Format:** Two Day | Additional Options May Be Available

Standards and student needs drive mathematics instruction. This course highlights Math Workshop, a model for organizing standards-based instruction to support all learners in the mathematics classroom. Participants engage in the Math Workshop model of instruction, reflect on how the structures and learning environment leverage increased learning for all students, and create a plan to implement Math Workshop in the classroom.

For more professional learning resources visit [store.mathsolutions.com](http://store.mathsolutions.com).

**English Learners in Math**

**Target Audience:** Curriculum Directors/Specialists, Math Coaches, Teacher Leaders, Teachers, Principals  
**Grades:** K–8  
**Format:** Full Day | Additional Options May Be Available

English learners need ongoing and explicit language instruction to access mathematical content. This course focuses on the types of support needed for English learners to be successful in mathematics. Participants gain the understanding and skills required to design lessons that increase English proficiency while simultaneously developing mathematical understanding as they analyze lessons designed for English learners. As the sessions build, participants learn how to use, and experience the benefits of, a lesson design process that supports differentiation for the varied levels of English learners in classrooms.

**OUTCOMES**

- Understand the purpose and use of the three structures of Math Workshop.
- Verbalize and act on the roles of the teacher and students in the Math Workshop classroom.
- Implement a plan for getting started with Math Workshop.
- Create a Math Workshop classroom that relies on formative assessment and differentiation.

**OUTCOMES**

- Recognize the unique language development and communication needs of English learners.
- Support students with varying degrees of English proficiency.
- Implement lessons and instructional strategies that simultaneously build proficiency with English and promote thinking, reasoning, and making sense of mathematics.
Instructional Strategies

Number Talks: Whole Number Computation

Target Audience: Math Coaches, Teacher Leaders, Teachers
Grades: K–2, K–5, 3–5
Format: Full Day

This one-day 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.

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.
- Recognize and 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.

For more professional learning resources visit store.mathsolutions.com.

Number Talks: Fractions, Decimals, and Percentages

Target Audience: Math Coaches, Teacher Leaders, Teachers
Grades: 3–5, 6–7
Format: One Day | Additional Options May Be Available

This full-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.

For more professional learning resources visit store.mathsolutions.com.
Differentiating Mathematics Instruction

Target Audience: Math Coaches, Teacher Leaders, Teachers
Grades: K–2, K–5, K–8, 3–5, 6–8
Format: Two Day

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.

For more professional learning resources visit store.mathsolutions.com.
Developing Number Sense

**Target Audience:** Math Coaches, Teacher Leaders, Teachers  
**Grades:** K–5  
**Format:** One Day | Additional Options May Be Available

Number sense is a broad concept that covers a range of numerical thinking. This course helps teachers gain an understanding of what number sense is, why it is important, and what strategies they can use to help promote their students’ number sense. Through firsthand experiences, teachers explore their own number sense and are introduced to instructional approaches that promote thinking and communicating about numbers. Samples of student work help connect course investigations to teachers’ classroom needs.

Supporting Students Who Struggle with Mathematics

**Target Audience:** Math Coaches, Teacher Leaders, Teachers  
**Grades:** K–2, K–5, K–8, 3–5, 6–8  
**Format:** Three Day | Additional Options May Be Available

Offers guidance to classroom teachers, special educators, and math specialists in understanding and supporting children who struggle with mathematics. The struggles that children encounter may be the result of cognitive learning challenges, background and experience, or previous instruction. The approach in this course is to use a framework of assessments to understand student thinking and to examine and choose instructional strategies to help struggling students be successful in the regular mathematics classroom.

For more professional learning resources visit [store.mathsolutions.com](http://store.mathsolutions.com).
Strategies for Supporting Fraction Sense

Target Audience: Math Coaches, Teacher Leaders, Teachers
Grades: 3–5
Format: Two Day | Additional Options May Be Available

Course 1 of 2. This two-day course focuses on the priority domain of Number and Operations-Fractions for students in Grades 3–5. The emphasis of the course is on building understanding of fractions as numbers and connections between whole number knowledge and fraction knowledge. The strategies and foundation developed in the course are prerequisites for further work with fraction computation that is developed in Course 2, Making Sense of Fraction Computation.

Making Sense of Fraction Computation

Target Audience: Math Coaches, Teacher Leaders, Teachers
Grades: 3–5
Format: Three Day | Additional Options May Be Available

Course 2 of 2. This three-day course focuses on the priority domain of Numbers and Operations-Fractions for students in Grades 3–5. The emphasis of the course is on building understanding of fraction computation. In this course, participants learn to build on students’ understanding of whole number operations to make sense of fraction computation. Strategies that support the development of fraction operation sense are highlighted.

OUTCOMES

- Articulate the progression of current state standards related to fractions and fraction operations.
- Describe similar ways in which fractions and whole numbers operate.
- Apply properties of operations in fraction computation.
- Characterize teaching strategies for building fraction sense and distinguish the importance of each.
- Implement instructional strategies that engage students in the habits of mathematical thinkers called for in current state standards and build deep understanding of fraction content standards.
- Explain and use the role of talk to support learning of mathematics.

OUTCOMES

- Articulate the progression of current state standards related to fractions and fraction operations.
- Apply properties of operations in fraction computation.
- Characterize teaching strategies for building fraction sense and distinguish the importance of each.
- Implement instructional strategies that engage students in the habits of mathematical thinkers and build deep understanding of fraction content called for in current state standards.
- Use rich tasks, multiple models, representations, and classroom discourse to support learning of mathematics.
Measure Results

From the initial Instructional Needs Assessment to implementation of the Professional Learning Plan, Math Solutions will help you identify areas of success and areas in need of improvement. This analysis and reporting (based on leader, teacher, and student data) helps you understand where you are in meeting your math achievement goals.

### LEARNING ENVIRONMENT
Self-Assessment Survey

<table>
<thead>
<tr>
<th>Area</th>
<th>Not Sure</th>
<th>High Need</th>
<th>Moderate Need</th>
<th>Low Need</th>
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<tbody>
<tr>
<td>1. Math Thinking</td>
<td>36%</td>
<td>21%</td>
<td>25%</td>
<td>14%</td>
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<td>3. Respective Classroom</td>
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<td>29%</td>
<td>21%</td>
<td>7%</td>
<td>14%</td>
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<tr>
<td>4. Implement Math Practices</td>
<td>21%</td>
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<td>6. Use Manipulatives Appropriately</td>
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<td>8. Group by Need</td>
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<td>9. Implement &amp; Monitor Progress</td>
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<td>11. Use Wait Time</td>
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<td>12. Support Students Explaining</td>
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<td>13. Deepen Learning</td>
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<td>14. Plan Your Journey</td>
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### Implementation Support and Follow-Up

- Plan Your Journey
- Build the Foundation
- Deepen Learning
- Monitor Progress
- Your Learning Journey Continues...
Coaching That Drives Instructional Improvement into the Classroom

The **Math Solutions Coaching Model** is designed to deepen teachers’ math content and pedagogical knowledge for immediate implementation in the classroom. Based on your goals, coaches, leaders, and teachers work collaboratively to improve teaching skills and student learning. Our coaches have years of in-classroom teaching and coaching experience. They are experts at helping educators plan for instruction that meets the needs of all students while maintaining the level of rigor required by today’s standards. From the classroom to the district office, our experienced coaches provide sustained support, both in person and virtually, to help you see results and continuous improvement.

Hear how Clayton County, GA, partnered with Math Solutions in a district-wide coaching initiative.

Hear their story at [mathsolutions.com](http://mathsolutions.com).
Our Research-Based Coaching Model

OUR MODEL:
- Analyze student data and set your goals.
- Learn new instructional practices.
- Apply your learning in the classroom.
- Review your progress and reflect on your results.
Blended Coaching
with the HMH Coaching Studio
In person, online, anytime!

HMH coaching is customized to educators’ busy schedules as well as to their learning needs. Our coaches work with teachers in person, virtually via webinars, or in a blended combination of in person and online. The HMH Coaching Studio makes it easy for teachers and coaches to stay connected, share resources, upload and reflect on classroom videos, and make continuing progress on learning goals.

Through the HMH Coaching Studio, teachers have access to:

- **Goal Tracker**: Allows teachers to create and track growth goals personalized to them.

- **Model Lesson Library**: Hundreds of HMH classroom and expert videos of best practices.

- **Collaboration Hub**: Discussion forums, resource-sharing, and video-based reflection to drive collaboration with coach and peers.

- **Video-Powered Coaching**: Allows teachers to upload video of their instruction for their own reflection or to share with their coach and peers.
COACHING SERVICES PROVIDE:

- Model lessons to illustrate instructional techniques
- Support for implementing effective teaching practices
- Differentiation strategies to meet the needs of all students
- Focus on developing and deepening math content knowledge
- Analysis of student work samples to assess learning and determine instructional next steps
- Leadership strategies for innovation and instructional change
- Facilitation of professional learning communities, cadres, and collaborative planning

Coaching Studio is the platform where you’ll continue your progress and stay connected with your HMH coach and your colleagues.
Professional Learning
Publications and Videos
to Support K-12 Teaching and Learning

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New Resources

Math Games for Geometry and Measurement: Games to Support Independent Practice in Math Workshop and More
Jamee Petersen
These twenty-three carefully selected, classroom-tested games can be played successfully by learners on their own or during math workshop. You’ll find all-time favorites like Connect Four and Compare. You’ll also discover games that you’ve likely not encountered before—as well as twists on some of your personal favorites!
304 pages $36.95

It Makes Sense! Number Paths and Number Lines to Build Number Sense
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.
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Welcome to Math Class: A Collection of Marilyn’s Favorite Lessons
Marilyn Burns
Welcome to Math Class features 16 favorite lessons from Marilyn Burns, one of today’s most highly respected mathematics educators. In this specially compiled collection, Marilyn shares lessons that have weathered the test of time and become permanent parts of her teaching repertoire.
224 pages $36.95

Math-Positive Mindsets
Carrie S. Cutler
Let author Carrie Cutler, a college professor and mom of eight, help you out. The easy-to-follow Q&A format in this book tackles more than 100 of the most perplexing questions about helping children with math from preschool to fifth grade.
Math-Positive Mindsets will help you:
• Conquer your math anxiety and flex your math mind
• Assess without stress
• Reflect on what active learning means
• Understand what today’s math classrooms look and sound like
• Figure out fractions (no, really!)
ISBN: 978-1-935099-84-0
344 pages $29.95

Coming Soon!

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$35.95

Good Questions for Math Teaching: Why Ask Them and What to Ask, Grades 5–8, 2nd Edition
$35.95

Good Questions for Math Teaching: Why Ask Them and What to Ask, High School
$35.95

Choose Your Own Math Venture: 33 Teacher Investigations Using Classroom Data to Build Teacher Efficacy and Grow Students as Mathematicians (with video)
ISBN 978-1-935099-91-8
$35.95

How to Assess While You Teach Math, Grades 3–5
ISBN 978-1-935099-60-4
$65.95
Math Workshop: Five Steps to Implementing Guided Math, Learning Stations, Reflection, and More
Jennifer Lempp
Successfully implement the transformational math workshop model of instruction through five accessible, manageable steps:

Step 1: Understand Math Workshop
Step 2: Prepare Your Students for Math Workshop
Step 3: Decide Your Math Workshop Structure
Step 4: Facilitate Your Math Workshop
Step 5: Reflect on and Refine Your Math Workshop

The resource also includes 20 minilessons that support the communication and practice of expectations surrounding the workshop model. The more than 20 online video clips (approximately two hours total) invite you inside K–5 classrooms for a seeing-is-believing look at math workshop in action.

ISBN: 978-1-935099-61-1 Grades K–5 223 pages $74.95

Math Games for Geometry and Measurement: Games to Support Independent Practice in Math Workshop and More
Jamee Petersen
These twenty-three carefully selected, classroom-tested games can be played successfully by learners on their own or during math workshop. You’ll find all-time favorites like Connect Four and Compare. You’ll also discover games that you’ve likely not encountered before—as well as twists on some of your personal favorites!


Math Games for Number and Operations and Algebraic Thinking: Games to Support Independent Practice in Math Workshops and More
Jamee Petersen
This dynamic collection of more than 30 math games supports students’ learning of number in math workshops. Games include reproducibles and are correlated to the Common Core State Standards.

ISBN: 978-1-935099-43-7 Grades K–5 304 pages $36.95

From Reading to Math: How Best Practices in Literacy Can Make You a Better Math Teacher
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.


It Makes Sense! Using Number Paths and Number Lines to Build Number Sense
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.


It Makes Sense! Using Ten-Frames to Build Number Sense
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.

ISBN: 978-1-935099-10-9 Grades K–2 304 pages $36.95

It Makes Sense! Using the Hundreds Chart to Build Number Sense
Melissa Conklin
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.


How to Differentiate Your Math Instruction: Lessons, Ideas, and Videos
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 successful. It features 21 streaming 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.


LEARN MORE ABOUT MATH WORKSHOP:
www.mathsolutions.com/mathworkshop
Welcome to Math Class: A Collection of Marilyn’s Favorite Lessons
See page 79.

The Marilyn Burns Fraction Kit*
See page 69.

Math: Facing an American Phobia
See website for details.

Teaching Arithmetic® Series
See website for details.

The $1.00 Word Riddle Book
See website for details.

Math and Literature
See page 75.

Math By All Means®; Probability
See page 72.

Lessons for Algebraic Thinking®
See page 73.

So You Have to Teach Math? Sound Advice for K–6 Teachers
See page 81.

Writing in Math Class: A Resource for Grades 2–8
See page 75.

50 Problem-Solving Lessons: The Best from 10 Years of Math Solutions Newsletters
See page 79.

Resources by Marilyn Burns

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, small-group, 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 $74.95

For more information about Marilyn Burns’s resources visit mathsolutions.com/marilynburns

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, small-group, and individual investigations. In Part 4, Marilyn responds to questions she has received from teachers over the years.

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Math Talk

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.

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  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**
  Lainie Schuster and Nancy Canavan Anderson
  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, understanding, and proficiency. By asking careful, purposeful questions, teachers create dynamic learning environments, help students make sense of math, and unravel misconceptions.
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- **Math Talk Moves Poster**
  Talk moves are strategies that teachers can use to facilitate whole-class discussions that deepen students’ mathematical understanding. A friendly and fun poster is available. 24 x 36 inches, shrink-wrapped

- **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  $35.95

  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 third edition offers 46 video clips from kindergarten through Grade 6, showing students and teachers engaged in successful classroom discussions.
  Intended for Individual Teacher Use
  ISBN: 978-1-935099-8-26 Grades K–6  448 pages  $76.95

  Nancy Canavan Anderson, Suzanne H. Chapin, and Catherine O’Connor
  Featuring 20 professional sessions and 75 video clips, this facilitator’s guide can be used in conjunction with the above teacher’s guide or separately.
  Intended for Group/Professional Learning Use
  ISBN: 978-1-935099-83-3 Grades K–6  240 pages  $149.95

**Summary Tables of Productive Talk Moves**

- **Revoicing**
  - “So you’re saying that __________.
  - “Do I have that right?”

- **Repeating**
  - “Can you restate or rephrase what ______________ just said?”

- **Reasoning**
  - “Do you agree or disagree, and why?”

- **Adding On**
  - “Would someone like to add on?”

- **Waiting**
  - “Take your time…we’ll wait…”

- **Turn & Talk**
  - “Partner turn and talk or think-pair-share”

- **“Let’s talk about math!”**

---

*Summary Tables of Productive Talk Moves* from Classroom Discussions in Math: A Teacher’s Guide for Using Talk Moves to Support the Common Core and More, Grades K–6 by Suzanne H. Chapin, Catherine O’Connor, and Nancy Canavan Anderson. Copyright © 2013 by Scholastic Inc. All rights reserved. Item # 584882.
Number Talks: Fractions, Decimals, and Percentages
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. The more than 30 video clips give readers the opportunity to access authentic classroom number talks with third-through seventh-grade students.
ISBN: 978-1-935099-75-8
Grades 3–7  448 pages  $76.95

Beyond Invert & Multiply: Making Sense of Fraction Computation
Julie McNamara
This resource builds on the foundational understandings that are described in Beyond Pizzas & Pies 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  $75.95
This resource features more than 30 online video clips filmed in actual classrooms.

Beyond Pizzas & Pies: 10 Essential Strategies for Supporting Fraction Sense, Second Edition
Julie McNamara and Meghan M. Shaughnessy
The focus of this resource 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  $75.95
This resource features more than 30 online video clips filmed in actual classrooms.

The Marilyn Burns Fraction Kit®
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.
ISBN: 978-1-935099-77-7
Grades 3–6
Complete Fraction Kit
Item no. 600215  $52.95
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

It Makes Sense! Using Number Paths and Number Lines to Build Number Sense
Ann Carlyle
See page 65 for description.
Grades K–2    Pages TBD    $36.95

It Makes Sense! Using Ten-Frames to Build Number Sense
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    304 pages    $36.95

It Makes Sense! Using the Hundreds Chart to Build Number Sense
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

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
Melissa Conklin
Grade K    152 pages    $36.95

Grade 1
Chris Confer
Grade 1    160 pages    $36.95

Grade 2
Susan Scharton
Grade 2    200 pages    $36.95
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
Suzanne H. Chapin, Catherine O’Connor, and Nancy Canavan Anderson

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.

Activities for Grades K–2 Classrooms
Vicki Bachman
192 pages $39.95

Activities for Grades 3–5 Classrooms
Chris Confer
ISBN: 978-0-941355-80-3
344 pages $39.95

Activities for Grades 6–8 Classrooms
Ann Lawrence and Charlie Hennessy
ISBN: 978-0-941355-81-0
280 pages $39.95

Sizing Up Measurement Series: Complete Set of 3 Books
ISBN: 978-0-941355-97-1
$101.87

Geometry & Probability

Math By All Means® Series
Each of these resources provides teachers with cohesive, classroom-tested lessons, specially structured so that all students—including those with limited experience as well as those who need a challenge—can successfully perform. Each book is organized into four main areas: “Whole-Class Lessons,” “Menu Activities,” “Assessments,” and “Homework.” Each books includes reproducibles.

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Cheryl Rectanus
The lessons in this book actively involve students in exploring geometric ideas through hands-on investigations with two- and three-dimensional shapes. Students also develop greater proficiency in logic, numbers, and measurement.
ISBN: 978-0-941355-10-0
Grades 3–4 160 pages $33.95

Probability
Marilyn Burns
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ISBN: 978-0-941355-12-4
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Cheryl Rectanus
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It's All Connected: The Power of Representation to Build Algebraic Reasoning
Frances Van Dyke

It's All Connected focuses on the power of representation to build algebraic reasoning, offering a collection of 40 quick lessons (each takes less than 30 minutes). The lessons feature: creative exercises that illustrate key concepts associated with the graphical representation of functions, reproducible pages on which students can record their work (download provided upon purchasing this resource); teaching insights, and more.

ISBN: 978-1-935099-42-0
Middle and High School 208 pages $38.95

Active Algebra: Strategies and Lessons for Successfully Teaching Linear Relationships
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).

Middle and High School 192 pages $38.95

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.

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Leyani von Rotz and Marilyn Burns
ISBN: 978-0-941355-47-6
280 pages $38.95

Grades 3–5
Maryann Wickett, Katharine Kharas, and Marilyn Burns
336 pages $38.95

Grades 6–8
Ann Lawrence and Charlie Hennessy
ISBN: 978-0-941355-49-0
280 pages $38.95

Lessons for Algebraic Thinking Series: Complete Set of 3 Books
ISBN: 978-0-941355-89-6 $96.00
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Item no. 514029
Full list price: $207
Discounted price: $169

Big Talk Bundle
Item no. 514030
Full list price: $357
Discounted price: $299

The Complete Math Talk Bundle
Item no. 514032
Full list price: $462
Discounted price: $389

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.
Item no. 514031
Full list price: $104
Discounted price: $89

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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.
Item no. 514023
Full list price: $3,690
Discounted price: $2,400

Essential K–5 Library
Includes 83 books and resources.
Item no. 514024
Full list price: $3,273
Discounted price: $2,100

Essential 6–12 Library
Includes 26 books and resources.
Item no. 514025
Full list price: $828
Discounted price: $535

*Savings on bundles, libraries, and sets are based on prices of individual titles. The libraries and bundles are available to direct customers only (not available to resellers).
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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.

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Marilyn Burns and Stephanie Sheffield
152 pages $33.95

Grades 2–3
Marilyn Burns and Stephanie Sheffield
ISBN: 978-0-941355-67-4
160 pages $33.95

Grades 4–6 Second Edition
Rusty Bresser
ISBN: 978-0-941355-68-1
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