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A Teacher's
Guide to

Math Workshop

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grades
K-5

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ESSENTIALS



CLASSROOM

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How to Access the Online Resources and Videos

To access the Online Resources for *A Teacher's Guide to Math Workshop*:

1. Go to <http://hein.pub/MathWorkshop-login>.
2. Log in with your username and password. If you do not already have an account with Heinemann, you will need to create an account.
3. On the Welcome page, choose “**Click here to register an Online Resource.**”
4. Register your product by entering the code **MATHWORK** (be sure to read and check the acknowledgment box under the keycode).
5. Once you have registered your product, it will appear alphabetically in your account list under “**My Online Resources.**”

Note: When returning to Heinemann.com to access your previously registered products, simply log in to your Heinemann account and click on “**View my registered Online Resources.**”



About the Online Resources and Videos in This Book

Throughout this book, you'll see thumbnail images of the Online Resources and a downward-pointing arrow icon indicating they are downloadable. Listed below are their names and the page number on which you'll find them.



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- ▲ Online Resource 1.2 Planning Document p. 7
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- ▲ Teacher Spotlight: Jennifer Powers p. 9
- ▲ Teacher Spotlight: Evan Wyman p. 9
- ▲ Teacher Spotlight: Kristen Walsh p. 27
- ▲ Teacher Spotlight: Amanda Lam p. 27
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- ▲ Teacher Interview: Renee Muirhead Chapter 1
- ▲ Teacher Interview: Renee Muirhead Chapter 3
- ▲ Teacher Interview: Renee Muirhead Chapter 4
- ▲ Student Interview: Corvis, kindergartner Chapter 7

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What Is Math Workshop?

CHAPTER

1





Half of our curriculum walks into our classroom when our kids do.

—Emily Style, “Curriculum as Encounter: Selves and Shelves”

Imagine a space where all students are deeply engaged in mathematical thinking and learning. Some students are playing standards-based games in pairs or small groups. A pair of students is tackling a rich mathematics problem together. The teacher is working with a group of four students who are taking a deep dive into estimation skills. The walls display tools for learning such as anchor charts and word walls and artifacts of learning such as student work samples. The spaces around the room reflect organized systems for storing workstation materials and student tool kits. There is a low hum of student discourse, high energy, and a wonderful sense of belonging in the mathematical community. This is math workshop.

A quick glance around the room lets you know that math is important here. We look for beauty, practicality and impracticality, the solvable and the problems that evade us. We cultivate curiosity, perseverance, competence, and confidence. We don't just seek answers; we look for the questions, the thinking, the discoveries. We ask: Why does that work? When does that work? Does that always work? How does that work? We work to identify and build on students' strengths so that students become curious, confident, and competent mathematicians.



Getting to Know Math Workshop

Everything in math workshop revolves around these goals for you and your students:

Cultivate joy in learning.

Teach the mathematician, not just the math.

Make mathematics a time of awe, wonder, and marvel.

Create an environment in which students desire and feel safe to grow.

Utilize research- and evidence-based strategies to promote student learning.

Components of Math Workshop

While the components of math workshop may vary according to students' needs, the elements described below are common to most versions.

Components of Math Workshop

Energizers and Routines

These engaging thinking activities are often open-ended and are used to begin the workshop. (Chapter 4)

Minilesson

This targeted lesson introduces students to the big idea(s) of the day. (Chapter 5)

Guided Math

These small, flexible groups of three to five students meet to explore grade-level standards. (Chapter 6)

Workstations

These data-informed activities allow students to work independently, in pairs, or in small groups and engage in purposeful practice that supports proficiency. (Chapter 7)

Conferring

These conversations with individual students or student pairs allow you to learn more about each student's thinking and provide next steps to support the student's growth. (Chapter 8)

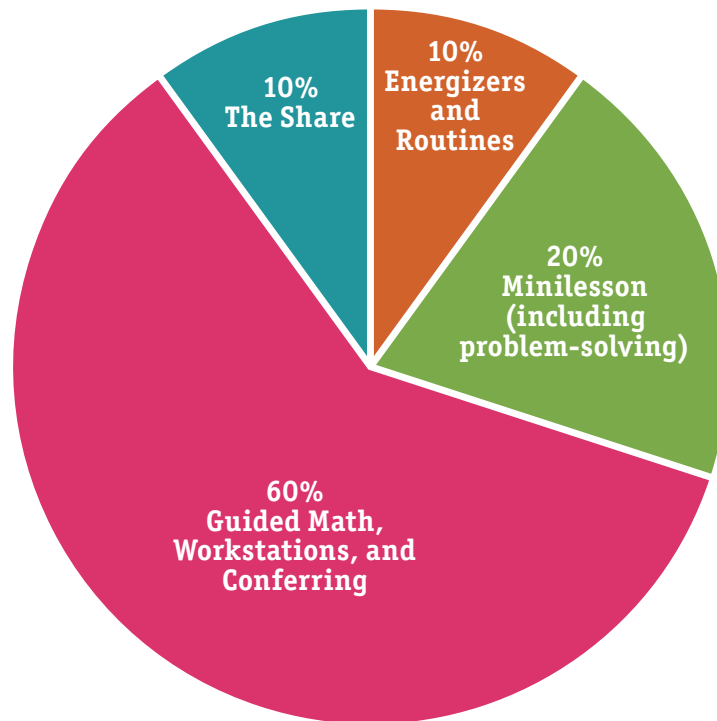
The Share

This time of whole-group reflection allows students to reflect on their progress with the day's learning goals. (Chapter 9)

Allocating Time in Math Workshop

A math workshop can take forty to ninety minutes, though we recommend allocating seventy-five to ninety minutes. The time you'll spend on each component within the workshop will vary. See the figure that follows for an overview of how to allocate time in math workshop.

Math Workshop Overview



RESEARCH NOTE

Ken Wesson (2011) noted that many have argued that a child's attention span is the child's age times two or three minutes. He also noted that in this computer age, increases in attention spans correlate with learning in an engaging, challenging, interactive space where students receive frequent feedback.



Math Workshop Configurations

We should have math workshop every day, just like we teach literacy every day. Even when the school day might be shortened because of the district calendar, a special assembly, or events in the campus schedule, never skip math workshop!

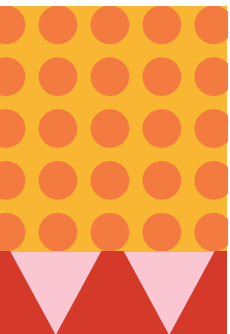
Math workshop is not a rigid structure; however, you will need to choose and implement the configurations that work best for your students. See the figure below for possible math workshop configurations.

Possible Math Workshop Configurations

Monday	Tuesday	Wednesday	Thursday	Friday
Energizer or Routine Whole-Group Lesson The Share	Energizer or Routine Whole-Group Minilesson Guided Math Groups Workstations The Share	Energizer or Routine Guided Math Groups Workstations The Share	Energizer or Routine Whole-Group Minilesson Guided Math Groups Workstations The Share	Energizer or Routine Workstations Conferring The Share

Why Do Math Workshop?

Math workshop is based on theories of active learning and constructivism. Active learning theory states that learning is an active endeavor and that people learn in different ways (Meyers and Jones 1993). One key tenet of constructivism is that learning is social (Dewey 1933, 1938; Piaget 1972; Vygotsky 1978). During math workshop, students are actively involved in the process of learning, working together, and reflecting. The classroom becomes a space for learning that is safe, happy, thriving, productive, and full of joy for all students.



Our Core Beliefs About Math Workshop

Our Beliefs

Math workshop is a place for students to explore big ideas.

Math workshop is a place for students to learn together and cultivate curiosity.

Math workshop is a place for students to ask questions and seek answers.

Math workshop is a place for students to develop their mathematical identities.

Math workshop is a space where all students can and will learn.

Math workshop is focused on developing mathematically proficient students.

Our Actions

We present big ideas in engaging ways and let students explore concepts and skills through problem-solving.

We nurture communities of learners that work collaboratively and support each other in the learning process.

We encourage students to ask questions of themselves, of each other, and of the teacher.

We provide opportunities for students to reflect on their own learning journey, set goals, and grow as mathematicians.

We differentiate the instruction within all of the components of math workshop.

We strategically design each component of math workshop to extend students' learning beyond getting answers.



Books We Love

Chasing Rabbits by Sunil Singh (2021)

Chasing Rabbits is full of play and delight and happiness. The book reminds us that the point of math class is to help students see and feel the beauty and joy of math.

Why We Love This Book

This book inspires us to get kids to muck around with math more and consider the possibilities that open up if we get lost in the magic of math. This is what math class should be about: discoveries, wonder, and surprises.

How This Book Has Changed Our Practice

This book encourages us to create spaces of teaching and learning that are mathematically fulfilling, joyous, and full of marvel and intrigue.



Keys to Success

Have realistic expectations.

Don't expect your math workshop to be perfect. You will likely have a period of trial and error before hitting your stride.

Remember that there isn't one right way.

While math workshop has specific components, it may look different from classroom to classroom, and that's OK.

Don't compare yourself with others.

Comparison has been called the thief of joy.

Stay agile.

If something isn't working, change it! Don't be afraid to try different things and see what works best for you and your students.

One Last Thing

Math workshop is about creating a space where all students can achieve mathematically, see the value of math, and make connections to math in their everyday lives. It is also about teaching students to embrace productive struggle and persevere in their learning.

A note-taking guide and planning document are available for you in the Online Resources.

Notetaker	
Chapter 1: What Is Math Workshop?	
Chapter 2: Setting the Stage	
Chapter 3: Balanced Assessment	
Chapter 4: Energizers and Routines	
Chapter 5: Minilessons	
Chapter 6: Guided Math Groups	
Chapter 7: Workstations	
Chapter 8: Conferencing	
Chapter 9: The Share	

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Online Resource 1.1
Notetaker

Planning Document	
Unit of Study:	
Big Ideas:	Essential Questions:
Daily Lesson Plan	
Energizer or Routine:	
Minilesson:	
Guided Math Groups	
Group 1: Type of Lesson: - Connection: - Teach: - Active Engagement: - Link: Students:	Group 2: Type of Lesson: - Connection: - Teach: - Active Engagement: - Link: Students:
Group 3: Type of Lesson: - Connection: - Teach: - Active Engagement: - Link: Students:	Group 4: Type of Lesson: - Connection: - Teach: - Active Engagement: - Link: Students:
Workstations	
Preview Concepts:	Current Concepts:
Review Concepts:	Problem-Solving:
Fact Fluency:	Other: Place Value
Conferencing	
One-on-One Conferences:	Partner Conferences:
The Share	

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Online Resource 1.2
Planning Document