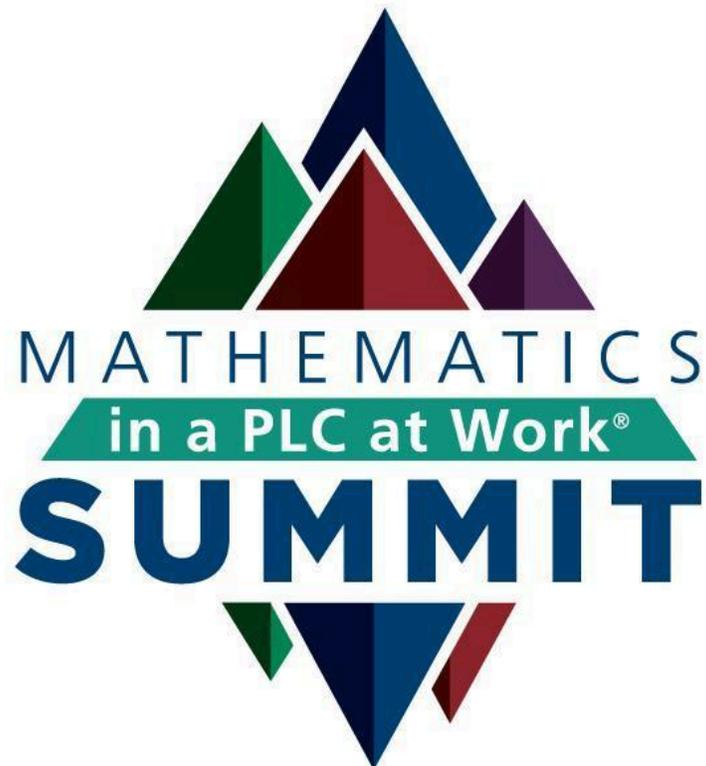


Mathematics in a PLC at Work® Summit

Las Vegas, NV • November 9–11, 2026

Agenda	2
Breakout Sessions at a Glance	4
Key Concepts for Mathematics in a PLC at Work®	5
Day 1 Session Descriptions	8
Day 2 Session Descriptions	13
Day 3 Session Descriptions	18



Agenda

Monday, November 9

7:00–8:00 a.m.	Registration and Continental Breakfast	Rooms TBD
8:00–9:45 a.m.	Keynote —Mona Toncheff <i>Every Team, Every Lesson, Every Day: Teaching and Learning That Matter</i>	
9:45–10:00 a.m.	Break	
10:00–11:30 a.m.	Breakout Sessions	See page 4.
11:30 a.m.–1:00 p.m.	Lunch (on your own)	
1:00–2:30 p.m.	Breakout Sessions	See page 4.
2:30–2:45 p.m.	Break	
2:45–3:45 p.m.	Role-Alike Networking Meeting —Educators meet with others who have similar responsibilities. Come ready to share experiences, discuss practices, and find solutions to student learning issues.	
	Elementary School Facilitators: Jennifer Deinhart and Brian Buckhalter	
	Middle School Facilitators: Georgina Rivera	
	High School Facilitator: Sarah Schuhl	
	Building Administrators and District Leaders Facilitator: Bill Barnes	
	Instructional Coaches and Departmental Chairs Facilitator: Mona Toncheff	

Tuesday, November 10

7:00–8:00 a.m.	Registration and Continental Breakfast	Rooms TBD
8:00–9:45 a.m.	Keynote —Sarah Schuhl <i>From Evidence to Action: Grow Learning With Common Assessments</i>	
9:45–10:00 a.m.	Break	
10:00–11:30 a.m.	Breakout Sessions	See page 4.
11:30 a.m.–1:00 p.m.	Lunch (on your own)	
1:00–2:30 p.m.	Breakout Sessions	See page 4.
2:30–2:45 p.m.	Break	
2:45–3:45 p.m.	Team Time —Presenters aid in your collaborative team discussions.	

Wednesday, November 11

7:00–8:00 a.m.	Continental Breakfast	Rooms TBD
8:00–9:45 a.m.	Working Session —Georgina Rivera and Mona Toncheff <i>Sustaining Systemic Change in Mathematics (PreK–12)</i>	
	Working Session —Bill Barnes and Sarah Schuhl <i>Accelerating Student Learning Through Effective Mathematics Interventions (PreK–12)</i>	
	Working Session —Brian Buckhalter and Jennifer Deinhart <i>Developing Tasks With a Balance of Higher- and Lower-Level Cognitive Demand (PreK–12)</i>	
9:45–10:00 a.m.	Break	
10:00–11:30 a.m.	<p>Closing Session: Celebration and Ignite! The Power of Your Story Join presenters in a celebration of your work and growth!</p> <ul style="list-style-type: none"> • Sarah Schuhl—<i>Don't Hold Back</i> • Georgina Rivera—<i>Dimming</i> • Bill Barnes—<i>Hope</i> • Jennifer Deinhart—<i>Change Agents</i> • Mona Toncheff—<i>Bold</i> • Brian Buckhalter—<i>Farmers</i> 	

Agenda is subject to change.

Breakout Sessions at a Glance

Rooms will be listed in blue beneath titles three weeks before the event.

Presenter	Monday, November 9		Tuesday, November 10	
	10:00–11:30 a.m.	1:00–2:30 p.m.	10:00–11:30 a.m.	1:00–2:30 p.m.
Bill Barnes	Planning for Effective Mathematics Teaching and Learning (6–8) Room TBD	Leveraging High-Quality Mathematical Tasks to Gather Evidence of Student Thinking (6–12) Room TBD	Engaging Students as Learners Through Actionable Formative Feedback (6–12) Room TBD	Solving the Grading-Learning Dilemma: Making Grades Work for Learning (6–12) Room TBD
Brian Buckhalter	Understanding the Standards You Teach: Unpacking Standards for Teaching and Learning (PreK–12) Room TBD	Leveraging Learning Progressions to Accelerate Grade-Level Mathematics (6–12) Room TBD	Strengthening Teacher and Student Learning Through High-Quality Assessments (3–5) Room TBD	Connecting Mathematics Assessments, Feedback, and Action to Forward Student Learning (PreK–5) Room TBD
Jennifer Deinhart	Bridging Conceptual Understanding to Procedural Fluency (PreK–5) Room TBD	Planning for Student Goal Setting and Engagement in Lessons (PreK–5) Room TBD	Collaboratively Defining Proficiency and Monitoring Student Progress (PreK–5) Room TBD	Planning Effective Mathematics Units Designed to Maximize Student Learning (PreK–5) Room TBD
Georgina Rivera	Increasing Student Discourse: How to Build Mathematical Language Routines Into Your Daily Lessons (PreK–5) Room TBD	Building a Community of Math Learners (PreK–5) Room TBD	Assessing Young Mathematicians: Designing Meaningful Assessments for Learning (PreK–2) Room TBD	Using Common Assessments to Drive Instruction: Designing REACTION Days (PreK–8) Room TBD
Sarah Schuhl	Designing Lessons to Engage Students in Learning (9–12) Room TBD	Exploring Instructional Strategies That Deepen Student Learning of Mathematics (PreK–5) Room TBD	Designing Common Mathematics Assessments for Teacher and Student Learning (6–12) Room TBD	Planning Effective Mathematics Units Designed to Maximize Student Learning (6–12) Room TBD
Mona Toncheff	Building a Community of Learners (6–12) Room TBD	Leading Your Mathematics Team: Building Collective Efficacy Through Purposeful Team Leadership (PreK–12) Room TBD	Taking Action With Data: Making the Process Easy, Efficient, and Effective (PreK–12) Room TBD	Increasing Student Investment Through Assessment Practices (6–12) Room TBD

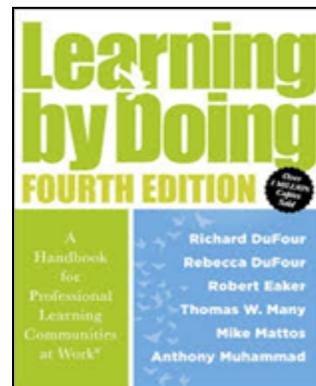
Key Concepts for Mathematics in a PLC at Work®

This page and the next share key PLC at Work and Mathematics at Work concepts. Please use these pages as a handy reference and a way to familiarize yourself with these key ideas.

1. The Four Critical Questions of a PLC

Collaborative teams within schools that function as PLCs focus their work on the four critical questions:

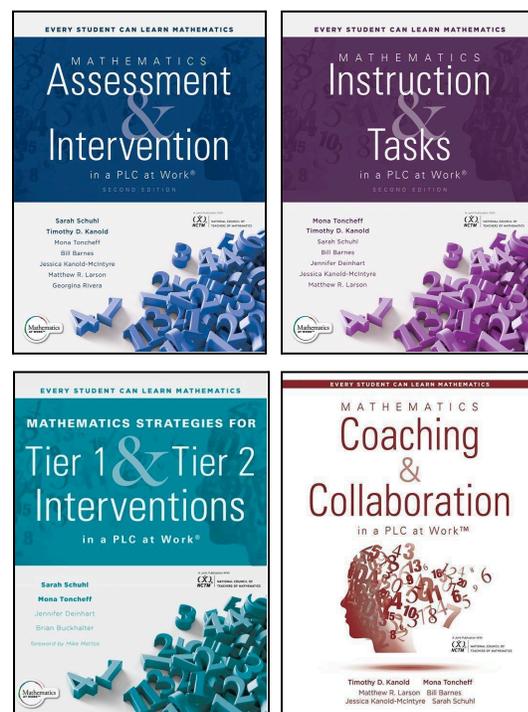
1. What knowledge, skills, and dispositions should every student acquire as a result of this unit, this course, or this grade level?
2. How will we know when each student has acquired the essential knowledge and skills?
3. How will we respond when some students do not learn?
4. How will we extend the learning for students who are already proficient?



The four critical questions are featured in *Learning by Doing: A Handbook for Professional Learning Communities at Work*, 4th ed. (DuFour, R., DuFour, R., Eaker, R., Many, T., Mattos, M., & Muhammad, A., 2024).

2. Mathematics Team and Coaching Actions

Timothy D. Kanold, Sarah Schuhl, Mona Toncheff, and their colleagues have developed a research-affirmed mathematics framework built on five team and two coaching actions for adult collaborative behavior. These actions increase the likelihood of more equitable and successful mathematics learning experiences for PreK–12 students.



- **Team action 1:** Develop high-quality common assessments for the agreed-on essential learning standards.
- **Team action 2:** Use common assessments for formative student learning and intervention.
- **Team action 3:** Develop high-quality mathematics lessons for daily instruction.
- **Team action 4:** Analyze and use effective lesson designs to provide formative feedback and build student perseverance.
- **Team action 5:** Develop and use high-quality common grading components and formative grading routines.

Coaches

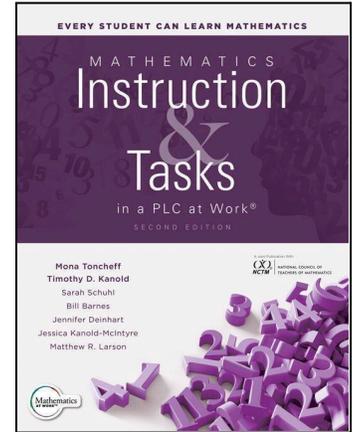
- **Coaching action 1:** Develop PLC structures for effective teacher team engagement, transparency, and action.
- **Coaching action 2:** Use common assessments and lesson-design elements for teacher team reflection, data analysis, and subsequent teacher and student intervention action.

The five team and coaching actions are featured in Solution Tree's *Every Student Can Learn Mathematics* series. The Mathematics in a PLC at Work series includes second editions of *Mathematics Instructions & Tasks* (2024) and *Mathematics Assessment & Intervention* (2024).

3. Six Essential Lesson-Design Elements

In Solution Tree's *Every Student Can Learn Mathematics* series, teachers reflect on current lesson planning and design practice. They examine six essential elements of every mathematics lesson they design and use with students daily.

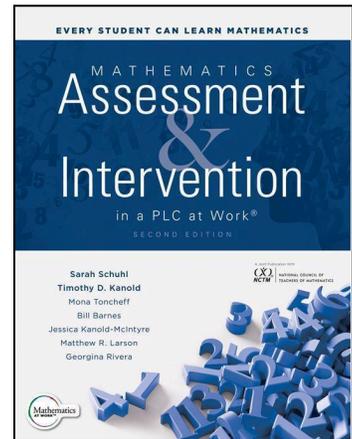
1. Essential learning standards: the *why* of the lesson
2. Prior-knowledge routines
3. Mathematical language routines
4. Lower- and higher-level-cognitive-demand mathematical task balance
5. Mathematical discourse routine balance
6. Lesson closure for evidence of routines



4. Six Essential Assessment-Design Elements

In Solution Tree's *Every Student Can Learn Mathematics* series, teachers examine their current assessment planning, design, and formative process routines. They examine six essential research-affirmed elements for the collaborative and effective use of their ongoing unit assessments.

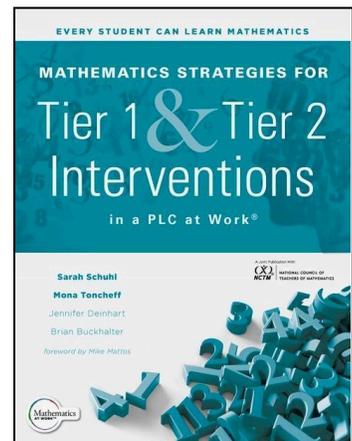
1. Agreed-on essential learning standards for the unit
2. Common high-quality unit assessments
3. Calibration routines
4. Teacher data analysis and action routines
5. Student self-assessment and action routines
6. Team response to student learning using Tier 2 intervention criteria



5. Five Essential Tier 1 and Tier 2 Intervention Elements

In Solution Tree's *Every Student Can Learn Mathematics* series, teachers reflect and strengthen their practices in Tier 1 and Tier 2 interventions as part of their school's multitiered system of support. They explore five research-affirmed elements to collaboratively accelerate student learning to grade or course level and above.

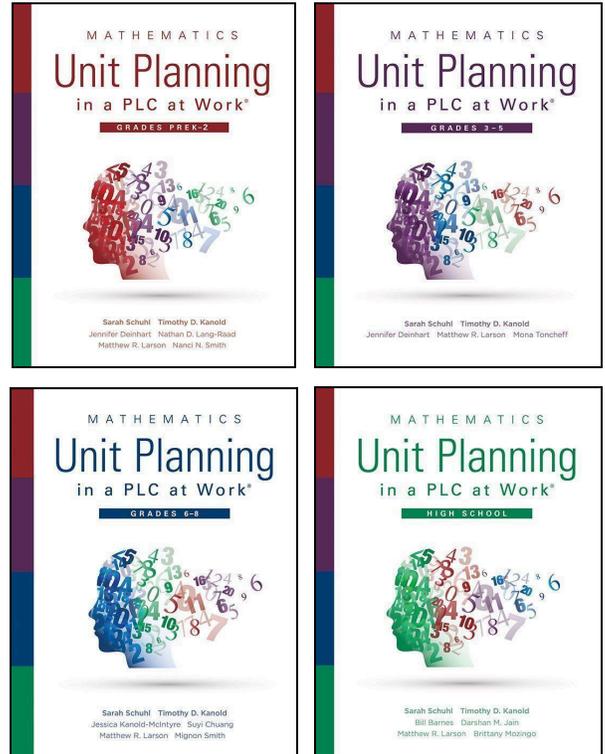
1. High-quality Tier 1 instruction
2. A culture of learning
3. Mathematics foundations
4. Student engagement
5. High-quality Tier 2 interventions



6. Unit Design and Planning

Sarah Schuhl, Timothy D. Kanold, Jennifer Deinhart, Mona Toncheff, Jessica McIntyre, Bill Barnes, and colleagues developed unit planning books specific to grade bands PreK–2, 3–5, 6–8, and high school. Each book in the *Mathematics Unit Planning in a PLC at Work* series highlights the team dialogue and foundational planning needed as a framework when teams address the research-affirmed actions described in the *Every Student Can Learn Mathematics* series. Mathematics teams build a shared understanding and record the following in each unit plan before the unit begins.

1. Generate essential learning standards.
2. Create a unit calendar.
3. Identify prior knowledge.
4. Determine vocabulary and notations.
5. Identify resources and activities.
6. Agree on tools and technology.
7. Record reflections and notes.

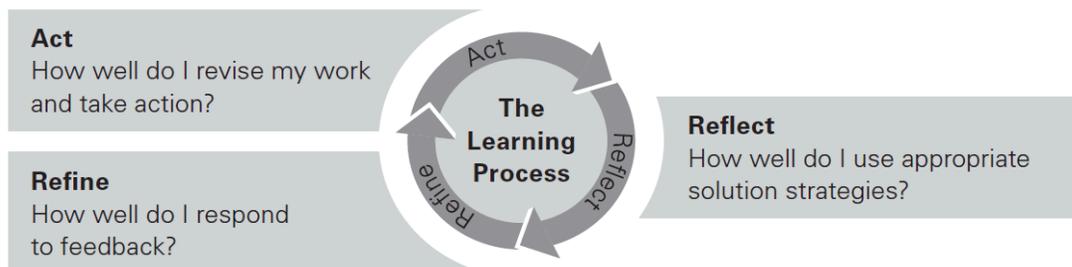


7. Reflect, Refine, and Act Cycle

The *reflect, refine, and act cycle* shows the perspective of Dr. Kanold and his colleagues toward the process of lifelong learning—for teachers and students. The very nature of the profession is about developing skills for learning. Those skills are part of an ongoing process teachers pursue with colleagues.

When teachers embrace mathematics learning as a collaborative *process*, teachers, and students:

- **Reflect**—How well do I make sense of the mathematics task, solve it with a chosen strategy, and determine, “Is this the best solution strategy?”
- **Refine**—How well do I learn mathematics based on feedback about my work, solution pathways, and any possible errors?
- **Act**—How well do I persevere, apply learning from the mathematics task to future tasks, and determine what I have learned that I can use again?



The intent of Solution Tree's *Every Student Can Learn Mathematics* series and the *Mathematics Unit Planning in a PLC at Work* series is to provide educators with a systemic way to structure and facilitate deep team discussions to lead an effective and ongoing adult and student learning process each and every school year.

Session Descriptions—Day 1

KEYNOTE

Mona Toncheff

Every Team, Every Lesson, Every Day: Teaching and Learning That Matter

Great mathematics instruction does not happen by chance; it is the result of collective responsibility, intentional collaboration, and the development of shared vision and beliefs. In this opening keynote, Mona Toncheff launches the Mathematics in a PLC at Work® Summit by grounding participants in the Mathematics at Work Framework and its role in shaping coherent, equitable instruction across PreK–12 classrooms. Participants learn how intentional team collaboration and rigorous lesson design turn the four critical questions of a PLC at Work into actionable teaching practices that strengthen mathematics learning for every student.

MORNING BREAKOUT SESSIONS

Bill Barnes

Planning for Effective Mathematics Teaching and Learning (6–8)

Effective mathematics lessons do not happen by chance; they result from intentional planning that prioritizes student engagement, communication, and perseverance. In this session, Bill Barnes explores how teachers plan for the six elements of lesson design within the Mathematics at Work Instructional Framework to support deeper student learning.

Participants examine how instructional routines, task selection, discourse, multiple representations, and problem solving work together within a lesson to surface student thinking and strengthen understanding. Using classroom-based examples, participants consider how planning for these elements increases coherence during instruction and expands access to rigorous mathematics for all students.

Through guided reflection and collaborative discussion, participants analyze the six elements of lesson design and identify practical ways to strengthen their own instructional planning practices to better meet the needs of middle school mathematics learners.

Brian Buckhalter

Understanding the Standards You Teach: Unpacking Standards for Teaching and Learning (PreK–12)

Effective mathematics instruction begins with a shared, in-depth understanding of the grade-level or course-level standards and the level of rigor each standard requires. When collaborative teams establish this common clarity, they are better positioned to make intentional, informed decisions about daily instruction. During unit planning, teams benefit from unpacking each essential standard by breaking it

into its key concepts, skills, and reasoning demands so that expectations for student learning are clear and consistent across classrooms.

Participants in this session engage in a structured team protocol to unwrap and make sense of their grade-level mathematics essential standards. Participants clarify the expected levels of rigor within their grade-level mathematics standards and develop clear daily learning targets with student-friendly “I can” statements. They examine the content progression of their grade-level standards to better support students who need intervention as well as those ready for extension, and identify exemplar mathematics tasks that reflect the level of reasoning and complexity required.

Jennifer Deinhart

Bridging Conceptual Understanding to Procedural Fluency (PreK–5)

Procedural fluency—skill in carrying out arithmetic and algebraic procedures flexibly, accurately, and efficiently—is a key component of mathematical proficiency. It also reflects the first critical question of a PLC at Work: What do students need to know and be able to do?

Many students fail to develop fluency despite best efforts. Connecting procedures to underlying concepts is essential. In this session, Jennifer Deinhart examines content progressions for multiplication and division that build procedural fluency from conceptual understanding. Teachers and collaborative teams can identify tasks and strategies to aid in this work. Participants also discover common pitfalls to avoid and instead learn routine teaching and progress monitoring practices to employ while supporting students’ learning journey toward mastery and fluency.

Georgina Rivera

Increasing Student Discourse: How to Build Mathematical Language Routines Into Your Daily Lessons (PreK–5)

“The person doing the most talking is doing the most thinking.” All students are mathematical language learners, and intentional language routines are key to amplifying student voice, strengthening vocabulary, and supporting sense making.

In this session, Georgina Rivera engages participants in high-leverage math language routines that can be embedded into daily lessons to support student-led discourse and collaborative problem solving. Through hands-on activities, educators explore how to create consistent opportunities for students to explain their thinking, listen to others, and communicate mathematical ideas by speaking and writing.

Participants gain practical, classroom-ready ideas to increase meaningful mathematical discourse and help students confidently share, refine, and build on mathematical ideas, creating classrooms where every student’s voice matters.

Sarah Schuhl

Designing Lessons to Engage Students in Learning (9-12)

When planning mathematics lessons, what are essential elements to consider to maximize student engagement, communication, and perseverance? In this session, Sarah Schuhl explores how teachers plan for the six elements of lesson design in the Mathematics at Work Instructional Framework to grow student learning. Teachers learn to consider lessons focused on rigorous mathematics and the importance of instructional routines. Sarah shares examples and strategies to deepen student mathematical reasoning and connections through lesson tasks and discourse. Participants reflect on the elements of lesson design and consider how to strengthen their own instructional practices to meet the needs of all high school mathematics students.

Mona Toncheff

Building a Community of Learners (6-12)

How do you build rich and meaningful discussions into your daily lesson design while also creating a classroom where every student feels they belong? How do you transition from 32 (or more) individual students to a community of learners who listen to, support, and learn from one another? How do you intentionally cultivate students' mathematical identity and agency?

In this session, Mona Toncheff examines intentional discourse routines that promote student-to-student interaction and a sense of belonging. Participants explore how structured opportunities for students to listen, build on one another's thinking, and respectfully challenge ideas create classrooms where all voices are valued and students begin to see themselves as mathematicians.

AFTERNOON BREAKOUT SESSIONS

Bill Barnes

Leveraging High-Quality Mathematical Tasks to Gather Evidence of Student Thinking (6-12)

Formative assessment is an ongoing process in which teachers intentionally gather and use evidence of student thinking and to inform instruction. In this session, Bill Barnes demonstrates how to design, select, and implement high-quality mathematical tasks that elicit meaningful evidence of learning beyond right or wrong answers.

Participants explore strategies for improving task design and selection while developing a shared understanding of lower- and higher-level cognitive demand. Working collaboratively, participants examine how task implementation, questioning, and feedback influence the depth of student thinking and engagement in mathematical learning.

By examining student responses and refining feedback from both teachers and peers, participants gain practical resources—including common scoring expectations and planning tools—to support collaborative lesson design, consistent implementation, and more effective use of evidence in instructional decision making.

Brian Buckhalter

Leveraging Learning Progressions to Accelerate Grade-Level Mathematics (6–12)

Students come to secondary mathematics classrooms with a wide range of readiness levels, yet all are expected to engage with and master grade-level standards. The decisions teams make directly influence what students have access to learn. To effectively accelerate learning to grade level and beyond, collaborative teams develop a shared understanding of learning progressions that lead to grade-level expectations and clarify the prerequisite knowledge and skills students need along the way. In this session, teams explore how shared clarity on learning progressions aids teachers in making real-time instructional decisions, responding to student thinking, addressing gaps as they surface, and extending learning when students are ready.

Participants analyze the progression of mathematical concepts across grade levels to identify essential prerequisite skills, knowledge, and dispositions needed for grade-level learning. They also explore tasks and routines that accelerate learning by integrating just-in-time support while maintaining a focus on grade-level expectations.

Jennifer Deinhart

Planning for Student Goal Setting and Engagement in Lessons (PreK–5)

Teacher teams strengthen teaching and learning when they engage in collaborative discussions to build a shared understanding of the essential standards students must learn and develop plans to ensure that learning. Working together, teachers determine the equitable and engaging learning experiences students need along a learning progression. Just as importantly, teacher teams invest students in their learning through targeted goal setting and students' ongoing monitoring of their own learning.

Throughout this session, participants learn how to make mathematics accessible to students and utilize differentiation strategies along a progression of learning for essential standards. Explore as a team how to increase student learning by elevating engagement and incorporating student goal setting and action in lessons.

Georgina Rivera

Building a Community of Math Learners (PreK–5)

"Where there is no significant relationship, there is no significant learning." In this session, Georgina Rivera provides practical, classroom-ready strategies for building a strong math learning community while developing students' math identity and agency. Participants experience instructional routines and activities that make student thinking visible, support productive struggle, and promote student-led learning.

Georgina helps educators learn how to create regular opportunities for students to share their mathematical ideas, explain their reasoning, and learn from one another. She also highlights ways to intentionally celebrate student thinking on classroom walls to build confidence, ownership, and a sense of belonging in mathematics.

Participants gain actionable ideas to create a student-centered math classroom where students feel empowered to think, take risks, engage in discourse, and see themselves as capable mathematicians.

Sarah Schuhl

Exploring Instructional Strategies That Deepen Student Learning of Mathematics (PreK–5)

In this session, Sarah Schuhl explores ways to engage students using strategies focused on process standards—the habits of mind students develop to reason and problem solve. How can student content knowledge deepen through inferences, multiple representations, or strategies to solve tasks? Which literacy strategies might also be effective when teaching mathematics? Participants examine strategies to build conceptual understanding of mathematics that can readily be applied to daily lessons.

Mona Toncheff

Leading Your Mathematics Team: Building Collective Efficacy Through Purposeful Team Leadership (PreK–12)

How do teacher leaders effectively lead their mathematics teams to improve learning for both students and teachers? What teacher leader actions help teams stay focused on learning while navigating challenging conversations and competing perspectives? Participants in this session examine the role of the teacher leader in guiding collaborative teams toward shared responsibility for student learning. Mona Toncheff focuses on leading team processes that support equitable practices, collective problem solving, and consistent actions across classrooms.

Participants explore leadership strategies and team protocols that support productive collaboration and honest dialogue. Mona shares practical approaches for leading teams through difficult conversations by using evidence of learning, clear expectations, and shared goals.

Session Descriptions—Day 2

KEYNOTE

Sarah Schuhl

From Evidence to Action: Grow Learning With Common Assessments

How can common assessments motivate and engage every learner? How can they be used for learning and assess the critical thinking required of students learning mathematics? High-quality assessments, when intentionally designed and used, inform both teachers and students about what has been learned and what has not been learned yet. In this session, Sarah Schuhl shares team actions needed to create meaningful assessment processes.

MORNING BREAKOUT SESSIONS

Bill Barnes

Engaging Students as Learners Through Actionable Formative Feedback (6–12)

In *Visible Learning*, John Hattie describes feedback as one of the most powerful influences on student achievement when it is timely, specific, and focused on learning rather than performance. In this session, Bill Barnes explores feedback as a core component of effective formative assessment and addresses its role in helping students understand where they are, where they are going, and how to close the gap.

Participants examine authentic student work to practice crafting meaningful, actionable feedback that moves learning forward. Using structured discussion tools and shared resources, participants collaborate to refine feedback practices that are both efficient for teachers and impactful for students. As feedback quality improves, participants consider how to intentionally involve students in the feedback process, strengthening self-efficacy, ownership, and sustained learning.

Brian Buckhalter

Strengthening Teacher and Student Learning Through High-Quality Assessments (3–5)

High-quality common mathematics assessments provide meaningful evidence for both teachers and students about what has been learned and what is still developing. Participants in this session explore the key elements that strengthen team-created common assessments. They consider how students can be actively involved in the assessment process to promote learning from each assessment experience. Additionally, Brian Buckhalter examines specific elements of thoughtfully designed common assessments that support teams in gauging ongoing learning and promote equity across classrooms.

Participants define different types of assessments and their uses, unpack the components of high-quality assessments, and explore collaborative team instruments and rubrics to create common mid-unit and end-of-unit assessments.

Jennifer Deinhart

Collaboratively Defining Proficiency and Monitoring Student Progress (PreK–5)

In a PLC at Work, educators use common assessment results to answer the last two critical questions of learning: How will we respond when students do not learn? How will we extend the learning for students who demonstrate proficiency?

In this session, Jennifer Deinhart explores meeting structures and data discussion protocols to help teams determine student needs as well as to identify strengths and weaknesses within team practices for instruction. Participants learn to engage as teams in the formative assessment process by gathering evidence of student learning, analyzing student work to gauge level of proficiency, and determining a reengagement plan that targets specific learning needs. Jennifer shares specific strategies for meeting students' needs during core and responsive instruction settings. Educators process how to be reflective and transparent during collaborative time and consider plans of action.

Georgina Rivera

Assessing Young Mathematicians: Designing Meaningful Assessments for Learning (PreK–2)

In the PLC at Work process, collaborative teams use assessments as a central tool to guide instruction. In this session, Georgina Rivera explores how to design and use common formative assessments to support student learning in mathematics. Participants learn how to create assessments aligned to essential learning, written at varying depth of knowledge (DOK) levels, to capture a complete picture of student understanding. Georgina also provides practical tools to examine current assessments and reflect on team practices, ensuring assessments are meaningful, consistent, and focused on learning.

Georgina guides educators through the PLC assessment cycle, including team-based planning, administering, scoring, and analyzing assessments. She emphasizes involving students in the assessment process through goal setting, self-reflection, and actionable feedback to help them take ownership of their learning.

Participants gain concrete strategies to strengthen team-created assessments, identify misconceptions, provide targeted feedback, and design assessments that not only measure learning but also actively promote growth and understanding in every student.

Sarah Schuhl

Designing Common Mathematics Assessments for Teacher and Student Learning (6–12)

High-quality assessments provide evidence to teachers and students about what students have learned and have not yet learned. What are the elements needed to strengthen team-created common assessments? How are students involved in the assessment process so they *learn* from each one? Participants in this session learn how to build common assessments that can be used formatively for continued learning and create equity across classrooms.

Sarah Schuhl demonstrates how collaborative teams create common mid-unit and end-of-unit assessments *before a unit begins* to prepare students for success. She examines student reflection structures, explores ways to use assessments to promote student learning, and provides insights for how teacher teams use assessments to determine next instructional steps.

Mona Toncheff

Taking Action With Data: Making the Process Easy, Efficient, and Effective (PreK–12)

The third big idea of a PLC at Work is to focus on results. Effective mathematics teams view data as a powerful tool for meeting the needs of individual students and for informing and improving the professional practice of the entire team. In this session, Mona Toncheff explores meaningful ways to analyze student thinking and strategies to leverage data for collectively responding to student learning with targeted interventions and extensions.

Participants discover how to increase reliability in the data that teams collect and explore protocols to analyze student data.

AFTERNOON BREAKOUT SESSIONS

Bill Barnes

Solving the Grading-Learning Dilemma: Making Grades Work for Learning (6–12)

Grades are intended to communicate learning, yet in many schools they also reflect compliance, behavior, or effort. When grading practices vary widely from classroom to classroom, students and families receive mixed messages about what success truly means, and inequities can emerge as a result.

Participants in this session examine the purpose of grades and confront the ongoing tension between grading and learning. Together, participants explore how formative and summative practices influence grading decisions, how weighting systems shape student behavior, and how inconsistent approaches can unintentionally advantage or disadvantage students.

Guided by real classroom examples, structured discussion protocols, and student tracking tools, participants reflect on current grading practices, identify strengths and misalignments, and develop practical next steps for improving both individual and collaborative grading processes. Bill Barnes supports participants in rethinking how grades can better promote consistency, clarity, and equity while strengthening formative assessment practices and maintaining a clear focus on student learning.

Brian Buckhalter

Connecting Mathematics Assessments, Feedback, and Action to Forward Student Learning (PreK–5)

High-quality mathematics assessments give teachers and students clear, usable evidence of how well students learned both content standards and mathematical process standards. Through shared assessment practices and purposeful feedback, students are supported in making sense of their thinking, monitoring their progress, identifying meaningful next steps in their learning, and ultimately

taking ownership of their learning. Participants in this session examine how collaborative teams intentionally build reflection and feedback into the assessment process to support learning for all students.

Participants collaboratively connect how assessments, evidence of student thinking, and feedback work together in classrooms. They also examine feedback that prompts student reflection and action as well as tools and strategies that help young learners understand and act on feedback during math learning.

Jennifer Deinhart

Planning Effective Mathematics Units Designed to Maximize Student Learning (PreK–5)

Through the unit planning process, mathematics teams engage in collaborative discussions to build shared understanding of the standards students need to learn and a plan to ensure that learning. Unit planning provides mathematics teams an opportunity to determine the equitable learning experiences students will engage in within a unit and guides the design of effective common assessments processes. Strong foundations are established to guarantee what students will learn across a team. Participants in this session explore the elements of high-quality unit planning—beginning with clear essential learning standards as drivers for common assessments, student learning, and reflection.

Participants learn a process for making sense of the content students must learn and clarifying the pacing within each unit of instruction. Unit planning is an essential part of the collaborative team process. Jennifer Deinhart shares examples, tools, and protocols for effective unit planning that teams can readily use in their schools.

Georgina Rivera

Using Common Assessments to Drive Instruction: Designing REACTion Days (PreK–8)

As part of the PLC process, it is critical for collaborative teams to engage in creating and administering common assessments designed for formative feedback. Once the common assessment has been given, what do you and your teacher team do with the collected data and student work? How do you use student results to design your team’s next steps?

In this session, Georgina Rivera explores how to analyze and sort student work from common assessments to be able to design REACTion days which collectively respond to student learning. Participants examine who can be part of the collective response, what strategies to use, and how to structure a REACTion day in order to ensure all students have mastered the essential learning.

Sarah Schuhl

Planning Effective Mathematics Units Designed to Maximize Student Learning (6–12)

Through the unit planning process, mathematics teams engage in collaborative discussions to build shared understanding of the standards students must learn and a plan to ensure that learning. Unit planning provides mathematics teams an opportunity to determine the equitable learning experiences students will engage in within a unit and guides the design of effective common assessment processes.

Strong foundations are established to guarantee what students will learn across a team. Throughout this session, participants explore the elements of high-quality unit planning—beginning with clear essential learning standards as drivers for common assessments and student learning and reflection.

Participants learn a process for making sense of the content students must learn and clarifying the pacing within each unit of instruction. Unit planning is an essential part of the collaborative team process. Sarah Schuhl shares examples, tools, and protocols for effective unit planning that teams can readily use in their schools.

Mona Toncheff

Increasing Student Investment Through Assessment Practices (6–12)

High quality assessment practices play a critical role in increasing student investment in mathematics learning. When students clearly understand what they are learning, how their thinking is assessed, and how feedback supports next steps, they are more likely to engage, persist, and take ownership of their progress. In this session, Mona Toncheff explores how assessments, evidence of student thinking, and feedback function together as a learning process that empowers rather than evaluates students.

Participants explore team actions that support student investment, including aligning assessments to learning progressions and using feedback structures that promote reflection and action. Mona shares practical tools and strategies that engage students in using feedback to set goals, monitor progress, and deepen their commitment to learning mathematics.

Session Descriptions—Day 3

WORKING SESSIONS

Georgina Rivera and Mona Toncheff

Sustaining Systemic Change in Mathematics (PreK–12)

Urgent calls for reform in mathematics education date back at least four decades. Despite all the reforms, there is still an implementation gap between the recommendations for improvements and the meaningful systemic change needed to ensure high levels of mathematics learning for all. Mathematics leaders and educators must identify, confront, and make long overdue changes to the structures, policies, instructional approaches, and focus on meaningful and relevant mathematics.

In this working session, participants network with mathematics leaders to analyze current systemic structures, identify potential barriers, and determine supports needed to improve a shared vision of equitable mathematics teaching and learning. Participants collectively explore how to build a culture of learning for all, discuss beliefs about mathematics learning, and conduct impactful conversations on how to align practices and policies with the shared vision and productive beliefs.

Bill Barnes and Sarah Schuhl

Accelerating Student Learning Through Effective Mathematics Interventions (PreK–12)

Mathematics collaborative teams work tirelessly to improve student learning. Yet, despite strong instruction, some students continue to struggle. This raises critical questions: Why do gaps persist, and what specific teacher and team actions actually accelerate learning rather than simply remediate it?

In this working session, participants examine how intentional planning within core instruction and targeted interventions can strengthen students' mathematical reasoning and understanding. Participants explore effective strategies for improving both Tier 1 and Tier 2 instruction, with a focus on aligning interventions to grade-level expectations and essential learning targets.

Through structured collaboration and shared examples, participants identify high-impact practices that accelerate student learning to grade level and beyond. Teams gain clearer strategies for using collective expertise, instructional coherence, and timely interventions to ensure higher levels of mathematics learning for every student.

Brian Buckhalter and Jennifer Deinhart

Developing Tasks With a Balance of Higher- and Lower-Level Cognitive Demand (PreK–12)

In this working session, participants create higher-level and lower-level cognitive demand tasks that are grade or course specific by standard and are usually taught in an upcoming unit.

Working in small-group teams, participants develop mathematical tasks or problems with guidance from Brian Buckhalter and Jennifer Deinhart. Participants post the tasks by standard on poster paper as part of a gallery walk, and they can take pictures of the mathematical tasks during the rotation. Brian and Jennifer empower participants from all grade levels or courses to write mathematical tasks they can own for future units of study.

All Presenters

Ignite! The Power of Your Story

In this high-energy, risk-taking format, the Mathematics in a PLC at Work® Summit faculty strives to ignite the *power of story* in your mathematics teaching and leading lives. *There is one caveat.* Each presentation is five minutes, with twenty slides that advance every fifteen seconds, whether the presenter is ready or not! The margin for error is thin. The presentations and titles are as follows:

- Sarah Schuhl—*Don't Hold Back*
- Georgina Rivera—*Dimming*
- Bill Barnes—*Hope*
- Jennifer Deinhart—*Change Agents*
- Mona Toncheff—*Bold*
- Brian Buckhalter—*Farmers*

The audience is the judge and beneficiary of these six distinctive, fast-paced sessions—launching pads for a new chapter in your mathematics teaching and leadership life. Be prepared to clap, cheer, cry, and reflect as you join in the excitement, energy, and compassion of *Ignite!*