



Professional Development Pack: Math

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About this PD Pack: This PD Pack engages with topics related to supporting the learning of students with math difficulties and reflects on ways educator preparation programs (EPPs) can better prepare teachers and leaders to support mathematics instruction within multi-tiered instructional frameworks. It examines pertinent topics related to providing struggling learners, especially students with disabilities, with math instruction that promotes conceptual understanding and procedural fluency.

Math Resources

About: Explore the core reasons why students struggle with mathematics. As you analyze weaknesses in current math instruction, you will gain access to various resources that will propel your math instruction forward.

Guest Speaker: Sarah Powell, Ph.D., University of Texas at Austin

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Resources:

- [Intensive Intervention in Mathematics](#)
 - [Improving Algebra Knowledge in Middle/High School](#)
 - [Assisting Students Struggling with Math](#)
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Overview of MTSS & Mathematics - Best Practices

About: This module includes an overview of multi-tiered system of supports (MTSS) best practices and framework. Learn about instructional best practices across the tiers from an Educator Preparation Program standpoint. Topics include knowledge retention, learning decay, and the importance of using visual representations in math instruction.

Guest Speaker: Paul Riccomini, Ph.D., Penn State University

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Resources:

- [Retrieval Practice - The Science of Learning](#)
- [Integrating Practice Opportunities with Explicit Instruction](#)
- [Assisting Students Struggling with Math](#)
- [From the Laboratory to the classroom: Translating science of learning teachers](#)

MTSS & Mathematics in Action Across NCSI Math States

About: This module provides an overview of MTSS in action across National Center for Systemic Improvement (NCSI) Math Collaborative states. Representatives from Vermont and Utah share how their states incorporate the MTSS framework into their schools and districts.

Guest Speaker(s): Julia Scheier, Vermont Agency of Education
Malia Hite, Ed.D., Utah State Board of Education

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Resources:

- [Utah MTSS Framework](#)
- [Vermont's MTSS Framework](#)
- [Utah: Math for All Students](#)
- [VTmtss Field Guide](#)

Math EBPs & HLPs

About: Learn about math evidence-based practices (EBPs) and high-leverage practices (HLPs). Examine common obstacles for math learners and reflect on how classroom discourse can be an incredible tool for helping students refine their math language and sharpen their conceptual understanding and procedural fluency.

Guest Speaker: Kathleen Pfannenstiel, Ph.D., American Institutes for Research

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Resources:

- [Teaching Children Mathematics - 13 Rules that Expire](#)
- [Innovation Configuration for Math](#)
- [MTSS for Math: Course Enhancement Model](#)
- [Assisting Students Struggling with Math](#)
- [High-Leverage Practices for Students with Disabilities](#)
- [Spark Powerful Math Conversations](#)
- [5 Practices for Orchestrating Productive Math Discussions](#)

Instructional Level Coaching of Math EBPs & HLPs

About: This module shares the current research on the potential coaching has for improving teacher performance and bolstering Professional Development (PD). Learn how to address teachers' resistance points to coaching.

Guest Speaker(s): Jennifer Pierce, Ph.D., American Institutes for Research
Robin Schumacher, Ph.D., Instructional Research Group
Erica Lembke, Ph.D., University of Missouri

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Resources:

- [How Good Coaches Build Alliance with Teachers](#)
- [How to Make the Most of Coaching](#)
- [Measuring the Fidelity of Coaching](#)
- [Effective Coaching Rubric](#)
- [Effective Coaching Brief](#)
- [Effective Coaching Worksheet](#)
- [Completed Sample of Effective Coaching Worksheet](#)
- [Project STAIR - Videos Used for Coaching Math Teachers](#)

Mathematics Assessments through MTSS

About: Learn about progress monitoring and data-based individualization for learners struggling with mathematics. Gain an understanding of how to collect diagnostic data through conducting clinical interviews in order to guide planning of future instruction.

Guest Speaker: Jessica Hunt, Ph.D., North Carolina State University

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Resources:

- [Intensive Intervention in Mathematics](#)
- [Clinical Interviews](#)