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2026 MASE Best Practices Conference
May 13-15, 2026 • Brainerd, Minn

# Creating a Unified System of MTSS-Math:

## *One System. Shared Instruction. Better Outcomes.*

*Rochester Public Schools + CAREI*

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# Welcome!

## settings_suggest

**Real Implementation**

This session is about real system implementation, not just theory

## hub

**System Coherence**

Focus on coherence across all levels of instruction

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# Session Outcomes

visibility

**Describe**

Describe what a coherent MTSS-Math system looks like

school

**Learn**

Learn from Rochester Public School's Implementation

trending_up

**Identify**

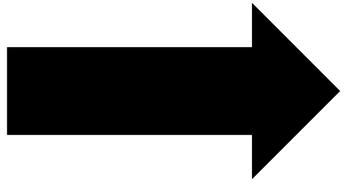
Identify 1-2 immediate moves for your system

# Experience of Students

Different materials

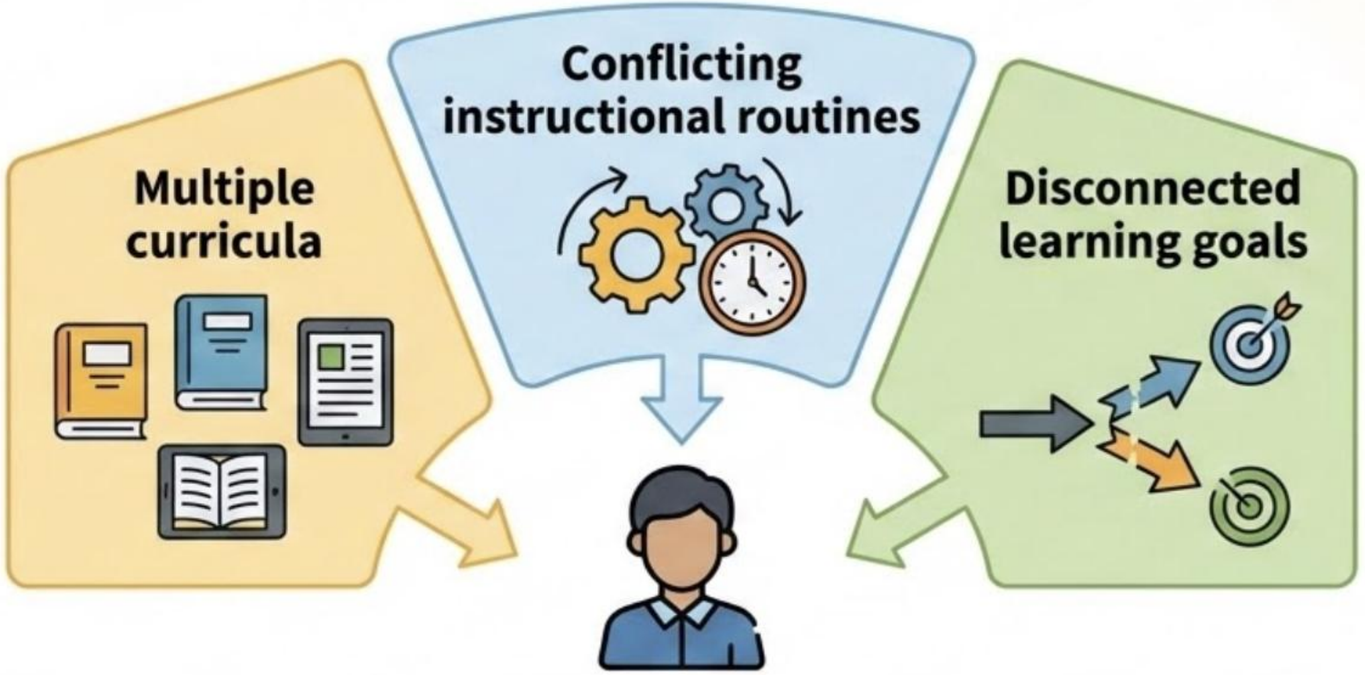
Different strategies

Different vocabulary



Students have to relearn the same math multiple times a day.

**More support does not automatically lead to better outcomes.**



# Why MTSS-Math is Systematically More Complex

- General and special education often operate separately.
- Curriculum, intervention, and assessment are disconnected.
- Staff use different language for similar goals.
- New initiatives/programs lack alignment.

# How Systems Become Fragmented

**Core and intervention programs are selected independently.**

**Scope and sequence varies across tiers.**

**Data systems are not consistently used to inform instruction.**

**Collaboration structures are inconsistent.**

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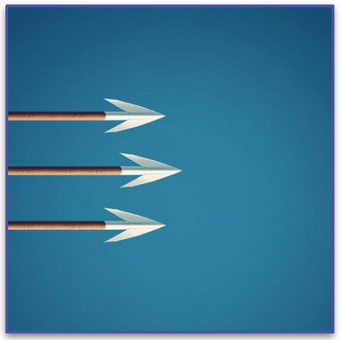
# Turn & Talk

## Where does misalignment show up most in your system?

- Instruction & Intervention
- Scope & Sequence
- Math Assessment & Data Use
- Collaboration

# What is Coherence?



## Shared Direction:

*Shared priorities, goals, and focus*

## Common Practices:

*Shared routines, language, and instructional approaches*

## Cumulative:

*Learning builds across grades, tiers, and time*

# Coherent Does NOT Mean “The Same”

**Students with disabilities require:**

- More explicit instruction
- More practice opportunities
- Smaller groups/more time
- Individualized supports based on data

# Tiers Work Together to Form One System

## Tier 1

High-quality instruction for all students

## Tier 2

Targeted small-group support aligned to Tier 1

## Tier 3

Intensive, individualized instruction for specific learning needs

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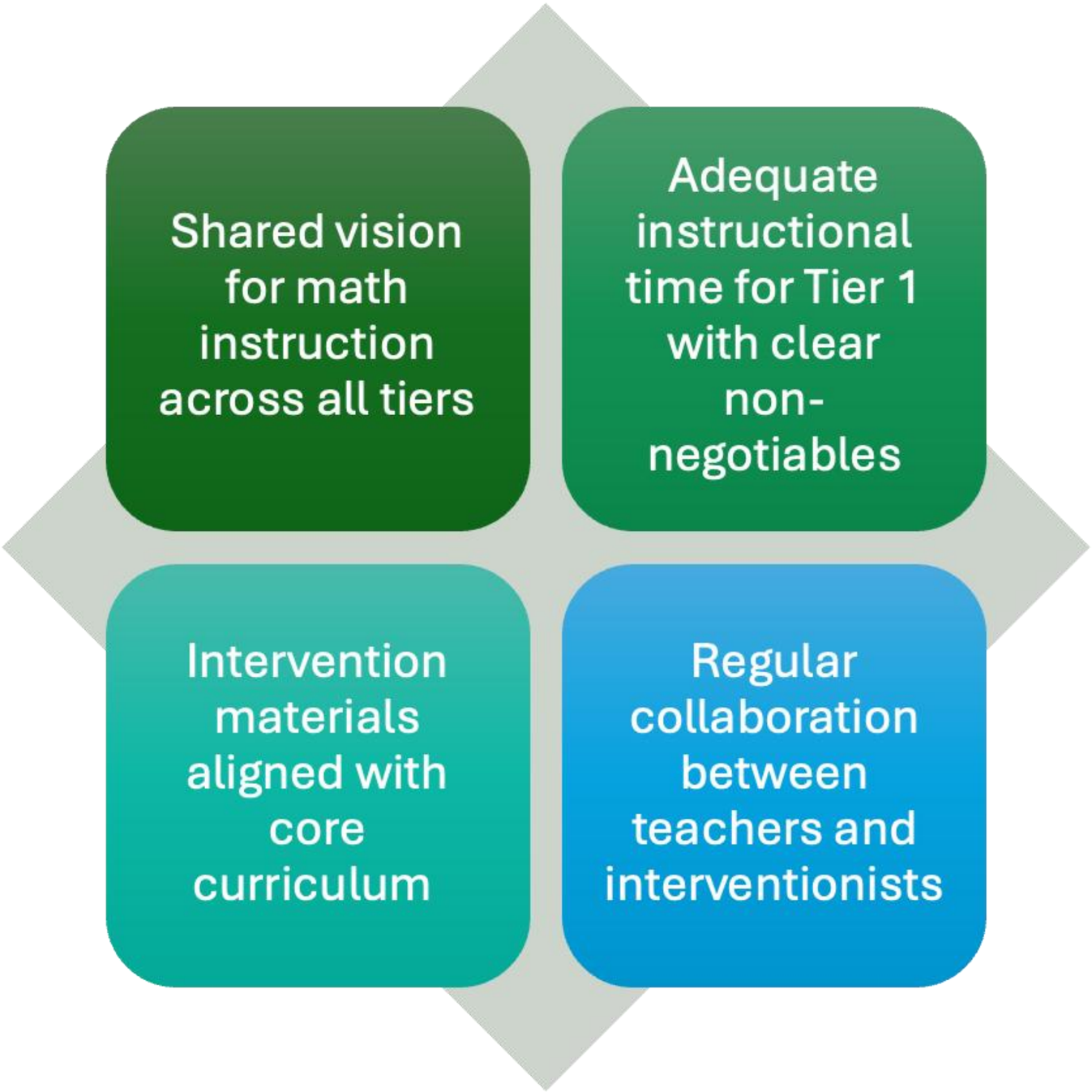
| Fragmented | Coherent |
| --- | --- |
| “Their students” | “Our students” |
| Tier 2/Tier 3 = place | Tier 2/Tier 3 = support |
| Special education separate | Special education integrated |
| Different instructional approaches across tiers | Shared instructional routines across tiers |
| Intervention = different program | Intervention = extension of Tier 1 |
| Special education responsible for struggling students | Shared responsibility across all educators |
| Students experience different math across the day | Students experience one aligned math system |

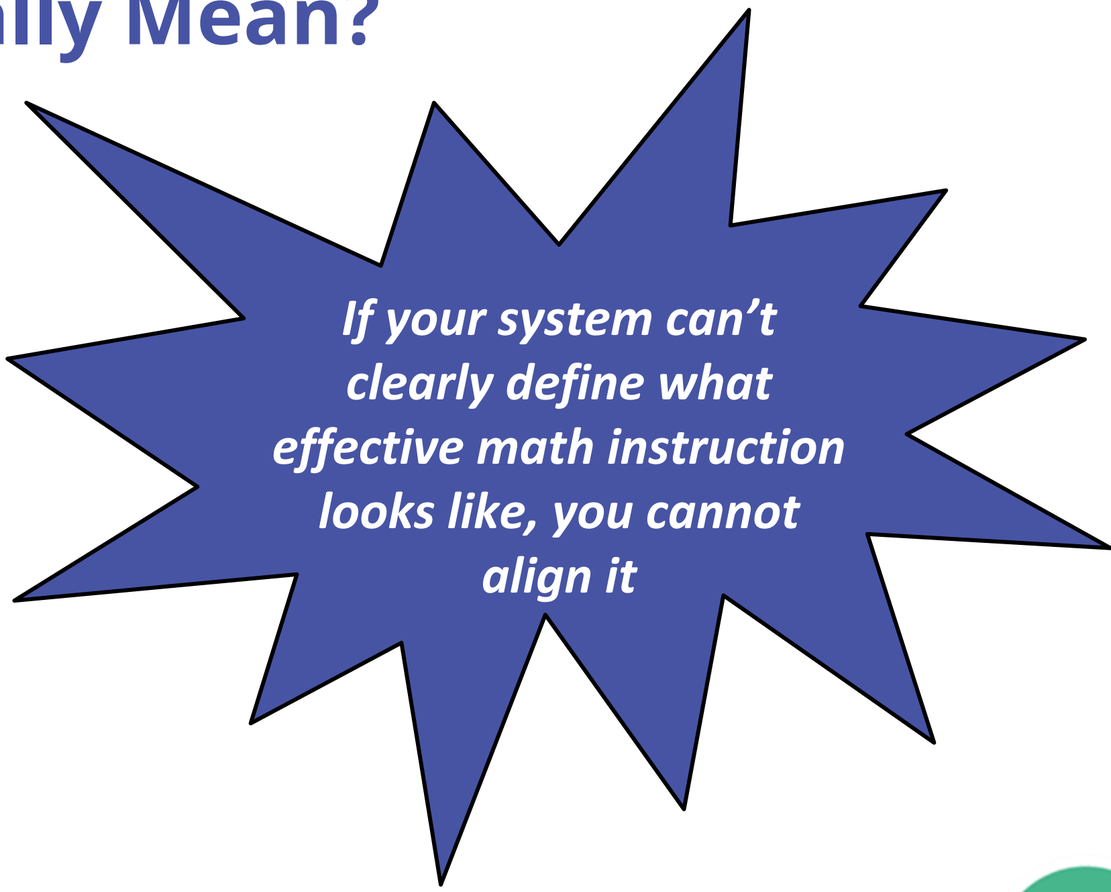
# Coherent Systems Are Essential to Improving Outcomes for Students with Disabilities



# Non-Negotiables of a Coherent System

# What Does a Shared Vision Actually Mean?

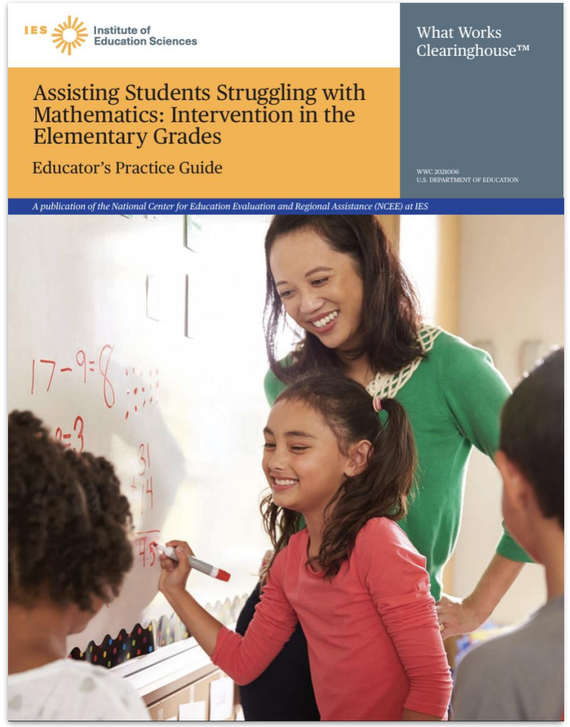
- ★ A common definition of effective math instruction
- ★ Grounded in the learning, instruction and mathematics sciences
- ★ Agreed-upon priorities across Tier 1, 2, and 3
- ★ Visible in classrooms, interventions, and special education



# From Beliefs → Instructional Expectations

**Without non-negotiables, variability becomes the default.**

- Explicit instruction is used for new learning (model → guided practice → independent practice)
- Common representations are used across classrooms and interventions
- Practice is structured, cumulative, and aligned to instructional goals
- Math language is explicitly taught, used, and reinforced across contexts




IES Practice Guides (2013; 2018; 2019)

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# Alignment is More Than Choosing a Curriculum

## layers

**Reinforcement**

Core and intervention materials reinforce the same concepts

## sync

**Structural Alignment**

Scope and sequence align across tiers

## link

**Contextual Connection**

Intervention connects to current Tier 1 learning

## task_alt

**Strategic Unity**

No competing strategies, vocabulary, or representations

# Systems Don’t Align Themselves — People Do

- Regular, protected time for cross-role collaboration
- General and special education problem-solve together
- Data conversations focused on instruction, not placement
- Clear rules for MTSS-Math decision-making
  - Entry/exit criteria
  - Progress/no progress criteria

# When One Non-Negotiable Is Missing

No Shared Vision → Inconsistent Instruction

No Non-Negotiables → Variability

No Alignment → Intervention Disconnect

High

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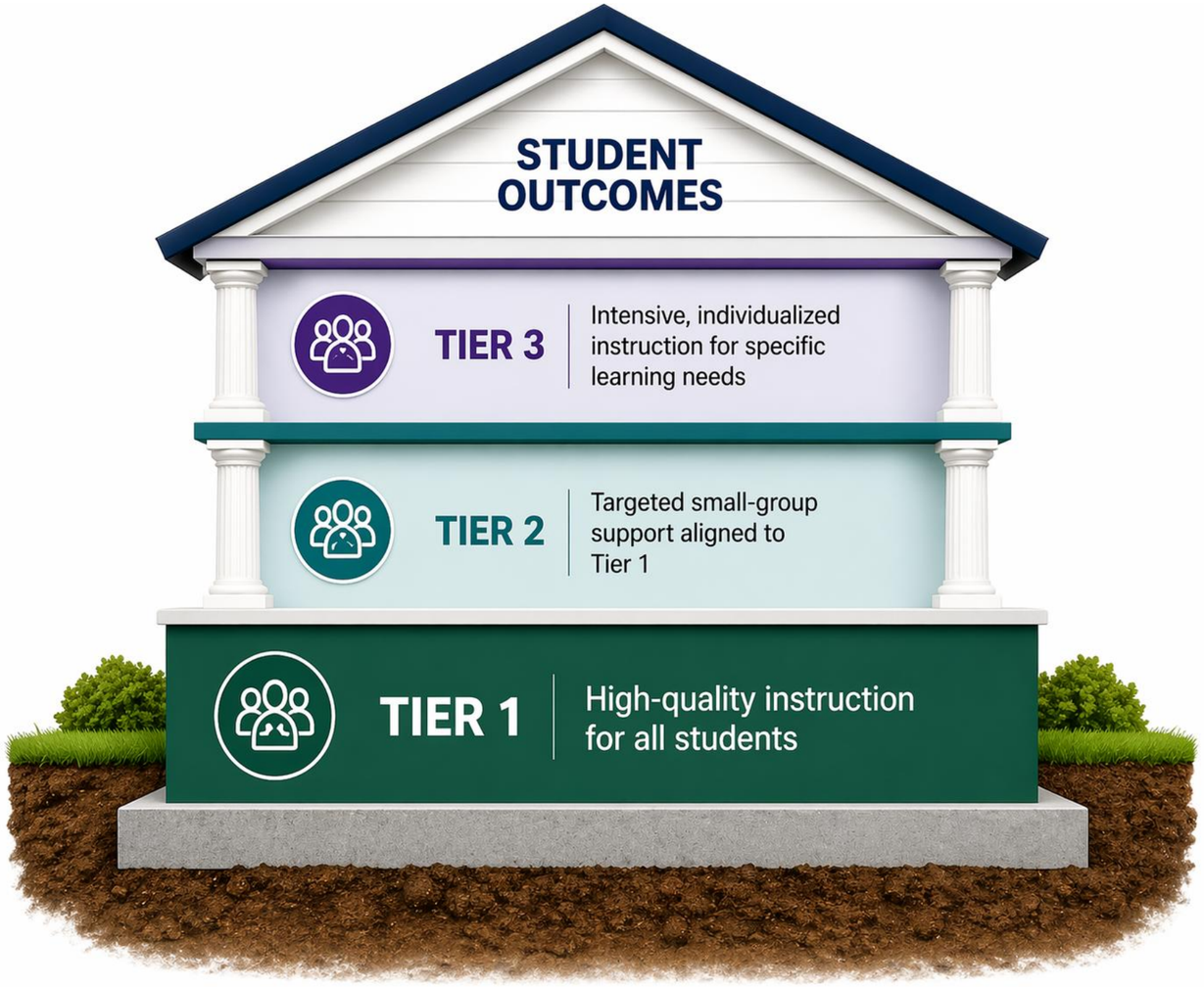
# Turn & Talk

**Where is your system strongest?**

- Shared vision for math instruction
- Non-negotiables for every math classroom
- Alignment across tiers of instruction
- Collaboration across general education/special education

# Strengthening Tier 1 Is a System Move

- Ensure evidence-based instructional routines at Tier 1
- Align instruction across classrooms and roles
- Ensure sufficient time for core instruction
- Use data to improve core — not just identify students



# How to Create Alignment Across Tiers

One Instructional System. Aligned for All Learners.

## INSTRUCTIONAL COHERENCE

*What Must Be Consistent*

### Evidence-based instructional routines

All tiers use the same high-quality routines, with increasing intensity of support.

### Consistent representations & language

Shared models, visuals, and mathematical language are used across all tiers.

### Scope & sequence are aligned

Instruction and supports follow the same progression of learning across tiers.

### Anchored to grade-level standards

All instruction and intervention connect to grade-level expectations.

## ONE INSTRUCTIONAL SYSTEM

**TIER 3 — Intensive Support**

Highest intensity of support, individualized and targeted.

**TIER 2 — Strategic Support**

Targeted small-group instruction aligned to core instruction.

**TIER 1 — Core Instruction**

High-quality, evidence-based instruction for all students.

Increasing Intensity of Support

## LEADERSHIP ACTIONS

*How We Create and Sustain Alignment*

1. **Establish system infrastructure for coherence**
   Build structures, roles, and systems that support alignment across tiers.
2. **Evaluate Tier 1 effectiveness**
   Use data to understand strengths, gaps, and student needs.
3. **Strengthen Tier 1 instruction**
   Ensure high-quality core instruction for every student.
4. **Design Tier 2 and Tier 3 supports aligned to Tier 1**
   Supports intensify the core—they do not replace it.
5. **Use data to maintain alignment and improve the system**
   Monitor, adjust, and refine to ensure continuous alignment and growth.

**Alignment is not accidental—it is designed, monitored, and sustained.**

One system. Shared responsibility. Stronger outcomes for every learner.

# A Coherent MTSS–Math System in Action

***Right Instruction. Right Time. Right Intensity.***

Using evidence-based programs aligned to grade-level standards and increasing in intensity as students demonstrate need.

## ANCHOR: EVIDENCE-BASED PROGRAMS & PRACTICES

All programs in this system are built on strong evidence and the Science of Learning.

**Examples of evidence-based intervention programs at the foundation:**

**Early Numeracy Interventions**
Building foundational number sense in the early years.

**Whole Number Foundations**
Strengthening number sense, place value, and operations.

**Pirate Question**
Developing math reasoning and problem solving through rich tasks.

**Fraction Face-Off**
Building deep understanding of fractions through conceptual games.

**These programs provide the foundational tools that inform instruction across all tiers.**

## A CONTINUUM OF SUPPORT – ONE COHERENT SYSTEM

Intensity of Support →

### TIER 1

Core Instruction
All Students

**JUMP Math®**

A comprehensive K–8 math curriculum that builds conceptual understanding and procedural fluency through a structured, evidence-based approach.

- High-quality, explicit instruction for all students
- Problem solving and number sense embedded daily
- Universal screening and progress monitoring
- Aligned to grade-level standards

### TIER 1.5 / TIER 2

Strategic Support
Some Students

**Spring Math®**

A supplemental program that works hand-in-hand with JUMP Math to address learning gaps and strengthen foundational skills before they become persistent.

- Targets specific skill gaps with structured, focused lessons
- Designed to complement and reinforce JUMP Math
- Progress monitoring to guide instruction and regrouping
- Aligned to grade-level standards

### TIER 3

Intensive Support
Few Students

**NCII**
Data-Based Individualization

Highly individualized, data-driven intervention for students with significant and/or persistent learning needs.

- One-to-one or small group intensive instruction
- Data-based decision making and frequent progress monitoring
- Personalized learning plans that adapt to student needs
- Aligned to grade-level standards

**INCREASING INTENSITY OF SUPPORT BASED ON STUDENT NEED**

**Coherence** ensures students receive the **right instruction** at the **right time** within one connected system.

## WHAT IS COHERENT ACROSS ALL PROGRAMS?

**EVIDENCE-BASED PRACTICES**
All programs are grounded in the Science of Learning and proven to improve math outcomes.

**ALIGNED TO GRADE-LEVEL STANDARDS**
Instruction, interventions, and supports are connected to the same learning goals.

**CONSISTENT LANGUAGE & REPRESENTATIONS**
Shared terminology, models, and visual supports build coherence for students and educators.

**DATA-INFORMED DECISIONS**
Universal screening and ongoing progress monitoring guide movement across the continuum of support.

**SEAMLESS CONNECTIONS**
Each program intentionally connects to the next, ensuring continuity of learning and fewer gaps.

**OUR GOAL: PREVENT LEARNING DIFFICULTIES. INTERVENE EARLY.**
By providing a coherent system of high-quality instruction and targeted support, we help every student build strong math foundations and reach their full potential.

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# Turn & Talk:  Applying the Coherence Model

**Are students experiencing…**

- Evidence-based routines across tiers?
- Consistent representations and math vocabulary?
- Aligned scope and sequence?
- Instruction anchored to grade-level standard?

**Where is the breakdown in your system?**

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# Rochester's Story

- District context
- Key System Moves
- What is Hard
- What is Helping

# What Rochester is Experiencing in Math

- 4 percentage point increase in MCA district-wide from SY 2022 through SY 2025
- Flat growth SY 24 and SY25
- MCA Benchmark reports indicated curricular gaps (system) and instructional gaps (school)
- New standards
- Curriculum Review Cycle
- MTSS - Literacy Focus

| GRADE 3 | District 38.2 | School A | School B | School C | School D | School E | School F | School G | School H | School I | School J | School K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Strand 1: Number and Operation | | | | | | | | | | | |
| **1.1 Compare and represent whole numbers up to 100,000 with an emphasis on and equality** | | | | | | | | | | | | |
| Read, write and represent whole numbers up to 100,000. Representations may include numerals, expressions with operations, words, pictures, number lines, and manipulatives such as bundles of sticks and base 10 blocks. | Less Than Meets | Similar To Meets | Less Than Meets | Less Than Meets | Similar To Meets | Less Than Meets | Less Than Meets | Less Than Meets | Less Than Meets | Similar To Meets | Similar To Meets | Greater Than Meets |
| Use place value to describe whole numbers between 1000 and 100,000 in terms of ten thousands, thousands, hundreds, tens and ones.<br>For example: Writing 54,873 is a shorter way of writing the following sums: 5 ten thousands + 4 thousands + 8 hundreds + 7 tens + 3 ones 54 thousands + 8 hundreds + 7 tens + 3 ones. | Similar To Meets | Similar To Meets | Similar To Meets | Greater Than Meets | Greater Than Meets | Similar To Meets | Less Than Meets | Similar To Meets | Less Than Meets | Greater Than Meets | Greater Than Meets | Similar To Meets |
| Find 10,000 more or 10,000 less than a given five-digit number. Find 1000 more or 1000 less than a given four- or five-digit | Similar To Meets | Greater Than Meets | Greater Than Meets | Greater Than Meets | Greater Than Meets | Similar To Meets | Less Than Meets | Similar To Meets | Similar To Meets | Greater Than Meets | Similar To Meets | Similar To Meets |
| Round numbers to the nearest 10,000, 1000, 100 and 10. Round up and round down to estimate sums and differences.<br>For example: 8726 rounded to the nearest 1000 is 9000, rounded to the nearest 100 is 8700, and rounded to the nearest 10 is 8730. Another example: 473 – 291 is between 400 – 300 and 500 – 200, or between 100 and 300. | Greater Than Meets | Greater Than Meets | Greater Than Meets | Greater Than Meets | Greater Than Meets | Similar To Meets | Similar To Meets | Similar To Meets | Greater Than Meets | Greater Than Meets | Greater Than Meets | Greater Than Meets |
| Compare and order whole numbers up to 100,000. | Less Than Meets | Similar To Meets | Less Than Meets | Less Than Meets | Less Than Meets | Less Than Meets | Less Than Meets | Less Than Meets | Less Than Meets | Similar To Meets | Similar To Meets | Greater Than Meets |
| **1.2 Add and subtract multi-digit whole numbers; represent multiplication and various ways; solve real-world and mathematical problems using arithmetic.** | | | | | | | | | | | | |
| Add and subtract multi-digit numbers, using efficient and generalizable procedures based on knowledge of place value, including standard algorithms. | Similar To Meets | Similar To Meets | Similar To Meets | Similar To Meets | Similar To Meets | Less Than Meets | Less Than Meets | Similar To Meets | Less Than Meets | Similar To Meets | Similar To Meets | Greater Than Meets |
| Use addition and subtraction to solve real-world and mathematical problems involving whole numbers. Use various strategies, including the relationship between addition and subtraction, the use of technology, and the context of the problem to assess the reasonableness of results.<br>For example: The calculation 117 – 83 = 34 can be checked by adding 83 and 34. | Similar To Meets | Greater Than Meets | Similar To Meets | Similar To Meets | Similar To Meets | Similar To Meets | Less Than Meets | Similar To Meets | Similar To Meets | Greater Than Meets | Greater Than Meets | Greater Than Meets |
| Represent multiplication facts by using a variety of approaches, such as repeated addition, equal-sized groups, arrays, area models, equal jumps on a number line and skip counting. Represent division facts by using a variety of approaches, such as repeated subtraction, equal sharing and forming equal groups. Recognize the | Greater Than Meets | Greater Than Meets | Greater Than Meets | Similar To Meets | Greater Than Meets | Greater Than Meets | Less Than Meets | Greater Than Meets | Similar To Meets | Greater Than Meets | Greater Than Meets | Greater Than Meets |

# Key Systems Moves Rochester is Making

- SY 25 Adjusted elementary schedules to allow for common intervention time
- Looking at all tiers in curriculum review process
- Adding math to MTSS
- Focusing professional development on instructional practices
  - high quality, aligned curricular materials can’t offset poor instructional practices
- Aligning our PLC processes across the system

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# What is Hard

- Change is hard!
- To impact practice, you need approx 50 hours of learning and coaching
- Administrators and coaches need to prioritize getting into classrooms and giving feedback
- Knowing how to match instruction to the data
- Providing solid professional learning to everyone who needs it

# What is Helping

- The structure of MTSS is already built
- Central office prioritizes walk throughs with principals
  - 150+ classrooms between Nov - Feb
  - Collected data and shared with principals
- Knowing we are looking at aligning our Tiers when beginning the curriculum review cycle

# What Resonates? Or some other connection moment to Rochester's story

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# 3 Leadership Moves

translate

## Create Shared Language

Establish common terminology to ensure clarity and consistency across all levels.

layers

## Align Instruction Across Tiers

Align teaching strategies and resources to provide a unified learning experience at every stage.

hub

## Build Collaboration Structures

Develop formal systems and routines that facilitate teamwork and collective problem-solving.

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# Role of District Leaders

## Define Expectations

- Establish a clear district vision
- Define high-quality instructional standards and expectations
- Communicate priorities consistently and clearly
- Align resources to support district priorities
- Set measurable goals and success indicators

## Align Systems

- Align curriculum, intervention and instructional materials
- Ensure coherent scope and sequence across grade levels
- Align professional learning to needs and goals
- Create systems for feedback and continuous improvement

## Monitor Instruction

- Monitor implementation of curriculum/intervention
- Use multiple measures to assess learning and growth
- Conduct regular instructional walkthroughs
- Review data with teams to identify needs and allocate resources
- Track progress toward goals and adjust as needed

## Support Principals

- Provide clear expectations and role clarity
- Offer coaching and leadership development
- Remove barriers and provide necessary resources
- Hold principals accountable for instructional leadership and student outcomes

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# Turn & Talk

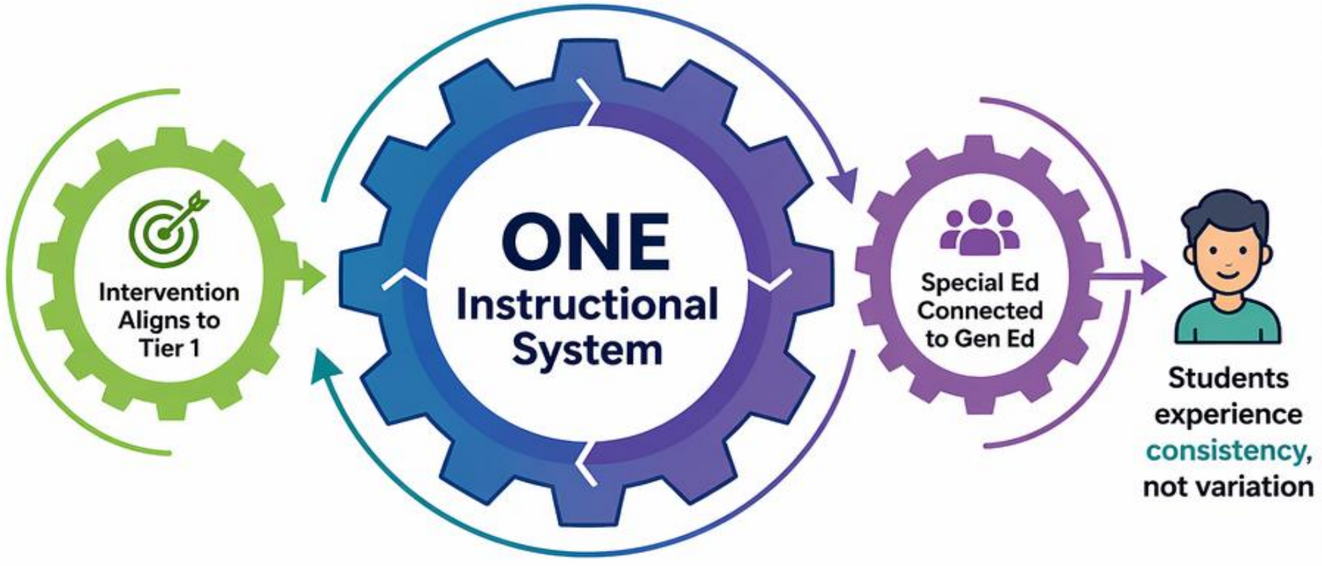
**Which leadership lever needs the most attention?**

- Defining clear instructional expectations
- Aligning curriculum, intervention, and assessment
- Monitoring instructional implementation
- Supporting and developing principals


**First Steps to Build Coherence:**

- ★ Define one non-negotiable instructional expectation
- ★ Audit alignment across Tier 1, 2, and 3
- ★ Identify one area of inconsistency to address
- ★ Create protected collaboration time across roles

# Build ONE Instructional System




## Strengthen Tier 1 to Reduce Downstream Need

- Large intervention numbers are a **system signal**
- Invest in **core instruction**, not just intervention
- **Alignment** across classrooms is a special ed priority

# Use Your Leadership Levers Intentionally

### Define Clear Instructional Expectations

Set and communicate what high-quality instruction looks like.

### Ensure Alignment Across Curriculum, Intervention & Assessment

All parts of the system work together toward the same goals.

### Monitor Implementation – Not Just Outcomes

Look at fidelity, consistency, and student experience.

### Develop and Support Principals as Instructional Leaders

Equip principals to lead instruction and drive system coherence.

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**Every student experiences the system exactly as it is designed.**

**Coherence is not something you can hope for. It's something you lead.**