NEW CLASSROOMS

Promoting Instructional Coherence Through Multi-Tiered Systems of Support in Mathematics

Coherence is the solution

Instructional coherence means that all pieces of a school's instructional program — curriculum, materials, interventions, and assessments — work together to advance the same set of grade-level expectations.

Nearly every state has already built the mechanism with the potential to deliver that coherence. A multi-tiered system of support (MTSS), referred to in some states as response to intervention (RTI), is the structure through which core instruction and additional support are supposed to reinforce one another. In mathematics, that successful reinforcement depends on one further thing: tiered support has to be built around the specific prerequisite skills a student needs to master for the grade-level content just ahead.

How MTSS works, and why it aligns better with early reading

MTSS is a general education framework for academic support. It organizes instruction into tiers: Tier 1 is the core instruction every student receives, Tier 2 adds targeted support for students who need more, and Tier 3 provides intensive intervention for students furthest behind. Universal screening identifies which students need which tier, and progress monitoring governs when they move between them.

The framework is built to answer a question of identification: which students need more support, and how much. It grew out of a process for determining special education eligibility, with a focus on whether a student was responding to instruction rather than what that instruction should contain. That origin is why so many frameworks specify identification and process in detail and say comparatively little about content. In early reading, that approach can be successful. Foundational reading skills follow a known sequence, so once a student is identified, what to teach is largely settled. The support also converges with core instruction, because a student who learns to decode can read the Tier 1 text.

Why the framework is insufficient in mathematics

While this holds in reading, it does not in mathematics. Math is cumulative in a way early reading is not: each new concept rests on specific prior concepts. A gap in vocabulary or background knowledge slows a reader down; a missing prerequisite in math stops a student outright. Which links are missing differs from one student to the next, and which of them matter depends on the grade-level content just ahead.

A tiered structure on its own does not identify which prerequisite skills those are. When that goes unspecified, support tends to begin with the earliest material a student missed and work forward from there. In reading, that path converges with core instruction. In mathematics it does not, because grade-level content moves on while intervention works through material selected without reference to it. A student can receive additional support all year and end the year further from their math class than they started.

Research published by TNTP and New Classrooms found that students in Algebra I who received targeted prerequisite support showed substantially more growth over a year than students who worked straight through grade-level content or who worked through prior-grade material starting from their overall performance level. What distinguished that support was that it addressed the specific skills each student was missing and connected them to current grade-level content. MTSS in mathematics should be designed to give students that instructionally coherent experience.

Tier	What the tier does in reading	What the tier must do differently in mathematics
Tier 1	Core instruction for every student. Foundational-skill support builds toward the same grade-level texts the class is reading.	Core instruction stays grade-level for every student, and tiered support is added to it rather than substituted for it.
Tier 2	Targeted support follows the known sequence of foundational skills, largely the same sequence for every student who needs it.	Support targets the particular prerequisite skills a given student needs for the grade-level content just ahead.
Tier 3	More intensity means more time and smaller groups on the same skills.	More intensity does not indicate what to teach. A student further behind needs a different set of prerequisite skills, not more time on the same ones.

Specification language

A state can specify what its tiered system must do in mathematics without rebuilding the system itself. The specifications below assume diagnostic assessment data precise enough to identify which prerequisite skills an individual student is missing. Without that, none of the rest is actionable.

A state's multi-tiered system of support shall address, with respect to mathematics:

- **Core instruction.** All students receive grade-level core instruction, including students receiving Tier 2 and Tier 3 support, and tiered mathematics support is provided in addition to, not in place of, core mathematics instruction.
- **Intervention content.** Tier 2 and Tier 3 content is selected as the prerequisite skills a student needs for the grade-level content ahead, rather than by working backward from an overall performance level.
- **Assessment.** Assessment practices measure student mastery at the skill level and identify missing prerequisite skills from prior grades.
- **Progress monitoring.** Progress is reported both as mastery of the prerequisite skills targeted and as the student's access to grade-level content.

What states can do

Two questions can tell a state most of what it needs to know: whether its MTSS regulation says anything specific about mathematics, and whether its approved intervention materials support coherence in math. The mechanism will vary. Depending on the state, this may be statute, administrative rule, state board action, or guidance to districts. The substance is consistent:

- **Define** what a tiered system must address in mathematics, distinct from its literacy provisions.
- **Require or incentivize** districts to demonstrate alignment between core mathematics instruction and tiered support.
- **Apply criteria** to evaluation and guidance specific to intervention materials, so that approved programs connect to grade-level content rather than running parallel to it.
- **Align** assessment guidance to the same expectations, so the data districts collect can be acted on across tiers.
- **Fund** the educator supports needed to make instructional decisions at this level of precision.

States are beginning to move



Delaware. House Concurrent Resolution 137 requires the Department of Education to review the state's MTSS framework as it relates to elementary, middle, and high school mathematics and to develop recommendations to strengthen instructional coherence and the alignment of support across all tiers. The review must examine the coherence between Tier 1 core instruction, Tier 2 and Tier 3 interventions, and a comprehensive assessment system that identifies prerequisite gaps from prior grades. Findings are due June 2027.



Illinois. The state's Comprehensive Numeracy Plan urges districts to establish a strong and coherent MTSS framework. This includes using diagnostic assessments that pinpoint specific pre-grade and grade-level skill gaps, in order to guide Tier 2 supports and Tier 3 interventions that address unfinished learning while aligning to Tier 1 instruction, and to identify students ready for accelerated learning. It also specifically reminds districts to not use remedial work in place of instructional rigor.