



New Leaders

ACTIVATE & ACCELERATE MATH

High-Impact Strategies to Jumpstart Math Instruction

Research shows that strong instructional leaders can add up to three months of learning for students—every year. When principals work in tandem with teacher teams to advance best practices, student achievement soars. Here are actions leaders at every level can take to activate and accelerate math.

System Leader Actions

System Leaders create the conditions for the people within the district to learn, collaborate, and make a difference for students. Here are three actions system leaders can take right now to accelerate learning and teaching outcomes across their schools.



Prioritize the use of high-quality instructional materials in every classroom for every student

- Critique current instructional programs using criteria for high-quality instructional materials
- Allocate resources for the adoption of high-quality curricula where needed
- Seek teacher feedback on material selection, adoption and implementation



Support every school leader with implementing a multi-tiered system of support

- Ensure that schools have the resources needed to carry out a tiered intervention system that prioritizes impactful initial instruction
- Provide professional learning related to implementing a successful tiered intervention system



Leverage collaborative planning to develop collective efficacy and provide professional learning opportunities

- Ensure that master schedules include ample opportunities for collaborative planning
- Ensure that system-wide calendars include time for professional learning and collaborative planning

School Leader Actions

At New Leaders, we develop leaders who remove barriers to student success. Here are the three most immediate and effective ways school leaders can increase student achievement:

1

Build the capacity of **teachers** to deliver high-quality instruction

2

Increase the complexity of the **content** being taught

3

Shift **student** engagement from passive to active learning

To Build

Teacher Capacity

Teachers learn best by doing, not by being told what to do. We have identified five actions that effective teachers and teacher teams do to deepen their knowledge and deliver effective math instruction.

Teacher Actions

What This Looks Like In Schools

Engage in collaborative planning

Teachers deliver better instruction when they are supported by a strong network of peers and leaders who dedicate regular time for teacher teams to analyze data and collaboratively plan.

Solve the problems assigned to students

This type of preparation and planning enables teachers to consider multiple ways in which the math problem can be solved and the prior knowledge or skills students need to do so.

Develop a mental model for math excellence

Leaders and teachers must identify and recognize best practices, including rigorous grade-level problems and related strategies, critical thinking skills, classroom discourse, and precision in student work.

Emphasize equity and efficacy

Far too many students think they are not “math people.” Teacher teams need to examine and replace inequitable practices, like tracking and inflexible grouping, so all students can excel in math.

Engage in culturally responsive teaching practices

Teachers and leaders must work together to ensure that math instruction makes meaningful connections between what students learn in school and their cultures, languages, and lived experiences.

To Increase Complexity of Content

Strong curriculum is rigorous, accessible and culturally relevant. Math instruction and instructional materials also need to reflect high-level standards. Here's what to look for in your district, school, or classroom.

Effective Content Is

Accessible, equitable, and culturally relevant

What This Looks Like In Schools

All students must have consistent and daily opportunities to work with rigorous grade-level problems. Math content also needs to be culturally relevant, absent any gender or cultural stereotypes.

Focused and aligned with the major work of the grade

Focus allows teachers to move away from a “mile wide, inch deep” curriculum and spend more instructional time to go deeper into the priority standards.

Linked within and across grades

Coherence asks teachers and students to connect and link learning within and across grades so students can continually build on prior knowledge and make connections to new learning.

Rigorous

Rigor requires equal attention to developing conceptual understanding, procedural skill and fluency, and application to new contexts. To ensure all students are challenged, assessments and feedback are key.

To Shift to Active Student Learning

In order to impact student achievement, teachers and leaders must change the role students play in the classroom. Here are four ways to jumpstart student engagement toward active learning.

Learning Expectations

Learning tasks are rigorous and students are held accountable

What This Looks Like In Schools

When students are given tasks that are worthy of solving, they see themselves as problem solvers. Worksheets that ask them to solve the same problems over and over again only demonstrate rote learning.

Students persevere in the face of initial difficulty

When students are given opportunities to wrestle with mathematical ideas, they deepen their conceptual understanding, apply learning to new contexts, and develop flexibility in using tools and models.

Students go beyond finding the answer

Students who are proficient in math use the math they know to solve problems in everyday life. Teachers need to afford them the opportunities to do so in the classroom.

Students talk and ask questions

Math talk is essential. Students need to ask questions, clarify, and articulate their ideas. Effective teachers coach students to use precise language and talk through their learning moves.

We have the tools to get you started and the support you need to offset NAEP trends and drive sustainable results. Connect with us to discuss how New Leaders can partner with you in strengthening your instructional leadership practices for immediate and long-term student success.

Contact us at: partnerships@newleaders.org



LOOK-FORS TOOL: MATH INSTRUCTION

Use this tool to look for evidence of meaningful content, effective instructional practices, and active student engagement—and drive improved student learning.

Teacher	Content	Students
LOOK-FORS		
<p>Teachers exhibit strong preparation by setting a meaningful learning target and aligning the lesson to that end.</p> <p>Teachers select or create tasks worthy of students' time, encourage a growth mindset in math, and hold students accountable for their work.</p> <p>Teachers ensure students have voice, choice, and influence in the way they engage in the work of the lesson.</p>	<p>Tasks are focused on the major work of the grade and students are culturally affirmed.</p> <p>Topics are linked within and across grades to continually build on prior knowledge and make connections to new learning.</p> <p>Conceptual understanding, procedural skills and fluency, and application of the content are appropriately balanced and pursued with equal intensity.</p>	<p>Students are working with mathematical tasks, daily—building perseverance and increasing comfort in applying math to real world situations.</p> <p>Students employ strategies to assist them in building conceptual understanding, leading to procedural skill and fluency.</p> <p>Students' cultural identities and personal perspectives contribute to meaningful learning experiences.</p>
WHERE TO LOOK		
Lesson plans, collaborative team meetings, classroom observations, student learning tasks, sample task exemplars	Classroom observations, student learning tasks, collaborative team meetings	Classroom observations, classroom discourse, student work, teacher-student communication
EVIDENCE		
NOTES		