

Catalyzing Change in Middle School Mathematics

Catalyzing Change in Middle School Mathematics aspires to accelerate the progress of creating the highest quality experiences for students, their teachers, and their families to ensure that each and every student is well prepared with the mathematical literacy they require and deserve for both their current and future personal and professional lives. Such quality experiences must be equitable, just, and inclusive, and rightfully position each and every student as a human being empowered and inspired by mathematics.

KEY RECOMMENDATIONS

Broaden the Purposes of Learning Mathematics

Each and every student should develop deep mathematical understanding, understand and critique the world through mathematics, and experience the wonder, joy, and beauty of mathematics, which all contribute to a positive mathematical identity.

Create Equitable Structures in Mathematics

Middle school mathematics should dismantle inequitable structures, including tracking teachers as well as the practice of ability grouping and tracking students into qualitatively different courses.

Implement Equitable Mathematics Instruction

Mathematics instruction should be consistent with research-informed and equitable teaching practices that foster students' positive mathematical identities and strong sense of agency.

Develop Deep Mathematical Understanding

Middle schools should offer a common shared pathway grounded in the use of mathematical practices and processes to coherently develop deep mathematical understanding, ensuring the highest quality mathematics education for each and every student.

Why We Need to Catalyze Change in Middle School Mathematics

- ▶ The evidence is compelling that students who are identified as Black, Latinx, Indigenous, language learners, poor, with disabilities, and other marginalized learners do not have the same access to high-quality mathematics programs as their peers.
- ▶ Structures and traditions in mathematics education are deeply rooted. Those that impede development of student mathematical identity, agency, and mathematical growth must be identified and dismantled. Structures, policies, and practices that encourage positive identity, a strong sense of agency, and mathematical development must be adopted and strengthened.
- ▶ To motivate and engage students in learning mathematics, instructional practices must be examined to systemically support, enhance, and adopt practices that are equitable and provide high-quality learning opportunities.
- ▶ Ensure the mathematical ideas developed, including mathematical practices, processes, and content, support students as they continue their study of mathematics and navigate their lives.
- ▶ Mathematical learning experiences that engage students in rich investigations reinstate mathematics to its rightful position as a magnet to STEM.