METRO NASHVILLE PUBLIC SCHOOLS

{math}^{n} Numeracy

WHERE WE WERE: Conventional mathematics instruction has failed to help many students in urban schools develop desirable forms of mathematical proficiency. A promising alternative, rooted in research, is offered by instruction oriented toward helping students develop a meaningful understanding of mathematical ideas through engagement with challenging mathematical tasks. MNPS has participated in a research project with Vanderbilt University since 2016 to investigate, test, and refine a set of assumptions about how organizational arrangements, social relations, and material resources are used together to enhance the impact of professional development on math teachers' instructional practices, and ultimately, student achievement. Additionally, the Tennessee Department of Education routinely allows districts to adopt new curricula in accordance with Tennessee State Code. The 2022-2023 school year was the adoption year for math curricula, and MNPS used this opportunity to adopt new curricula for all tiers that aligns with the learnings from research and our core values of providing an excellent education to every student every day. These new materials are being implemented in the fall of 2023 in support of the new State Standards. MNPS believes that implementing a structured – not scripted – curriculum with consistency across the district is the largest lever toward equity. This ensures that students from all zip codes across MNPS are working on and discussing the same high-level tasks and have access to the same expectations for high levels of thinking – all at grade level expectations.

WHERE WE ARE GOING: MNPS implemented its new math curricula at the beginning of the 2023-2024 school year, using a similar framework that we applied to our literacy curricula implementation three years prior. The MNPS math classroom holds cognitively demanding tasks at the center of the student mathematical experience. The use of rich math tasks is how teachers design instructional experiences to support the development of deep conceptual understanding, procedural fluency, and the ability to apply mathematical ideas to real-world situations. Because a cognitively-demanding math task takes time to solve and lends itself to multiple perspectives or strategies, robust use of these tasks creates the context in which students develop and use the learning and innovation skills of collaboration, critical thinking, communication, and creativity.

The integrity of this mathematics implementation is monitored through one of our other Signature Initiatives, *the Leadership Framework.* Through adequate support of our school-building leaders, they have the tools they need to provide routine and meaningful classroom observations; ensure consistent structures that lead to quality instruction, including holding regular MTSS meetings and teacher planning times, among others; and receive coaching and guidance from their supervisors on monitoring this implementation.

MEASURABLE GOALS:

- 50% or more of students will meet or exceed their percentile score between each administration on aMath.
- Increase On Track/Mastered percentages annually for all students, to include increases in proficiency for all subgroups.

AT A GLANCE

- **Challenges:** Many students, year over year, struggle with math skills necessary to be successful in grade level instruction.
- **Opportunities:** Use a system-wide approach to implement a rigorous, instructional-tasks oriented math curriculum that ensures all students in the district are working on and discussing the same high-level tasks and have access to the same expectations for high levels of thinking
- **Outcomes:** Improved numeracy outcomes
- **Partnerships:** Local and regional higher education institutions, local business partners, college and career-focused organizations

INITIATIVE LEADS:

Dr. David Williams, *Executive Officer, Teaching & Learning*

Dr. Mason Bellamy, *Chief of Academics and Schools*