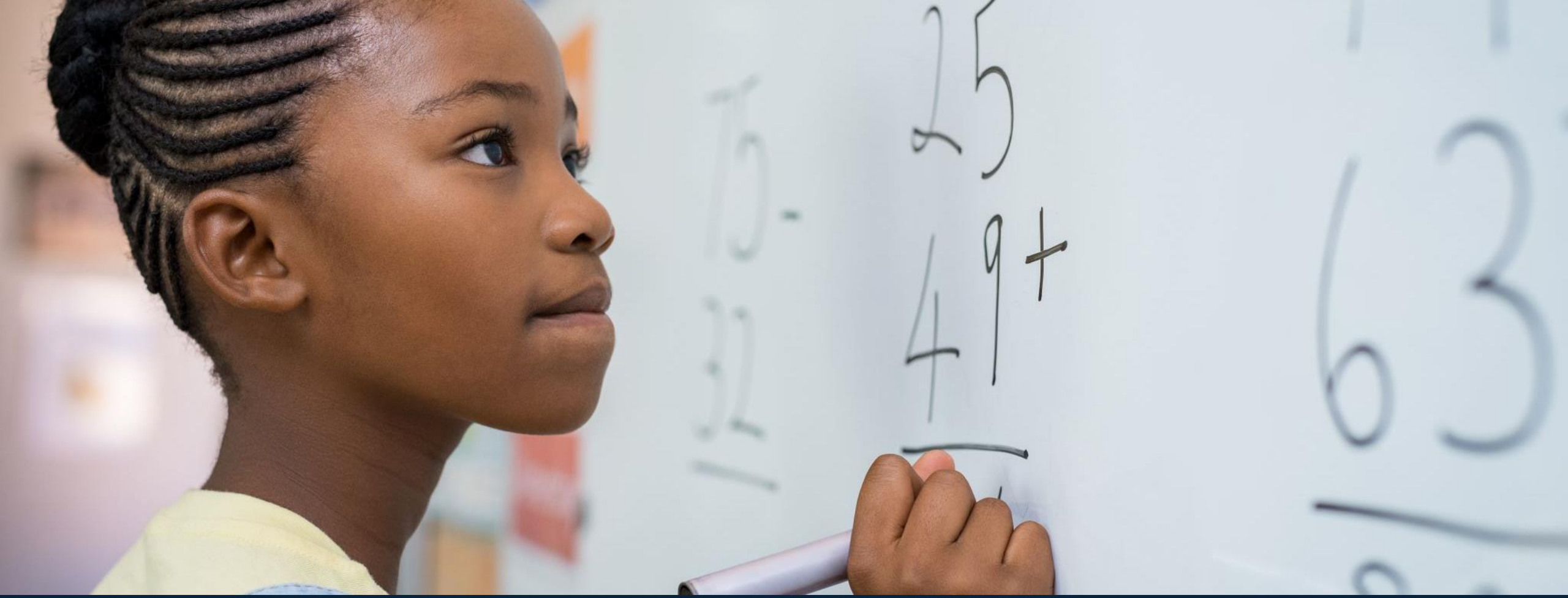


Innovative Mathematics Practices

January 2023 Board of Regents

Next Generation Mathematics Learning Standards

PreK-8

Fall 2022 Instruction implemented

Spring 2023 NYS Grades 3-8 Assessments aligned to NGMLS

Algebra I

Fall 2023 Instruction implemented

June 2024 first administration of Algebra I Exam aligned to NGMLS

Geometry

Fall 2024 Implement Instruction

June 2025 first administration of Geometry Exam aligned to NGMLS

Algebra II

Fall 2025 Implement Instruction

June 2026 first administration of Algebra II Exam aligned to NGMLS

Standards for Mathematical Practice

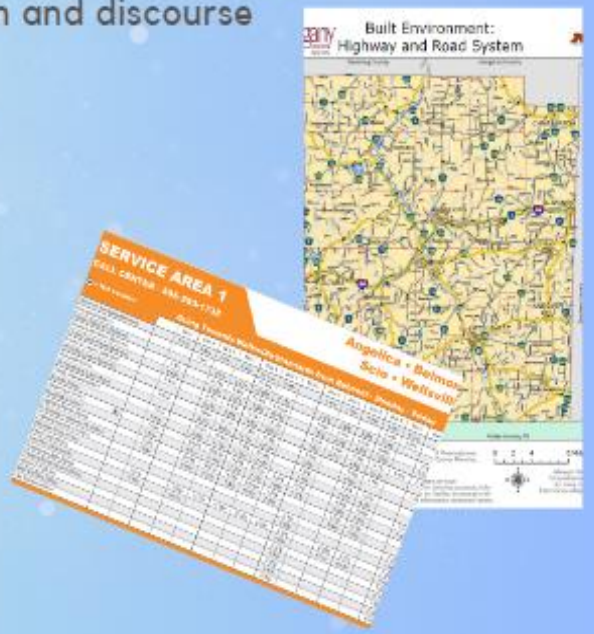
- Make sense of problems and persevere in solving them
- Reason abstractly and quantitatively
- Construct viable arguments and critique the reasoning of others
- Model with mathematics
- Use appropriate tools strategically
- Attend to precision
- Look for and make use of structure
- Look for and express regularity in repeated reasoning

Expanded Math Access Program

- $7.5 million over 5 years
- All NYS students in grades K-5 - FREE
- Statewide Elementary Math Tournament
- Additional funding for Middle School Expansion
- Building foundational fluency through fun!

WHAT DOES REAL LIFE INNOVATION LOOK LIKE IN MATH?

Becoming fluent in Mathematics isn't about speed or complex computations. It's more about understanding context, recognizing relationships, choosing the appropriate tool, being curious, and having respectful conversation and discourse through problem solving.



Jennifer Wolfer

Math Coach for Exceptional Education PK-12

Cattaraugus-Allegany BOCES

GROWTH MINDSET

Did I...

- ☐ set and reach my goals?
- ☐ take risks?
- ☐ ask questions?
- ☐ keep trying?
- ☐ learn from my mistakes?
- ☐ celebrate my growth?
- ☐ embrace the "power of yet"?

ACCESS

Did I...

- ☐ understand the question?
- ☐ use available tools and technology?
- ☐ show and explain my work?
- ☐ try another strategy if I was stuck?

EXPERIENTIAL

Did I...

- ☐ understand how this problem connects to the world around me?
- ☐ consider how I could use this in my life or the future?

MATH TALK

Did I...

- ☐ use accountable talk?
- ☐ actively listen to others?
- ☐ share my thinking?
- ☐ contribute to my group?
- ☐ use math vocabulary while collaborating with others?

Enhancing Student Experiences in Math Through a Shared Vision for Learning

Michael McDonald
Executive Director of Mathematics and Professional Development (PK-12)
YONKERS PUBLIC SCHOOLS

"Students learn math best when they approach the subject as something they enjoy." –Jo Boaler

Math Instructional Vision: Are you G.A.M.E.?

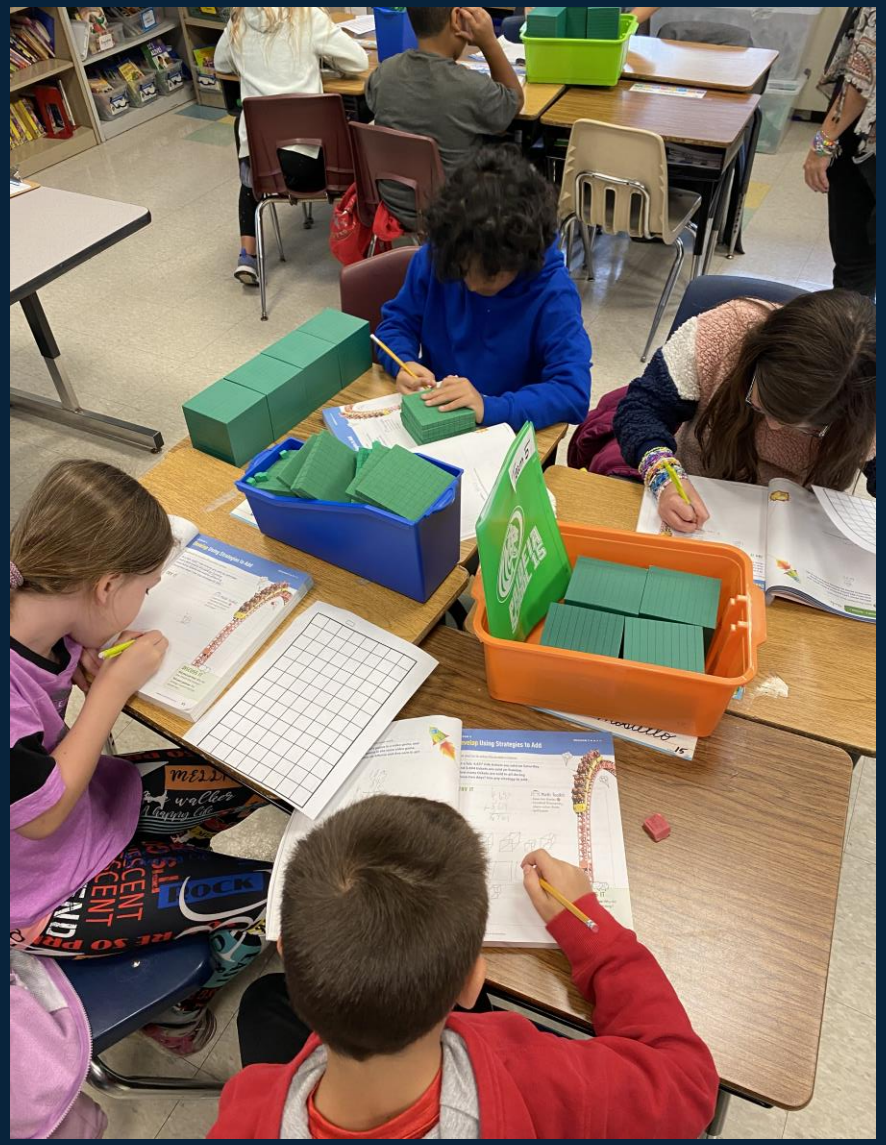
G: Growth Mindset	→Belief that all students can learn math and mistakes are viewed as learning opportunities →Varied student strategies are encouraged, showcased and challenged →SEL opportunities naturally infused in lessons to build positive relationships amongst all classroom stakeholders
A: Access	→Scaffolded tasks with access points for all ability levels →Differentiation and accommodations create equitable access to materials and opportunities for students →Intentional use of technology and math tools to support learning for all
M: Math Talk	→Academic tier 3 vocabulary is used, explained and applied →Students collaborate and ask high-level questions →Accountable talk structures in place for productive dialogue
E: Experiential	→Tasks are relevant and connected to the lives of our students →Real world and community-based problem solving →Interdisciplinary and inquiry-based learning experiences

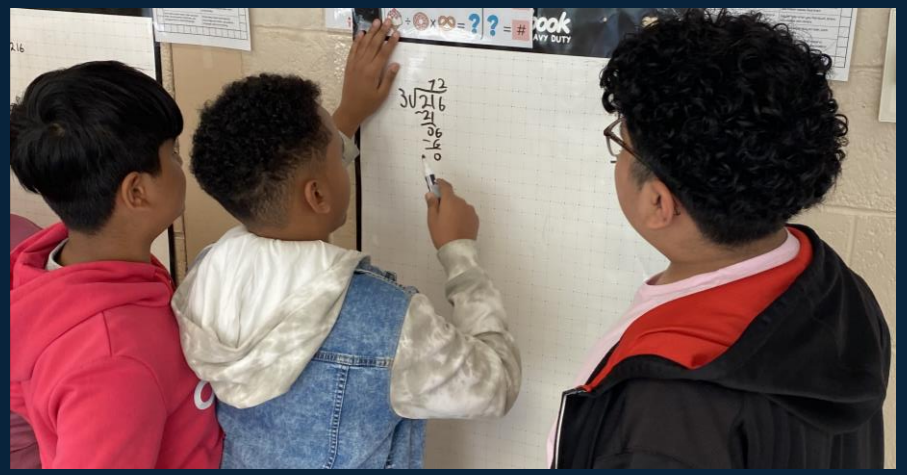
Curricular Materials

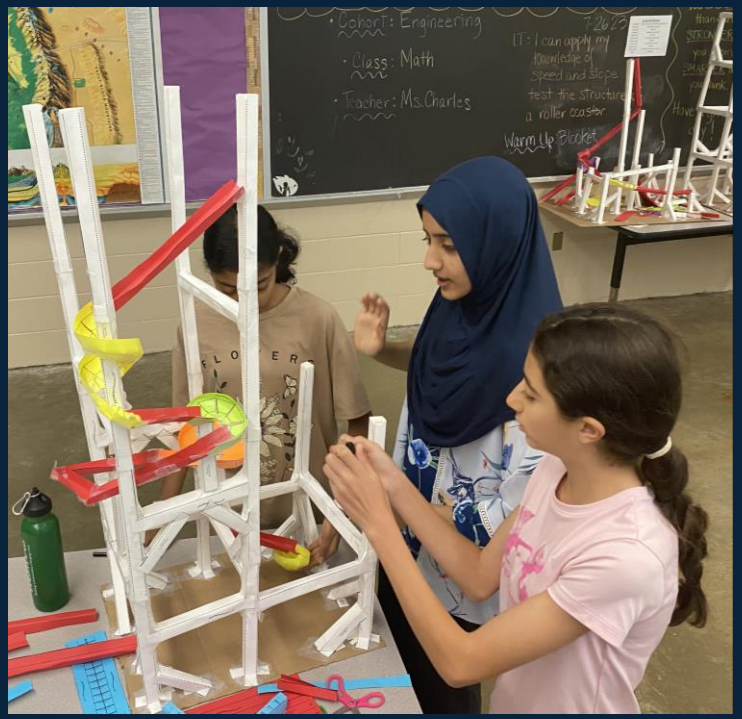
Daily Instruction

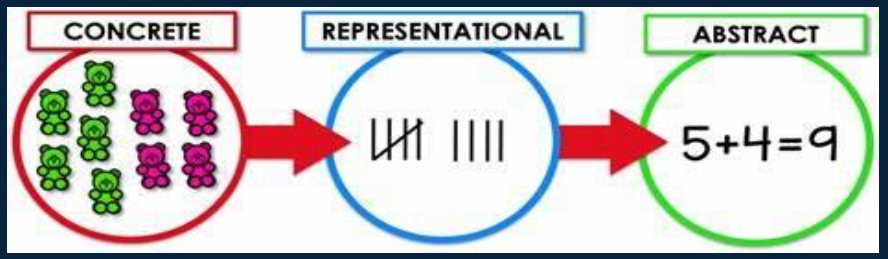
Interview Process

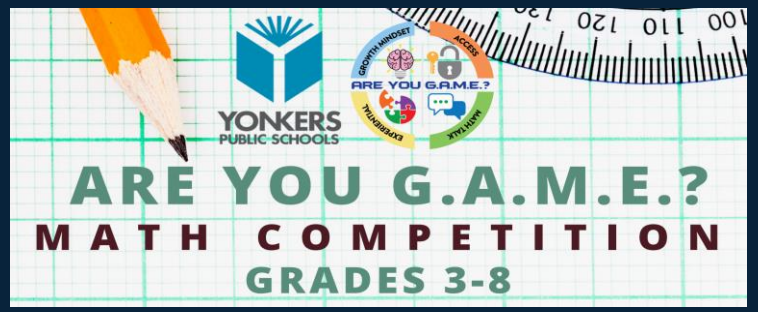
Professional Learning






Cohort: Engineering
Class: Math
Teacher: Ms. Charles
LT: I can apply my knowledge of speed and slope to test the structure of a roller coaster
Warm Up Blooket


CONCRETE
REPRESENTATIONAL
ABSTRACT
5+4=9



YONKERS PUBLIC SCHOOLS

YPS PARENT ACADEMY

ARE YOU G.A.M.E. IN MATH?

YONKERS PUBLIC SCHOOLS

Bank Street Education Center

Goal: To Increase the percentage of Black students, Latinx students, and students experiencing poverty who are on track for success in high school by the end of 8th grade.

Focus: Feedback for Growth in Math

Methodology: Continuous Improvement Data Cycles (PDSA), applying research-based theories of improvement

YONKERS PUBLIC SCHOOLS

"Creating a Foundation for Success:
Innovation, Inspiration, Critical Thinking
and Excellence for All"

Michael McDonald
Executive Director of Mathematics and
Professional Development (PK-12)

mmcdonald@yonkerspublicschools.org
(914) 376-8068

Thank You

Questions?