

Curriculum Update: Mathematics



Susie Da Silva, *Assistant Superintendent for Curriculum*
Linda Johnson, *Elementary Director of Mathematics and Science*
Melissa Labrosciano, *Math Interventionist*
Andrew Byrne, *Assistant Principal, MMS*
Dana Siano, *Curriculum Monitor, 6-8 MMS*
Felicia Bellows, *Curriculum Coordinator, 9-12 DHS*
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Board of Education Goal

Investigate primary resources for K-5 mathematics, implications for 6-8 mathematics and make recommendations.

Provide systematic professional development K-12 in differentiation, in particular in mathematics.

Guiding Questions

Is our elementary primary resource in mathematics fully aligned to the content, coherence and rigor of the Common Core State Standards and Practices (CCSS), with deep and careful attention paid to student thinking and understanding?

How will changes in our primary resource influence the middle school program?

Understanding the Mathematics Framework

- ▣ **Common Core State Standards and Practices**
 - What Students Should Know, Understand and Be Able to Do at the end of each grade-level
- ▣ **Curriculum**
 - The Road Map that sequences the learning to meet (at minimum) the grade-level expectations outlined in the Common Core State Standards and Practices
 - Conceptual Understanding, Computational Fluency, Problem Solving
- ▣ **Resources***
 - The materials or programs that support the implementation of the curriculum

Current Elementary Mathematics Primary Resource

- ❑ TERC Investigations: 2013–present

Supplemented by:

- ❑ Contexts for Learning Math, Cathy Fosnot: 2012–present
- ❑ Dreambox: 2013–present
- ❑ Exemplars– 2014–present
- ❑ Teacher-Created lessons

A Study of Investigations (Second Edition)

Strengths:

- ▣ Rigor
 - Conceptual
 - Understanding
- ▣ Multiple Strategies
- ▣ Games
- ▣ Formative Assessments
- ▣ Inquiry Based

Areas of Need:

- ▣ Rigor
 - Problem Solving
 - Computational fluency
- ▣ Limited Differentiation
- ▣ Digital Resources
- ▣ Summative Assessments
- ▣ CCSS Alignment
 - Coherence
 - Depth

What Are Our Neighbors Using?

School District	Elementary Program	Middle School Program
☒ Westport	☒ Primary Mathematics	CMP3
☒ New Canaan	☒ Investigations 2	CMP3
☒ Easton-Redding	☒ Math in Focus	CMP3
☒ Weston	☒ Math in Focus	Math in Focus
☒ Wilton	☒ Math in Focus	Math in Focus, Glencoe (8)
☒ Ridgefield	☒ Math in Focus	Math in Focus, Big Ideas (8)
☒ Fairfield	☒ Bridges, Other	Big Ideas

Our Process

- ▣ Math Research Team
 - K-8 Teachers and Administrators
- ▣ Awareness Workshops of Resources
 - Investigations 3, Math in Focus, and Bridges
- ▣ Feedback
 - Research Team, Teachers, Administrators and Parents
- ▣ Understand the implications for MMS
- ▣ Make recommendations: K-8

Next Steps

- Research Team will continue to study primary resources through research review, webinars, crosswalk and awareness workshops (2016-2018 school year)
- Pilot units from various primary resources (2017-18)
- Discuss and collect feedback based on what is learned in collaboration with middle school (2017-2018)
- Understand implications/influence on MMS' primary resource set to expire June 2020
- Make recommendations (winter/spring 2018) to include a plan to include MMS

Differentiation in Mathematics, K-12

The methods by which teachers manage a range of learners in a heterogeneous classroom.

All learners are not at the same learning place at the same time. Therefore, differentiation encourages different things happening for different kids at different times.



Systematic Staff Development of DI

- ▣ Content PD: All K-12 teachers of Mathematics/K-8
Special Educators
 - Readiness
 - Learning Profile/Style
 - Interest
- ▣ Planning
 - Darien Planning Template
 - Collaborative designing of DI Lessons
- ▣ Classroom Observations/Study

Take-Aways: *Continuing the Learning*

PLC structure used to plan differentiated lessons

Lesson Planning Template

Common experience/language, K-12

Videotape lessons/debrief- discussions and coaching

Differentiated Structures/Strategies

Analyzing of student work