



Math Curriculum Implementation: Year Two

September 23, 2014

Essential Questions

- ▶ How can we continue to enhance our ability to differentiate to meet the diverse needs of our learners?
- ▶ What additional instructional resources are needed to support our range of learners?
- ▶ How will the Mobile Learning Initiative support year two of implementation?
- ▶ How are the Departments of Curriculum, Student Services, and Technology aligned to monitor and support math learning?

Differentiation

- ▶ Develop grade specific tasks to extend and enrich application of math concepts
- ▶ Enhance emphasis on problem-solving and written explanation of math thinking
- ▶ Review curricular units to provide additional resources to support differentiation
- ▶ Select additional resources targeted to specific learning objectives

Professional Development

- ▶ Enrich strategies for conducting mathematical discourse in the classroom
- ▶ Support development of computational fluency utilizing established learning progressions
- ▶ Conduct ISAT item analysis to review alignment to CCSS and standardized assessments
- ▶ Create crosswalks for core curriculum delivery and RtI needs
- ▶ Utilize vetting process for mobile apps and online resources for purposeful integration into instruction

Assessment

- ▶ Develop and pilot cornerstone assessment tasks
- ▶ Construct student growth rubrics aligned to assessment task goals
- ▶ Utilize *Standards for Mathematical Practice* rubric
- ▶ Support formative assessment development with mobile learning devices
- ▶ Prepare students for the new Partnership Assessment for Readiness for College and Careers (PARCC) format

Challenges

- ▶ Purposeful selection of additional resources targeted to defined learning objectives
- ▶ Developing purposeful alignment across Curriculum, Student Services, and Technology Departments
- ▶ Balancing alignment of curriculum scope and sequence with standardized assessments
- ▶ Balancing consistency and alignment with classroom based creativity, innovation, and professional judgment



Q & A



Executive Memo: Math – Year 2 Implementation

TO: School Board
Trisha Kocanda, *Superintendent*

FROM: Alison Hawley, Director of Curriculum, Instruction & Assessment

September 23, 2014

Essential Questions

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- What additional instructional resources are needed to support our range of learners?
- How will the Mobile Learning Initiative support year two of the implementation?
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Board Request for Resources

- None required at this time.

Reflection of Year One

Curriculum & Instruction

At the conclusion of year one, each grade level conducted a thorough review of the curriculum KUDs over the summer and revised the understandings to enhance the rigor. When appropriate, teams also identified areas that would benefit from supplementation using enrichment tasks to support high-readiness learners. The introduction of the *Standards for Mathematical Practice* incorporated an additional dimension of student math learning. The School Improvement Plans highlighted the following math practices:

- Makes sense of problems
- Perseveres in solving problems

- Reasons abstractly and quantitatively
- Constructs viable arguments
- Critiques the reasoning of others

Data collected through the School Improvement Plan process identified opportunities to further develop students' ability to pose mathematical questions and converse with peers around mathematical concepts. The ability to conduct a productive mathematical dialogue also works in concert with the ability to reason abstractly and visually represent math thinking. The rigor of the Core Standards also pointed to the need to enhance the focus on building computational fluency.

Implementation of Materials

The implementation of Investigations grades K-5 provided a high-level of instructional consistency to support the rigorous expectations of the Common Core State Standards. These resources have provided a common language to enhance teacher collaboration. Understanding that no one set of materials will provide for all learning scenarios, work will continue into year two of the implementation to support the needs of both high-readiness and struggling learners. The special education department expressed a need for conceptually based resources for both parallel instruction for students with Individualized Instructional Plans (IEP) and students in need of math intervention support. A complimentary program to ensure more seamless movement from support services to core instruction is essential for struggling learners.

Assessment

The Standards for Mathematical Practice rubric was a vehicle to support the implementation of new instructional strategies and monitor student growth within the practices. There is opportunity to build on this work in year two by piloting cornerstone assessments to ensure instruction remains anchored in the learning goals while maintaining consistency and alignment.

Implementation of Year Two

Based on reflections from year one of implementation and the objectives previously established for year two, the following priorities have surfaced:

Curriculum and Instruction:

Differentiation continues to be in need of enhancement. Targeted areas within specific units will be identified for supplementary tasks to support high-readiness learners and enhanced problem-solving opportunities. Both print and online resources will be utilized to meet this need.

Computational Fluency training was conducted over the summer and will be incorporated into the School Improvement Plan process for 2014-2015. Teachers developed computational fluency learning progressions that will be utilized for instruction and articulation across grade levels.

The *Standards for Mathematical Practice* rubric will support the development of questioning and visual representation strategies for instructional purposes to further support students with the practices, critiquing the reasoning of others, and reasoning abstractly and quantitatively.

Materials:

Identifying supplementary resources for special education is a priority for K-5 as well as for 6-8. K-5 special education teachers received training utilizing Do the Math, materials that support students in need of math intervention or IEP support that works in tandem with the core curriculum and the Investigations materials. The mobile learning initiative provides us with the opportunity to incorporate online learning resources to support individualized learning.

Click [here](#) to view the material to be presented at the September 23, 2014, School Board meeting.