

Mathematics Pilot Update

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Math Best Practices

The following provides a summary of the five critical features of highly effective mathematics lessons you should expect to be part of your child's daily learning experiences in school.


In an effective K–12 mathematics program:

1. Students develop **conceptual understanding** and **procedural skills**.
2. Students **communicate** with peers about mathematics.
3. Students develop **perseverance** and practice mathematics.
4. Students use teacher and peer **feedback** to learn from mistakes.
5. Students use **technology** to support learning.

If your child experiences these five elements in his or her classroom throughout the year, it is likely that he or she is learning and practicing mathematics at a deep level with understanding, which ultimately leads to successful content mastery and college and career readiness by the time he or she graduates from high school.



To impact student learning what should students/teachers be doing?



Teaching Practices

1. Establish mathematics **goals** to focus learning
2. Implement tasks that promote reasoning & **problem solving**
3. Use & connect mathematical **representations**
4. Facilitate meaningful mathematics **discourse**
5. Pose purposeful **questions**
6. Build procedural fluency from **conceptual understanding**
7. Support **productive struggle** in learning mathematics
8. Elicit & use evidence of **student thinking**

Mathematical Practices*

1. Make sense of problems/**persevere** in solving them
2. **Reason** abstractly & quantitatively
3. Construct viable **arguments & critique** reasoning of others
4. **Model** with mathematics
5. Use appropriate **tools** strategically
6. Attend to **precision**
7. Look for & make use of **structure**
8. Look for and express regularity in repeated reasoning

*What mathematical proficient students do



Why Change?

1. Improve MCA Scores

High School scores flat - 8th grade Algebra key to HS success

2. Increase student learning and engagement

Problem solving tasks - low floor - high ceiling

Collaborative teams - responsible for all learning


Spaced practice - moves learning to long term memory

3. PD required to support shifts in teaching

- a. 8 days of Professional Development (math teachers have asked for PD)
- b. 2 days of site visits (observation) with debriefing




Background - From Intervention to Core

1. **Intermediate Algebra** - taught over 2 years or 2 periods a day with labs - switch to 6 period day, student loss of elective.
 2. **Plan:** use CC3 for the HS Algebra 1 course
 3. **2017: Summer training:** 3 math teachers, HS principal, 1 sped teacher
 4. **17-18** - CC3 used as intervention in Algebra 1 course
 - a. HS - 8th grade students that failed Algebra 1
 - b. MS - used as an intervention for at risk 8th graders
 5. **2018 Summer training:** 11 teachers trained in CPM; CC3 and CCA
 6. **18-19** HS Interventions (CC3 and CCA)
Expanded Pilot in **MS - all Algebra 1 courses (CC3)** no longer as soley intervention
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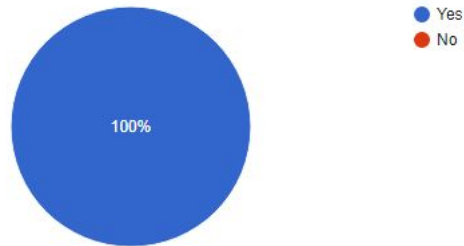
MS Feedback on Pilot

1. Asked teachers/principals if they recommend continuing with CPM next year.
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Middle School Survey

1. I recommend continuing CPM CC3 in Algebra 1 for the school year 2019-2020. (If no, continue to question 2 and if yes continue to question 3)

5 responses



Statements

I have found students to be more engaged, willing to take risks, and learning skills at a deeper level. I attribute this to the fact that students are making meaning of the math from working in teams and talking about math with each other. The homework includes spaced practice, which means that students see skills from the beginning of the year through out the year.

I love the curriculum. My students are engaged and teaching each other. They are talking math. They are doing the mixed practice HW and tests so they remember everything we are doing vs just the chapter we are on. My students have told me how much they like it and would like it to continue into high school.

I think it is a good curriculum. However, I do think it is important to develop a plan for implementation.

*There is additional information I would like to see related to this year.
(principal)*



Student Feedback

Student Feedback on CC3



Possible FAQ

FYI

21-22 **Review**

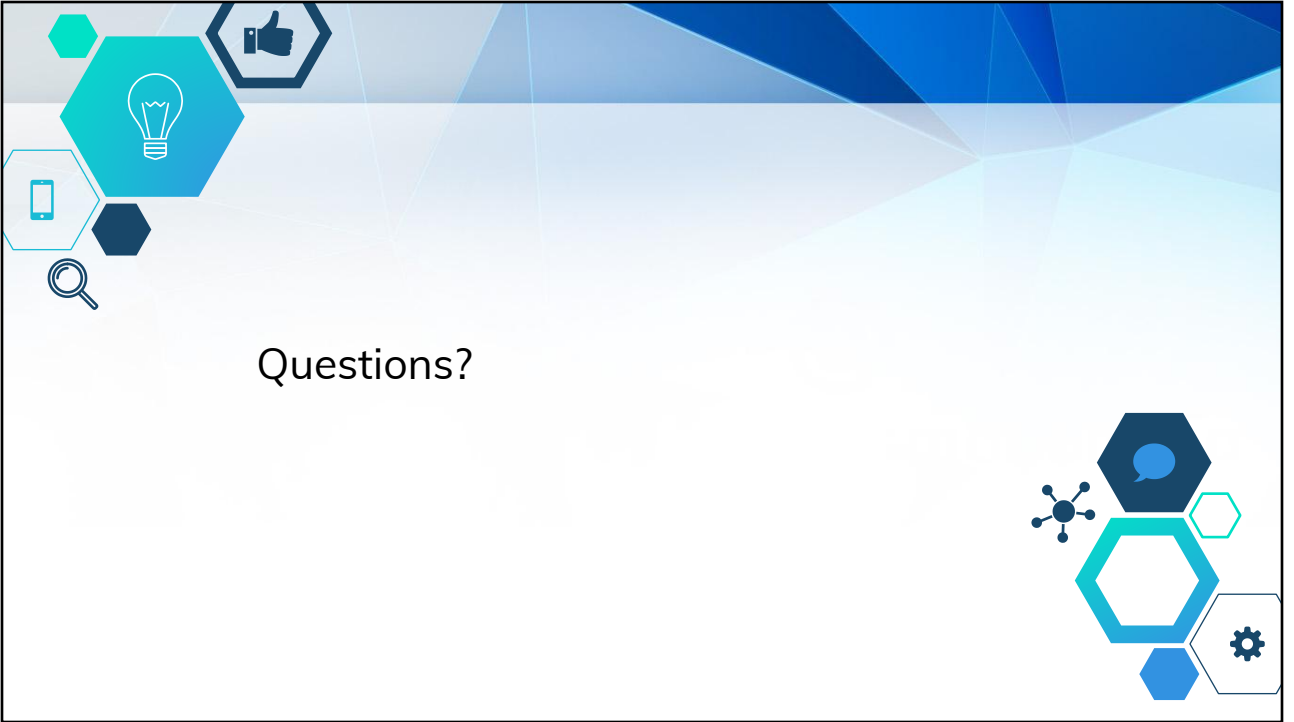
22-23 **Assess; Adapt; Adopt**

23-24 **Implement; Evaluate**

1. Would this eliminate piloting other materials when mathematics is up for review?

A: No - this will not usurp the review cycle





Questions?