OTES 2.0 and Mathematics

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Introductions

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All meetings will follow the suggested norms:

➢ Be respectful
➢ Recognize that everyone has expertise
➢ Assume positive intent
➢ Seek clarification in language and ideas
➢ Share experiences
➢ Use the chat feature when you have a question
➢ Mute your microphone when not speaking

We encourage you to use your camera in the break-out rooms!
Effective Mathematics Teaching Practices

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

1. Make sense of problems and persevere in solving them
2. Reason abstractly and quantitatively
3. Construct viable arguments and critique the reasoning of others
4. Model with mathematics
5. Use appropriate tools strategically
6. Attend to precision
7. Look for and make use of structure
8. Look for and express regularity in repeated reasoning
Effective Mathematics Teaching Practices
“Building a Teaching Framework”

- Establish math goals to focus learning
- Implement tasks that promote reasoning and problem solving
- Build procedural fluency from conceptual understanding

Facilitate meaningful mathematical discourse

- Pose purposeful questions
- Elicit and use evidence of student thinking
- Use and connect mathematical representations
- Support productive struggle in learning mathematics
Instructional Planning

The teacher plans lessons that intentionally make clear and coherent connections with student prior and future learning and includes strategies that communicate the connections to students - among lesson content, other disciplines and/or real-world experiences. The teacher plans lessons that use the input and...
Instruction and Assessment

Instructional Planning

The teacher participates in studying and evaluating advances in content and/or provides input on school and district curriculum. The teacher consistently demonstrates content knowledge by using content-specific, developmentally appropriate language and content-specific strategies to engage students. The teacher’s engagement strategies and questioning techniques engage students in higher-level and creative thinking and stimulate student-to-student interactions.
Instruction and Assessment

The teacher consistently monitors, addresses, articulates and anticipates individual student confusion or misconceptions by presenting informative, authentic examples.

student learning. The teacher gives students opportunities to engage in self-assessment, provide feedback to each other and reflect on their own strengths and challenges.

“consistently”
Instruction and Assessment

Learning is primarily self-directed with the teacher in the role of facilitator encouraging students to persist in the learning tasks. The teacher...
Teacher routinely promotes opportunities for students to actively take part in developing goals toward mastery, and students are responsible for deciding how to demonstrate their learning. Instructional
Instruction and Assessment

On-task behavior is evident and ensured by students. Students initiate responsibility for effective operation of the classroom.

There is demonstration of regard for student perspectives, experiences and culture. The teacher models expectations and behaviors that create a positive climate of openness, respect and care. The teacher anticipates and
Instruction and Assessment

The teacher intentionally and strategically selects, develops and uses multiple assessments, including routine use of various diagnostic, formative and summative assessments. The teacher offers differentiated assessment choices to meet the full range of student needs.

The teacher analyzes data trends and patterns to measure targeted student learning, anticipate learning obstacles, modify instruction and differentiate to meet individual student needs.
The teacher consistently pursues best practices and sets, monitors and reflects on progress toward meeting short-term and long-term professional goals based on data analysis to improve student learning. The teacher takes appropriate action to meet the goals. The teacher collaborates with colleagues and others to share best practices.