Math Action Plan and Discussion
School Board Update

April 26, 2023

Presented by: WASD Team

AGENDA

- Introductions
- Current Best Instructional Practices in Math
  - How Learning has Evolved over Time
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  - Mathematical Thinking
- Instructional Resources to Meet Expectations
- Assessment and Interventions
- Continued Needs
- Action Steps
- Professional Learning and Support

Current Best Practices in Math Instruction

- Pose purposeful questions
- Facilitate math discourse and create collaborative learning experiences
- Support productive struggle in learning math
- Elicit and use evidence of student thinking
- Learn and accept multiple methods of solving problems
- Build procedural thinking through conceptual understanding
- Use and connect math representation

How Learning has Evolved over Time

- Decreased attention span
- Greater amount of information available - What's important?
- Instant gratification - methods & strategies needed to encourage focused problem solving
- Social Media's influence - need to build structured social interaction into classwork where students can make real connections

How Math Instruction has Evolved over Time

- Common Core Standards - mathematical reasoning and complex problem solving - content and practice
- Changed from memorizing sets of facts and procedures to building problem solvers and critical thinkers
- Concrete - Representational - Abstract (CRA)
- Need for improved teacher understanding of mathematics
- Use of math algorithms in real-world situations - understanding on deeper level
- Use of technology

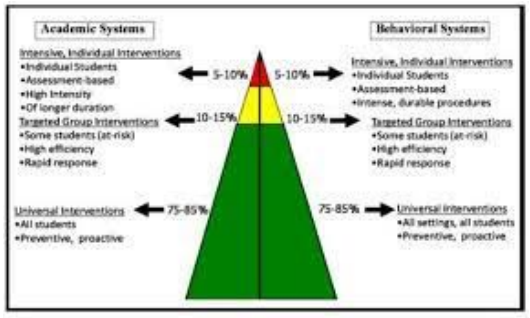
Mathematical Thinking

- Your turn for some math!
- Current Mathematical Thinking
  - connections between elementary and high school
- The why & how
- Fluency vs. automaticity
  - flexibility
  - strategy use
  - efficiency accuracy

Instructional Resources to Meet Expectations

- Eureka Math Squared - Core instruction
- Conceptual Understanding vs Procedural understanding
  - Showing work/providing a picture to demonstrate understanding instead of just doing the algorithm
  - Having choice (learning multiple strategies)
- Online Resources
  - Dreambox (K-4)
  - Zearn (5-6)
  - IXL (K-12)
  - Study Island (5-6)
  - Delta Math (7-12)

Assessments and Interventions



- MTSS process
  - MTSS Pyramid
  - Progress monitoring, frequency per tier & IPM
- Universal Screeners (Fall, Winter & Spring)
  - mClass & Acadience Math
  - Focus for grades K & 1 individualized interviews
  - Focus for grades 2, 3, & 4 timed paper & pencil
- Group Identification
  - Deficit scores on universal screeners
    - Grade level specific chart that identifies the deficit scores
  - Secondary assessment to ID intervention students and skill deficits
    - Primary Early Numeracy Framework
    - Multiplicative Thinking
- Instruction provided in Primary Numeracy or Multiplicative Thinking
  - Progress monitoring (every other week)
  - Grade level exit criteria

Current Needs

- Increased Instructional Time
  - Eureka daily lessons structured for 60+ minutes
- Alignment
  - Vertical between grade levels
  - PA Core standards
- Additional supplemental resources and trainings
  - Continuous professional learning for teachers
- Intervention support in middle grades

Action Steps

- Revise curriculum sequence
  - Algebra I offered to grade 8 and grade 9 students
    - Allows for an extra year to build and solidify middle level math understanding for those who would benefit
- Implement departmentalization in grade 4
  - Enables staff to develop expertise in two content areas rather than all
  - Deepens connection between math and science
- Schedule adjustments, particularly at the JSHS level
- Continued focus on professional learning

Professional Learning and Support

- 1:1 coaching support
  - co-planning
  - resource development
  - classroom instruction
  - data collection and analysis
- Math Department PD
- Building-Wide PD

Questions?