FOUR SUGGESTIONS FOR STARTING THE SCHOOL YEAR IN MIDDLE GRADES MATH INTERVENTION

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Welcome!

Please introduce yourself in the CHAT: name, role, and location.

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Agenda

- Introduction
- 4 Suggestions
- Time for Questions

Please type questions in the Chat.
Defining Mathematics Intervention Classes

Classes provided for students *in addition* to their core math classes

- Focus only on mathematics
- Designed for students who struggle with mathematics
- Are *not* separate special ed. math classes or general academic support
How have we studied math intervention at the middle grades?

- Review of Relevant Research
- Observations of Math Intervention Classes
- Interviews with Teachers and Leaders
- National Survey of 876 public schools (Grades 6-8)
- Professional Development Courses
What did we learn?

- A lot of variation in how schools are implementing math intervention
- Many trade-offs to scheduling and structuring classes – no perfect solution
- Themes emerged related to successful approaches and common challenges
- Landscape of math intervention is evolving over time
Middle grades students may need math intervention for different reasons:

- Prior difficulties with elementary math
- Content gets more abstract and pace increases
- Non-academic factors and stressors
- Learning differences and disabilities
- Interrupted learning due to pandemic
- Missing content due to changing districts
When students have persistent difficulties with math, they may:

- Feel anxious about doing math
- Lack motivation
- Feel overwhelmed or frustrated
- Lack self-confidence
- Display learned helplessness
- Hide their difficulties
- Avoid doing math
Math Intervention can support students in making important shifts

- Feel anxious about doing math
- Lack motivation
- Lack self-confidence
- Display learned helplessness
- Hide their difficulties
- Avoid doing math
- Feel overwhelmed

- Feel Comfortable & Safe
- Gain Confidence
- Increase Motivation
- Engage, participate
- Ask questions
- Share thinking
- Feel empowered

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Suggestions for Starting the New School Year

1. Reaffirm Your Goals and Vision for Math Intervention
Math Intervention is an Opportunity for…

Please type an idea in chat.
Common Challenges

- Unclear goals and expectations
- Competing demands

Suggestions

- Clarify what math intervention is and is not
- Build a shared understanding with colleagues
- Widely communicate goals and vision with students, families, and broader school community
We created a JamBoard version of our PD activities for building a shared understanding math intervention. Sort and discuss goals with colleagues.

https://go.edc.org/GoalsBoard
Our Vision for Math Intervention Classes

- Focused on high-priority math topics
- Tailored to students’ strengths and difficulties
- Engaging, accessible math activities
- Emphasizes student communication
- High-levels of interaction
- Planned and proactive
- Provides support and scaffolding
- Supportive learning community

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Suggestions for Starting the New School Year

2. Set Mathematics Content Priorities
Too much content,
too little time
Why is it important to set content priorities?

**Math Content** > **Time for Intervention**

I feel overwhelmed  
I feel rushed and frustrated

Math Content  
fits  
Time for Intervention

I feel empowered  
I feel able to succeed

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“My students have many gaps. It’s too much content to teach in the time we have.”

Consider reframing from ‘filling gaps’ to ‘building a strong foundation’ to support student success.

Identify and build on students’ strengths.
Central Questions

1. Will you focus on prior-grade content, current, or a combination?

2. What specific topics will you focus on? When?

3. What topics will not be addressed?

4. To what extent will the scope and sequence align (or not align) with the core math class?
Clarify Goals for Addressing Content

Will you use 1, 2, or 3 of these approaches?

A. **Re-teach** foundational content from prior grades to address unfinished learning and misconceptions

B. **Provide concurrent support for grade-level content** from general education math class

C. **Pre-teach** grade-level content in advance of general education math class
Suggestions

- Start with grade-level focus standards and work backwards (achievethecore.org)
- Identify critical prerequisites and common areas of difficulty
- Gather and examine assessment data
- Collaborate on setting content priorities -- Helpful to discuss and make these decisions with other teachers, coaches, and leaders
- Fit scope to the available class time/duration
Things to Avoid

- Going too far back
- Spending too much time on low-priority content
- Setting expectations too low or pacing too slow
- Trying to cover all the grade level content
Suggestions for Starting the New School Year

3. Get Student Buy-In
Students Have Different Feelings about Starting Math Intervention
Get Buy-In: Make intervention class feel like a new opportunity for learning

Suggestions

- Different from core math class (not a repeat)
- Inviting classroom environment (or part of room)
- Different kinds of math activities
- Reinforce positive messages about learning math and making mistakes
- Build a supportive community of learners
Provide Opportunities for Students to Engage with Math and Experience Success

- Activities with accessible entry points
  - Card sorts, kinesthetic activities, visual patterns, and games

- Instructional routines
  - Number Talks, Which One Doesn’t Belong?

- Supports for communication and collaborative activities
  - Mini-Whiteboards
  - Roles and protocols

Please put in the Chat: **What is an activity you like to use at the start of the year?**
Make Connections to Students’ Interests and Prior Math Experiences

Gather information

- Give a survey to find out about students’ interests and what they find helpful when learning math
- Conduct brief conferences or informal interviews to learn about students’ math experiences and understanding

Personalize Math Tasks by incorporating:

- Topics that are familiar and appealing to students
- School and community contexts
What might students assume math intervention will be?

- This may be students’ first experience with math intervention
- May be unsure what they will do in math intervention
- May assume that the only purpose is support for their core math class

However, math intervention has goals that go beyond support for core math class.

Important to communicate clear messages about the relationship between the two classes.
Clarify for Students and Families:
Will intervention time be used for…

- Help with homework for core math class?
- Preparation for upcoming quizzes/tests?
- Test corrections?
- Other assignments for core math class?
Homework Help in Intervention?
Perspective 1: Reasons for Not Providing Homework Help

- Takes away time from focused lessons on high-priority content

- Uses intervention time in a more reactive way instead of a proactive, planful way

- Can be difficult to manage:
  - Homework assignments might differ among students
  - Homework problems vary in quality and purpose
  - Other options for students to get homework help may be more efficient and productive
Homework Help in Intervention?

Perspective 2: Reasons for Providing Homework Help

- Can help students see value and get buy-in
- If intervention class meets 5 times per week, scheduling a short homework help time once or twice a week could work

Suggestions

- Select specific homework problems to focus on with the class
- Set expectations that students will work on the problems themselves before asking for help
- Set a specific amount of time for homework help so that it doesn’t cut into other lesson activities
Suggestions for Starting the New School Year

4. Structure Lessons to Make the Most of Math Intervention Time
For Students to Build Understanding…
they need to do math and talk about their ideas.

Think about:

- What is the **ideal** % of intervention class time devoted to students to actively doing math?
- What **structures and supports** do they need to be active math learners?
Structure Lessons to...

- Have a consistent structure and learning routines so that students know what to expect
  - Reduces anxiety
  - Makes more efficient use of class time
  - Eases transitions between activities

- Use a mix of whole group, small group, partner, & independent work

- Add variety to maintain interest, such as game days

There isn’t one best approach for structuring lessons.
Pacing Challenges: Balancing...

- setting a relaxed, slower pace for intervention

  *while also*

- setting expectations and accountability for students to be actively doing math throughout the class period

- building in flexibility to be responsive to students’ needs to spend more time on a particular topic
Time Bandits: Where is time typically lost in intervention lessons?

Start of class
- Some students arrive late
- Some students take a while to start working on a task
- Warm-ups can take too much time and cut into the main activity

Suggestions
- Expectations to get started doing math tasks right away
- Use a consistent format for a Do Now activity or warm-up
- Keep warm-up activities short
- Share an agenda with time allocations
Time Bandits: No Time for Wrap-Up

Key Questions to Address in the Wrap-Up

□ What important math have we been focusing on?
□ What goals have we been working towards?

Suggestion: Use consistent Sentence Starters and Frames

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<thead>
<tr>
<th>Examples</th>
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<tbody>
<tr>
<td>• When I compare fractions, it is important to _______ because _____</td>
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<tr>
<td>• One important thing I learned about about adding decimals is _____</td>
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<tr>
<td>• Using a number line helped me to _______</td>
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<tr>
<td>• One success I had today was _______</td>
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<tr>
<td>• One challenge I had today was ___________</td>
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Summary:
Four Suggestions for Starting the New School Year

1. Reaffirm goals and vision for math intervention
2. Set content priorities
3. Get buy-in from students
4. Structure lessons to make the most of class time
YOUR QUESTIONS
Ideas to Apply

What’s one idea from today’s session that you want to apply in your practice?

Share an idea in the chat.
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