



Standards-in-Action 2.0 State-Based Curriculum Review

Critical Mathematical Concepts and Skills (Part 1)



Welcome!

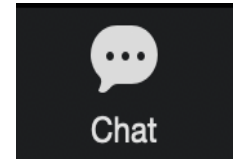


Disclaimer

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Let's Hear From You!



- Join the group chat by selecting the Chat icon.
- In the group chat, share your answer to this question:
 - *On a scale of 1 to 5, how much do you know about the importance of mathematical focus? (1 is not much; 5 is a great deal.)*
- Use the chat feature to ask questions or make comments during this presentation.



Agenda

- Overview of Dimension 1 and its research base
- Introduction to the content criteria for Dimension 1
- Breakout work session with your team
- Review of substantiations and ratings in the Example Workbook
- Next steps and final questions



Meeting Norms and Expectations

1. Be present and engage fully.
2. Ask questions.
3. Prepare for productive struggle.
4. Consider differing perspectives.
5. Create and maintain a safe space for professional learning.
6. Be mindful of different learning styles.



Research Base for Dimension 1

Research based on TIMSS (2019) and the ACT National Curriculum Survey (2016) shows that:

- High-performing nations significantly narrow the scope of content so that students can focus their time and energy.
- Focusing on too many topics has a negative impact on student performance.
- Focusing on the most important content at each level gives students a strong foundation and uses instructional time productively.



What Does Research on Focus Mean for High-Quality Curriculum?

- Math curricula in the U.S. traditionally have been “a mile wide and an inch deep” — the antithesis of “focused.”
- *EdWeek* reports that “[m]ore than one in five American adults are considered ‘functionally innumerate,’” without the mathematical competency for many modern jobs.
- A focused curriculum, on the other hand, allows teachers to:
 - Provide students to explore key topics in depth so they can develop a more robust understanding of the mathematics; and
 - Eliminate endless repetition of concepts, which is otherwise inevitable and a waste of critical time.



Illustrative Mathematics



Grade 6
Mathematics

Course Guide

Authored by
Illustrative Mathematics



Grade 6
Mathematics

UNIT

3

Teacher Guide

Authored by
Illustrative Mathematics



Illustrative Mathematics

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Critical Concepts and Fluencies of the Level

- Find the resource in Appendix A of your Participant Workbook.
- Notice the color-coding of the concepts:
 - Black – Number concepts
 - Red – Algebra
 - Blue – Geometry
 - Green – Statistics and Probability
- Fluencies are identified for each level.
- Supporting concepts are also identified.
- Look more closely at Level D to find the concepts our sample unit addresses.



Dimension 1: Critical Concepts and Skills

- Three content criteria
- Guiding questions to support understanding of each criterion
- Space for substantiation of evidence
- Rating scale
- Summary Comments

Dimension 1 Critical Mathematical Concepts and Skills

Review Content Criteria:

- 1 — **Content Criterion.** Curriculum supports the development of students' understanding of the most critical mathematical concepts required by the standards for the level.
 - Are most of the lessons and assessments tied to critical mathematical concepts and skills required for the level?
 - Does the curriculum support students in developing conceptual understanding of those critical concepts and skills?

Substantiation:

- 2 — **Content Criterion.** Curriculum addresses supporting concepts in ways that enhance the focus on critical concepts.
 - Do activities address supporting concepts to reinforce critical concepts?
 - Are supporting concepts sufficiently minimized so as to not interfere with the overall focus on the most critical concepts?

Substantiation:

- 3 — **Content Criterion.** Curriculum is designed so that students attain the required procedural skills and fluencies for the level.
 - Does the curriculum provide sufficient practice opportunities for students to attain the computational and procedural fluencies for the level?
 - Does the curriculum regularly assess students on the required fluencies?

Substantiation:

Dimension 1: Rating for Content Alignment

_____ 2 Most or all components of the content criteria are present

_____ 1 Some components of the content criteria are present

_____ 0 Few or no components of the content criteria are present

Summary Comments:

Content Alignment Criteria



Dimension 1: Content Criterion 1

Curriculum supports the development of students' understanding of the most critical mathematical concepts required by the standards for the level.

Ask Yourself:

- *Are most of the lessons and assessments tied to critical mathematical concepts and skills required for the level?*
- *Does the curriculum support students in developing conceptual understanding of those critical concepts and skills?*



Dimension 1: Content Criterion 2

Curriculum addresses supporting concepts in ways that enhance the focus on critical concepts.

Ask Yourself:

- *Do activities address supporting concepts to reinforce critical concepts?*
- *Are supporting concepts sufficiently minimized so as to not interfere with the overall focus on the most critical concepts?*



Dimension 1: Content Criterion 3

Curriculum is designed so that students attain the required procedural skills and fluencies for the level.

Ask Yourself:

- *Does the curriculum provide sufficient practice opportunities for students to attain the computational and procedural fluencies for the level?*
- *Does the curriculum regularly assess students on the required fluencies?*



Rating for Content Alignment

2 Points: Most or all components of the content criteria are present.

1 Point: Some components of the content criteria are present.

0 Points: Few or no components of the content criteria are present.



Breakout Time: 45 minutes



Your turn to work with your team:

- Examine the evidence in the curriculum for each of the content criteria for Dimension 1.
- Check the content criteria that are evident and cite in your notes where you found evidence.
- Discuss the evidence you found for all the content criteria with your team and agree upon a rating for the dimension.
- When we reconvene, we will ask you to share comparisons of your rating, criteria checks, substantiations, and commentary.



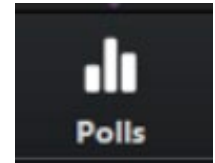
Breakout Materials

- Your copy of the Participant Workbook (p. 2)
- Curriculum: Illustrative Mathematics:
 - Grade 6 Course Guide
 - Grade 6, Unit 3 Teacher Guide
- Resource: Critical Concepts and Fluencies of the Level

Welcome Back!



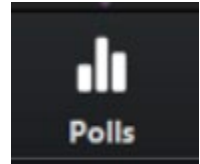
Let's Hear From You!



- POLL: What is your rating for **Dimension 1 Content Alignment**?
 - 2 points: Most or all components of the content criteria are present.
 - 1 point: Some components of the content criteria are present.
 - 0 points: Few or no components of the content criteria are present.



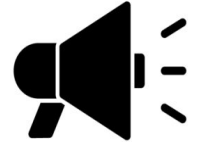
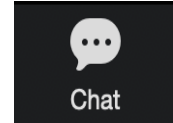
Let's Hear From You!



- POLL: Did you check (as present) the same criteria as in the Example Workbook?
 - Yes, I checked the same criteria as the example.
 - No, I checked one or more criteria differently than the example.



Let's Discuss!

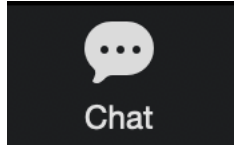


- Let's take 5 minutes to review the Example Workbook that contains the substantiations for the content criteria.
- Then in the group chat, share your answer to this question:
 - *CHAT: How do your substantiations compare to the example?*

Then let's hear from a couple of teams about the evidence you found and noted in your Summary Comments.



Let's Chat!



- Type your comments in the group chat. This time we'll ask everyone to hit enter at the same time.
 - *CHAT: What is your biggest takeaway, or something you've learned, from today's activities?*

We'll ask everyone to hit "enter" at the same time so...

WAIT before you hit "enter"!



You Will Meet With Your Team to:

1. Apply specific lessons from today's training to the curriculum you selected to review.
2. Focus on the *overall goal* of this training which is to:
Promote the review of existing curricula so all instructors have the tools they need to improve student outcomes.



Taking the First Step to Expand Curriculum Work in Your State

- *Team Assignment:* Plan to conduct your next curriculum review. That includes planning the who, what, where, when, and how of that review once this training ends.
- We'll support you with:
 - Key Considerations
 - Coaching support during your in-between work sessions



Next Steps

- We will focus on the **EL Supports** for **Dimension 1** to:
 - Examine the sample curriculum from Illustrative Mathematics for its attention to EL supports related to critical mathematical concepts and skills.



Standards-in-Action 2.0

Thank you!