Standards-in-Action 2.0

State-Based Curriculum Review

Reasoning and Communicating with Mathematics

(Part 2)

Welcome back!

Disclaimer

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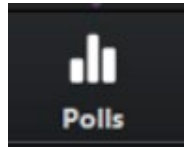
Let's Hear From You!



Share your answer to this question:

- *On a scale of 1 to 5, how much do you know about effective mathematical communication for English learners (ELs)?*
  - 1 (not much)
  - 2
  - 3
  - 4
  - 5 (a great deal)

Agenda

- Review of Dimension 3 content criteria
- Introduction to the English learner (EL) support criteria for Dimension 3
- 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.

Review of Part 1 for Dimension 3

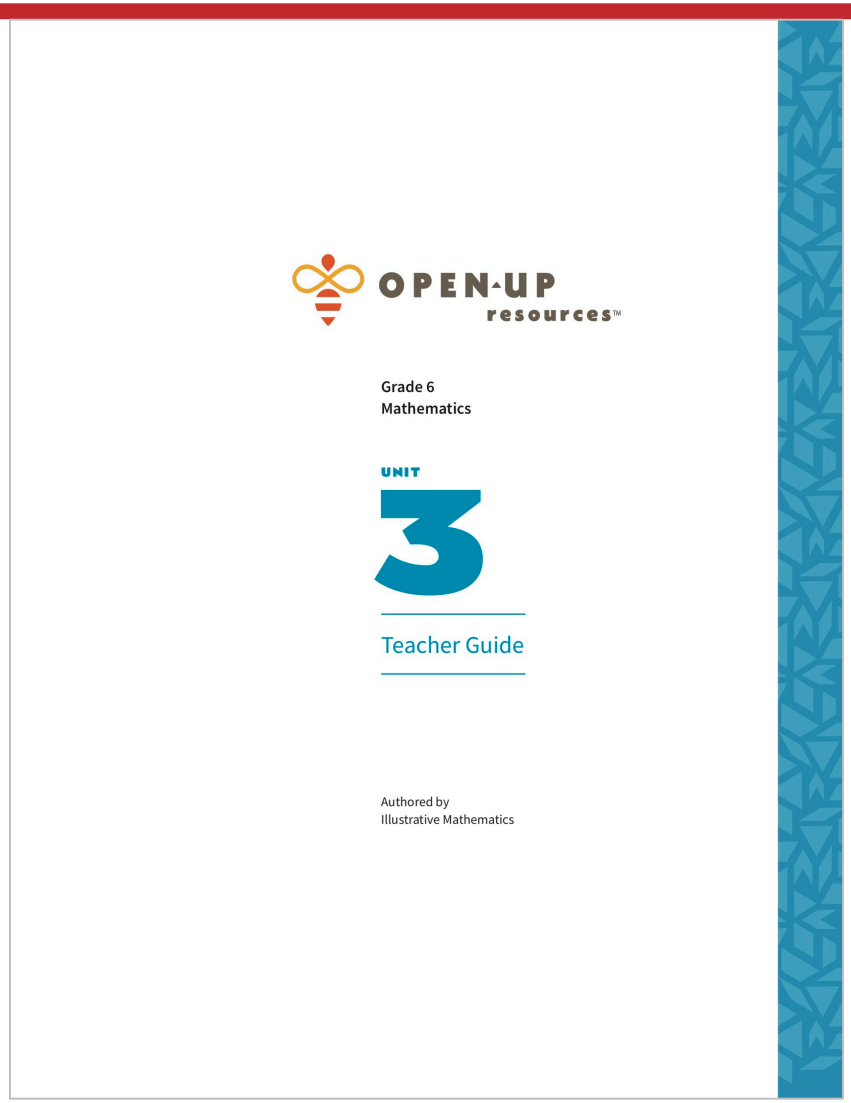
- Content criteria for Dimension 3 emphasize:
  - Producing and analyzing mathematical arguments.*
  - Building mathematical understanding through discussion.*
  - Using precise, specialized mathematical language.*
  - Showing examples of one's reasoning.*
  - Promoting the strategic use of technology.
- Four content criteria are asterisked (*), indicating EL supports, so we will review our findings in Part 1 as we rate the EL support levels.

What Does Dimension 3 Mean for High-Quality Curriculum?

It means EL students are regularly asked to:

- Participate actively in class through collaborations and discussions;
- Share their understanding and findings with precision, so others can follow their thinking; and
- Experience precise mathematical communication through speaking, listening, and reading.

Illustrative Mathematics



Standards for Mathematical Practice

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

Dimension 3: Reasoning and Communicating with Mathematics

Review EL Supports for Dimension 3:

1. ____ **EL Support.** Curriculum regularly uses mathematical language routines to allow students to strengthen their language skills while engaging in on-level mathematics as defined by the standards.

Substantiation:

2. ____ **EL Support.** Curriculum encourages teachers to use re-voicing to model correct mathematical language, to help students put their thoughts into words, and to clarify their responses.

Substantiation:

3. ____ **EL Support.** Curriculum provides acknowledgement of and ample support for students to learn specialized mathematical language, including attending to:
   - Elements of mathematical words (e.g., prefixes, suffixes and roots);
   - High-value academic words (e.g., explain, interpret, etc.);
   - Multiple meanings of mathematical words (e.g., even, root, product, etc.).

Substantiation:

4. ____ **EL Support.** Curriculum integrates language-based structures (e.g., linking phrases, sentence starters) to help students demonstrate their mathematical work and thinking.

Substantiation:

Dimension 3: Rating for EL Supports *(include asterisked Content Criteria #1–4 in your rating)*

___2 Most or all components of the EL supports are present

___1 Some components of the EL supports are present

___0 Few or no components of the EL supports are present

Summary Comments:

Dimension 3: EL Support Criteria

(1) Curriculum regularly uses mathematical language routines to allow students to strengthen their language skills while engaging in on-level mathematics as defined by the standards.

(2) Curriculum encourages teachers to use re-voicing to model correct mathematical language, to help students put their thoughts into words, and to clarify their responses.

Dimension 3: EL Support Criteria, cont'd.

(3) Curriculum provides acknowledgement of and ample support for students to learn specialized mathematical language, including attending to:

- Elements of mathematical words (e.g., prefixes, suffixes, and roots);
- High-value academic words (e.g., explain, interpret, etc.); and
- Multiple meanings of mathematical words (e.g., even, root, product, etc.).

(4) Curriculum integrates language-based structures (e.g., linking phrases, sentence starters) to help students demonstrate their mathematical work and thinking.

Rating for EL Supports

2 Points: Most or all components of the EL supports are present.

1 Point: Some components of the EL supports are present.

0 Points: Few or no components of the EL supports are present.

Breakout Time: 45 minutes

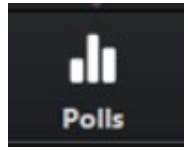
- Scan the curriculum for evidence of each of the EL supports, including the asterisked content criteria.
- Discuss with your team and agree on whether there is evidence in the curriculum for each EL support criterion.
- Check those for which you found evidence and determine the “weight” of the missing supports or parts of supports.
- Make notes about your findings.
- Together, assign a rating for the dimension’s EL supports. (Include the asterisked content criteria.)
- 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. 9)
- Curriculum: Illustrative Mathematics:
  - Grade 6 Course Guide
  - Grade 6, Unit 3 Teacher Guide
- Resource: Standards for Mathematical Practice

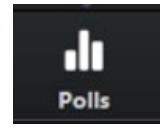
Welcome Back!

Let's Hear From You!



- POLL: What is your rating for **Dimension 3 EL Supports**?
  - 2 points: Most or all components of the criteria are present.
  - 1 point: Some components of the criteria are present.
  - 0 points: Few or no components of the criteria are present.

Let's Hear From You!

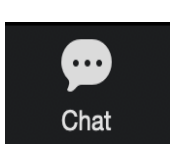


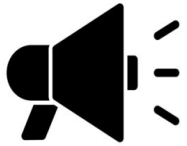
- POLL: Did you check (as present) the same criteria as in the Example Workbook?

  O Yes, I checked the same criteria as the example.

  O No, I checked one or more criteria differently than the example.

Let's Discuss!





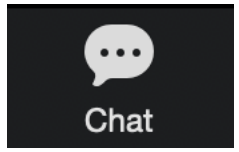
Let's take 5 minutes to review the Example Workbook that contains the substantiations for the EL support criteria.

Then in the group chat, share your answer to this question:

- *CHAT: How do your substantiations compare to the example?*

Then we want to hear from you about the evidence you found and noted in your Summary Comments.

Let's Chat!



In the group chat, type your answer to this question in a sentence or two:

- *CHAT: What is something you have learned today (or understand better) about communication with mathematics in general and supporting EL students in particular?*

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

WAIT to hit "enter"!

Next Steps

- We will focus on content criteria for **Dimension 4** to:
  - Examine the sample curriculum from Illustrative Mathematics for its inclusion of quality mathematical tasks and applications.

Thank you!