

The Intersection of Equity and Math

UnboundEd
Virtual Summit Day 1
Kindergarten - Grade 5
Summer 2020

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UnboundEd Vision

Education systems disrupt systemic racism by providing students of color meaningful, engaging, and affirming grade-level instruction.

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UnboundEd Approach

Our learning is grounded in the intersection of the standards, content, aligned curriculum, and the equitable instructional practices that are essential for closing the opportunity gap caused by systemic bias and racism.

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By the end of this session

01

Examine

the effects of teacher choices on math instruction.

02

Identify

the impact of unconscious bias on access to grade-level math content for students of color.

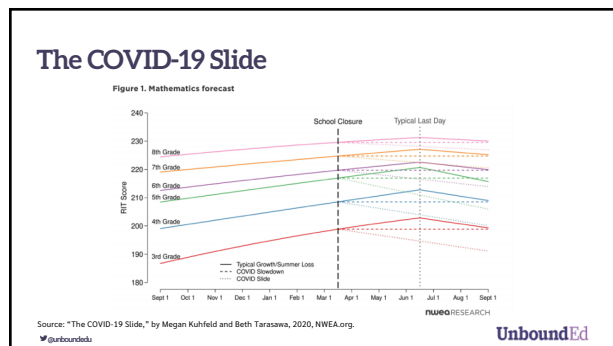
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Consider

instructional decisions to help students access grade-level math content during and after the COVID-19 pandemic.

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Defining Unfinished Instruction

Grade level standards and concepts that were not directly taught nor assessed prior to students entering the next grade.

Grade level standards and concepts that students did not demonstrate proficiency in prior to entering the next grade.

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 **RESTART & RECOVERY:
CONSIDERATIONS FOR TEACHING
AND LEARNING: ACADEMICS**

[illegible]

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refers to the automatic and unconscious stereotypes that drive people to behave and make decisions in certain ways. It is the mind's way of making uncontrolled and automatic associations between two concepts very quickly.

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82% of teachers supported the content of their state's academic standards.

44% of teachers expected their students could have success with the standards.

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Percentage	Description
<40%	Contained any element of rigor as defined by the standards
9%	Pushed student thinking to higher levels
5%	Provided an opportunity for discussion, which allows for mathematical understanding
2%	Provided aspects of relevancy, which allow for deeper student engagement

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54%
More grade-level
assignments

4x
More grade-level
lessons

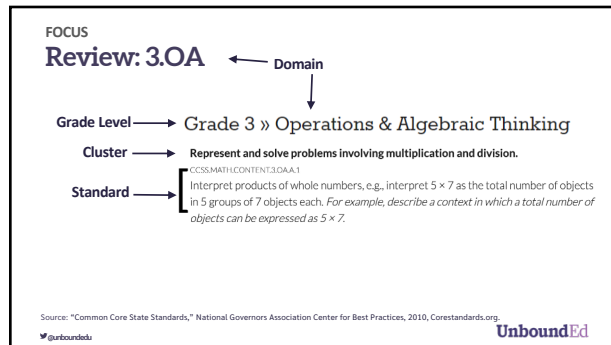
23%
More experiences
viewed as engaging

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1. Focus	Focus strongly where the Standards focus.
2. Coherence	Think across grades, and link to major topics within grades.
3. Rigor	Pursue conceptual understanding , procedural skill and fluency , and application with equal intensity.

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The Mathematical Shifts: Focus by Grade-level

Some clusters require greater emphasis, due to:

- the depth of the ideas.
- the time required to master.
- their importance to understanding future math.
- the need to meet the Standards for Mathematical Practice.

- Major** clusters are the highest priority.
- Supporting** clusters are designed to support and strengthen areas of major emphasis.
- Additional** clusters may not connect tightly or explicitly to the major work.

Source: "Focus" Documents, by Student Achievement Partners, achievethecore.org.

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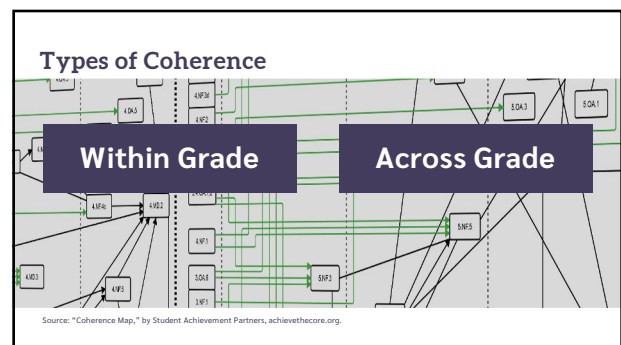
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Focus and Equity

Thinking of the next school year, how can using the shift of focus help you prioritize your content?

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FOCUS AND WITHIN GRADE COHERENCE IN GRADES K-2

Supporting in Grade 1

What is the language in the standard that supports major work?

1.MD.C.4: Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.

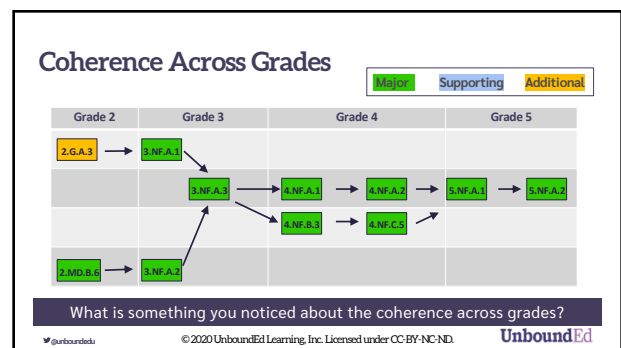
1.OA: Represent and solve problems involving addition and subtraction.

Supporting

Major

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Coherence and Equity

Thinking of the next school year, how can using the shift of coherence help give access to grade-level work?




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Rigor Unpacked

“Rigor refers to deep, authentic command of mathematical concepts, not making math harder or introducing topics at earlier grades.”



Source: “The Shifts,” by Student Achievement Partners, <https://achievethecore.org/category/419/the-shifts>.




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Rigor Unpacked

Conceptual Understanding	Procedural skills and Fluency	Application
- Higher order thinking skills - Multiple representations - Beyond performing procedures	- Accurately performing core functions - Efficiency	- Problem-solving - Real-world or mathematical contexts




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Procedural Skills and Fluency Task #1

Access the task found at <http://tasks.illustrativemathematics.org/content-standards/4/NF/C/5/tasks/153>

4.NF.C.5
Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. For example, express $\frac{3}{10}$ as $\frac{30}{100}$, and add $\frac{3}{10} + \frac{4}{100} = \frac{34}{100}$.

What are some characteristics of this task?




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Conceptual Understanding Task #2

Access the task found at <http://tasks.illustrativemathematics.org/content-standards/4/NF/A/1/tasks/743>

4.NF.A.1
Explain why a fraction $\frac{a}{b}$ is equivalent to a fraction $\frac{n \times a}{n \times b}$ by using a visual fraction model, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.

What are some characteristics of this task?




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Application Task #3

Access the task found at <https://tasks.illustrativemathematics.org/content-standards/tasks/876>

4.OA.A.3: (major) Solve multi-step word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answer using mental computation and estimation strategies including rounding.

4.MD.A.3: (supporting) Apply the area and perimeter formulas for rectangles in real world and mathematical problems. For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.

What are some characteristics of this task?




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Rigor and Equity

Thinking of our current virtual situation, how should attending to the shift of rigor influence your task selection?

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Leveraging the *Shifts* to Maintain Equitable Access to Grade-level Content

Focus strongly where the Standards focus.

Coherence: Think **across grades**, and link to major topics **within grades**.

Rigor in major topics: Pursue **conceptual understanding**, **procedural skill and fluency**, and **application with equal intensity**.

The shifts can:

- help us better understand the standards.
- challenge deficit views by giving students access to grade-level work.
- promote deeper understanding of content.
- help us understand how to adapt our resources and instruction.
- move us toward ensuring our students have equitable access to grade-level content.

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 Source: "Common Core State Standards," National Governors Association Center for Best Practices, 2010, corestandards.org.
 

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The Intersection of Equity and Unfinished Math Instruction

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 Virtual Summit Day 2
 Kindergarten - Grade 5
 Summer 2020

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By the end of this session

01	02	03
Identify	Leverage	Plan
the difference between instructional supports and modifications.	the mathematical shifts to provide grade-level content.	an approach for accelerating students who experienced unfinished instruction.

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Patterns of Behavior We've Seen

"Sticking to the Script"

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Patterns of Behavior We've Seen

"Gutting the Grade-level Learning"

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Patterns of Behavior We've Seen

Grade-Level Scope and Sequence

Blanket Review

Last Year's Content Standards 1 2 3 4 5 6 7

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Coherent Content in Context

- Students learn math when it is based on the math they already know.
- All students **can** be successful with grade-level math.

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This daily re-engagement of prior knowledge in the context of grade-level assignments will add up over time, resulting in more functional learning than if we resort to watered down instruction or try to reteach topics out of context.

Source: "Addressing Unfinished Learning After COVID-19 School Closures," by the Council of Great City Schools, 2020, cgcs.org.

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Levels of Planning

- Yearly Planning
- Unit Planning
- Daily Lesson Planning

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Step One

Do the Work of the Lesson

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Standards & Learning Goals

Standard:
3.OA.A.1: Interpret products of whole numbers, e.g., interpret 5×7 as the total number of objects in 5 groups of 7 objects each. For example, describe a context in which a total number of objects can be expressed as 5×7 .

Read the learning goal for Grade 3, Module 1, Lesson 1, located at: <https://www.unbound.org/math/grade-3/module-1/topic-a/lesson-1>

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Exit Ticket

Continue to examine Lesson 1 from Module 1:

Directions:

1. Do the exit ticket problem.
2. How does this problem relate to the expectations of 3.OA.A.1?

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Your Turn to Practice

Complete the Concept Development for Module 1, Lesson 1.

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Step Two

Prioritize the Most Critical Prerequisites and Key Knowledge

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Identify Prerequisites and Key Knowledge

- Use the coherence map and lesson guidance to identify prerequisite standards.
- Determine which one support the grade-level standards the best, and also note when it would have been taught in the previous grade.

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Your Turn to Practice

Discussion: Consider what students will need to know to access this lesson. Which of these standards could provide a connection to grade-level learning?

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Step Three

Formatively assess prerequisite skills/knowledge

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Formative Assessment Characteristics

Assessment designed to support and be integrated with recommended approach to curriculum and instruction	
Has These Characteristics	Does Not Have These Characteristics
Integrated with model of curriculum and instruction that moves students to learning essential on-grade content as quickly as possible	Assessed in a model that the entire or substantial portions of the previous set of content standards and/or curriculum be re-taught prior to going on to the fall 2020 on-grade content
Administered "just in time"	- Inform an extensive "remediation first" instructional strategy
This and focus: focused on the essentials of the on-grade content to be learned and coordinated with the on-grade curriculum	Assess once for the entire year at the beginning of the year
Largely formative in nature, administered by and for the teacher	Take place in a survey assessment covering the previous year's entire set of content standards
Its designed to yield information about student knowledge and performance in primarily content-specific ways	Largely summative in nature, e.g., standardization, external control
Coordinated with additional assessments during the course of instruction	Designed with summative uses prioritized, e.g., yields a scale score, supports comparability, unidimensional construct
	Free-standing

Source: "Back to School Assessment," by Brian Gung, 2020, Center for Assessment.

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Selecting Formative Assessment Tasks

Where do I get aligned assessment questions?

- Exit tickets
- Assessments for prerequisite standards
- Coherence Map

How many questions do I need to assess prerequisite?

- Quality over quantity

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Step Four

Design or Identify Curricular Supports

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Coherent Content in Context

- Coherent in the progression of grade-level learning
- Focused on current grade-level content
- Relatively quick

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Selecting Tasks for Supports

Where do I get aligned tasks?

- Exit tickets
- Formative assessments
- SAP's Coherence Map
- Lessons from an aligned curriculum

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Publisher Resources

COLLABORATIVE FOR STUDENT SUCCESS

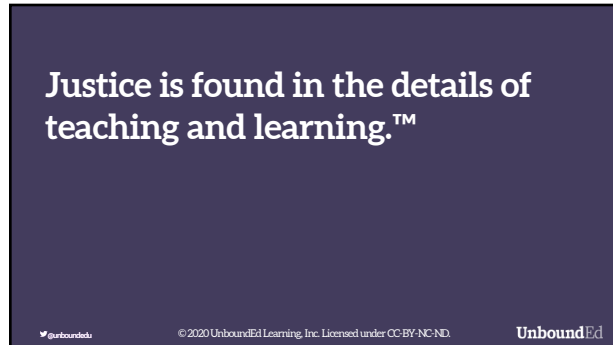
Publisher Information

To support school systems and educators in meeting the learning needs of students in a drastically altered context, whether that be in-person, online, or a hybrid of the two, The Collaborative for Student Success is reaching out to the highest rated curriculum publishers (defined by a "green" rating by EdReports) to complete the adjustments they'll be making for the 2020/2021 school year. As district leaders focus on prioritizing instructional materials that focus on grade-level content and rigor, address learning gaps within the context of grade-level work, and create plans to adapt instruction, this resource is intended to offer clarity around what areas have and will be addressed by publishers.

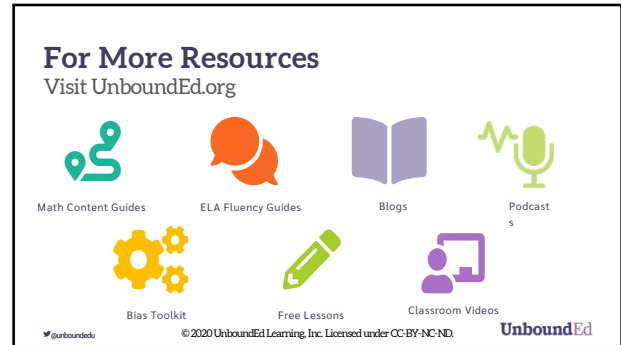
Source: "Curriculum Publisher Information to Support Learning during COVID," by the Collaborative for Student Success, 2020, <https://forstudentsuccess.org/our-campaigns/reopening-schools/>

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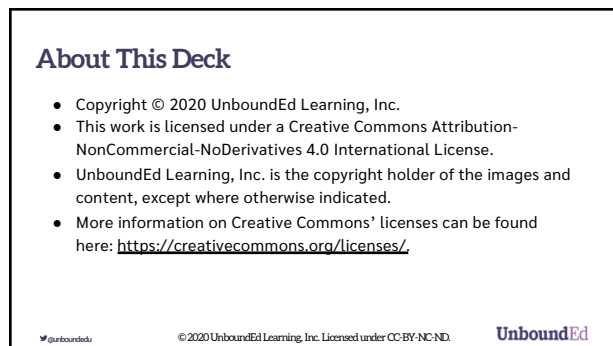
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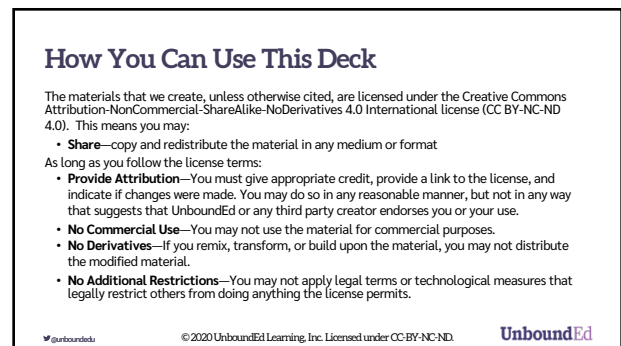
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