IMRA Review Cycle 2024 Report

Publisher Name	Program Name
Kiddom	*IM360 Texas Math powered by Kiddom*
Subject	**Grade Level**
Mathematics	8

Texas Essential Knowledge and Skills (TEKS) Coverage: **42.31%**

English Language Proficiency Standards (ELPS) Coverage: **73.08%**

Quality Review Overall Score: **209 / 227**

IMRA Reviewers

Flags for Suitability Noncompliance **5**

Indicator	Count of Flags
1. Prohibition on Common Core	**4**
2. Alignment with Public Education's Constitutional Goal	**0**
3. Parental Rights and Responsibilities	**0**
4. Prohibition on Forced Political Activity	**0**
5. Protecting Children's Innocence	**0**
6. Promoting Sexual Risk Avoidance	**0**
7. Compliance with the Children's Internet Protection Act (CIPA)	**1**

Flags for Suitability Compliance **0**

Indicator	Count of Flags
Alignment with Public Education's Constitutional Goal, 2.1.1	**0**
Promoting Sexual Risk Avoidance, 6.2	**0**

Alleged Factual Errors **0**

Public Feedback

Flags for Suitability Noncompliance **0**

Rubric Indicator	Count of Flags
1. Prohibition on Common Core	**0**
2. Alignment with Public Education's Constitutional Goal	**0**
3. Parental Rights and Responsibilities	**0**
4. Prohibition on Forced Political Activity	**0**
5. Protecting Children's Innocence	**0**
6. Promoting Sexual Risk Avoidance	**0**
7. Compliance with the Children's Internet Protection Act (CIPA)	**0**

Alleged Factual Errors **0**

Public Comments **0**

Quality Review Summary

Rubric Section	Quality Rating
1. Intentional Instructional Design	52 / 53
2. Progress Monitoring	24 / 28
3. Supports for All Learners	25 / 32
4. Depth and Coherence of Key Concepts	19 / 23
5. Balance of Conceptual and Procedural Understanding	64 / 66
6. Productive Struggle	25 / 25

Strengths

- 1.1 Course-Level Design: Materials include a scope and sequence outlining the TEKS, ELPS, concepts, and knowledge taught in the course, with suggested pacing guides for various instructional calendars, explanations for the rationale of unit order and concept connections, guidance for unit and lesson internalization, and resources to support administrators and instructional coaches in implementing the materials as designed.
- 1.3 Lesson-Level Design: Materials include comprehensive, structured lesson plans with daily objectives, questions, tasks, materials, or instructional assessments required to meet the content and language standards. Materials provide a lesson overview outlining the suggested timing for each component, a list of necessary teacher and student materials, and guidance on the effective use of lesson materials for extended practice, such as homework, extension, and enrichment.
- 2.2 Data Analysis and Progress Monitoring: Materials include instructional assessments and scoring information that provides guidance for interpreting and responding to student performance, offer guidance on using tasks and activities to address student performance trends, and include tools for students to track their own progress and growth.
- 4.1 Depth of Key Concepts: Materials provide practice opportunities and instructional assessments that require students to demonstrate depth of understanding aligned to the TEKS, with questions and tasks that progressively increase in rigor and complexity, leading to grade-level proficiency in mathematics standards.
- 4.2 Coherence of Key Concepts: Materials demonstrate coherence across courses and grade bands through a logically sequenced scope and sequence, explicitly connecting patterns, big ideas, and relationships between mathematical concepts, linking content and language across grade levels, and connecting students' prior knowledge to new mathematical knowledge and skills.

- 5.1 Development of Conceptual Understanding: Materials include questions and tasks that require students to interpret, analyze, and evaluate various models for mathematical concepts, create models to represent mathematical situations, and apply conceptual understanding to new problem situations and contexts.
- 5.2 Development of Fluency: Materials provide tasks designed to build student automaticity and fluency for grade-level tasks, offer opportunities to practice efficient and accurate mathematical procedures, evaluate procedures for efficiency and accuracy, and include embedded supports for teachers to guide students toward more efficient approaches.
- 5.4 Development of Academic Mathematical Language: Materials provide opportunities for students to develop academic mathematical language using visuals, manipulatives, and language strategies, with embedded teacher guidance on scaffolding vocabulary, syntax, and discourse, and supporting mathematical conversations to refine and use math language.
- 5.5 Process Standards Connections: Materials integrate process standards appropriately, nor do they provide descriptions of how they are incorporated and connected throughout the course, within each unit, or in each lesson.
- 6.1 Student Self-Efficacy: Materials provide opportunities for students to think mathematically, persevere through problem-solving, and make sense of mathematics, while supporting them in understanding multiple ways to solve problems and requiring them to engage with math through doing, writing, and discussion.
- 6.2 Facilitating Productive Struggle: Materials support teachers in guiding students to share and reflect on their problem-solving approaches, offering prompts and guidance for providing explanatory feedback based on student responses and anticipated misconceptions.

Challenges

- 1.2 Unit-Level Design: Materials do not include academic vocabulary necessary to teach the concepts in the unit.
- 2.1 Instructional Assessments: Materials do not provide guidance to ensure consistent and accurate administration of instructional assessments or include standards-aligned items at varying levels of complexity.
- 3.1 Differentiation and Scaffolds: Materials do not include pre-teaching or embedded supports for references in text.
- 3.2 Instructional Methods: Materials do not include prompts or guidance to support teachers in modeling concepts to be learned.
- 3.3 Support for Emergent Bilingual Students: Materials do not provide linguistic accommodations for more than 1 level or include implementation guidance to support teachers in

effectively using the materials in state-approved bilingual/ESL programs. Materials do not include guidance in supporting cross-linguistic connections through oral and written discourse.

- 4.3 Spaced and Interleaved Practice: Materials do not interleaved practice opportunities with previously learned skills and concepts across lessons and units.
- 5.3 Balance of Conceptual Understanding and Procedural Fluency: Materials do not explicitly state how the conceptual and procedural emphasis of the TEKS are addressed.

Summary

IM360 Texas Math powered by Kiddom is a 6–8 Mathematics that focuses on big ideas thinking and real-world connections. The curriculum gives teachers comprehensive, structured, and detailed lessons that include various questions, tasks, and assessments. Materials include teacher guidance for differentiation and scaffolds with varying instructional approaches such as the Stronger and Clearer Each Time, Collect and Display, Co-Craft Questions, Three Reads, and Discussion Supports. Additionally, the program includes coherence across units by connecting content and language learned in previous courses/grade levels.

Campus and district instructional leaders should consider the following:

- The product features comprehensive and detailed lessons with guidance for differentiation and a variety of instructional approaches. The product includes some areas of alignment to the standards, such as solving equations, but the product does not address the depth of the context and student action of the grade 8 standards. While the product has some alignment to readiness standards such as comparing and ordering real numbers, surface area concepts, and personal financial literacy standards, there is a thematic misalignment to grade 8 readiness standards, supporting standards, rigor, and process standards throughout the product.
- The program includes opportunities for students to draw on prior grade-level knowledge; however, the discrepancy between the product and the TEKS indicates that prerequisite skills still need to be taught.

Intentional Instructional Design

1.1	Course-Level Design	15/15
1.1a	Materials include a scope and sequence outlining the TEKS, ELPS, concepts, and knowledge taught in the course.	**5/5**
1.1b	Materials include suggested pacing (pacing guide/calendar) to support effective implementation for various instructional calendars (e.g., varying numbers of instructional days – 165, 180, 210).	**2/2**
1.1c	Materials include an explanation for the rationale of unit order as well as how concepts to be learned connect throughout the course.	**2/2**
1.1d	Materials include guidance, protocols, and/or templates for unit and lesson internalization.	**2/2**
1.1e	Materials include resources and guidance to support administrators and instructional coaches with implementing the materials as designed.	**4/4**

The materials include a scope and sequence that outlines the TEKS, ELPS, concepts, and knowledge taught in the course. Materials include suggested pacing (pacing guide/calendar) to support effective implementation for various instructional calendars (e.g., varying numbers of instructional days–165, 180, and 210). Materials include guidance, protocols, and/or templates for unit and lesson internalization Materials include resources and guidance to support administrators with implementing the materials as designed. Materials include guidance to support instructional coaches with implementing the materials as designed.

Evidence includes, but is not limited to:

Materials include a scope-and-sequence outlining the TEKS, ELPS, concepts, and knowledge taught in the course.

- The materials include a supplemental scope and sequence for Texas located in the Course Guide. This scope and sequence includes the suggested pacing for instruction, assessment, and lesson breakdown. The lesson titles and specific learning targets are given for each lesson including the TEKS and ELPS alignment within that unit.
- The supplementary scope and sequence included in the Course Guide details the instruction of math concepts and knowledge taught in the course and a standardized chart outlining the lessons by standard.

Materials include suggested pacing (pacing guide/calendar) to support effective implementation for various instructional calendars (e.g., varying numbers of instructional days–165, 180, and 210).

- The materials include a suggested pacing calendar found in the supplementary Texas scope and sequence. The pacing calendar is designed for 140 days of initial instruction and provides

teachers with an optional additional 19 days of extensions, reviews, assessments, and reteach for an ending total of 159 days.
- The structured pacing guide outlines the lessons and activities for an instructional calendar. The weekly schedule, under the Course Overview, includes a clear outline of the lessons, indicating the suggested number of days per unit based on 60-minute class periods.

Materials include an explanation for the rationale of unit order as well as how concepts to be learned connect throughout the course.

- The Unit Dependency Chart, located under the Course Overview, outlines the sequence of material to be used in upcoming units and how it aligns vertically with previous learning in grade 7 and connects to other units and grades. For example, the materials state, "There is an arrow from 7.4 to 7.8, because students are expected to use their skills in representing percentages (from 7.4) when solving problems about probability (in 7.8)."
  The materials include a Narrative Section, located at the beginning of each unit, which outlines the key ideas for grade 8. The narrative describes the main components of each unit, the new terminology for the course, and how the content connects to prior grades. For example, in Unit 4 the materials state, "In this unit, students build on their grades 6 and 7 work with equivalent expressions and equations with one occurrence of one variable, learning algebraic methods to solve linear equations with multiple occurrences of one variable."

Materials include guidance, protocols, and/or templates for unit and lesson internalization.

- The Priority and Category list in the Anticipation Guide includes guidance on the priority of the lessons throughout the units and a summary of what students will be learning to aid with internalization. The Teacher Guide for "How to Use These Materials" includes outlines of how the unit lessons are structured and includes guidance on implementing instructional routines in the classroom. The materials state, "These lesson plans include a small set of activity structures and reference a small, high-leverage set of teacher moves that become more and more familiar to teachers and students as the year progresses."
- The Unit 2 Launch includes insight into the activities and rationale behind students' learning. The Activity Synthesis highlights connections for deepening understanding and anticipated areas where students may benefit from additional support.
- The Section Level Planning Guide at the beginning of each unit outlines the unit and includes guidance on areas in the resource including Explore, Deep Dive, Synthesize and Apply, and Anytime Resources.

Materials include resources and guidance to support administrators and instructional coaches with implementing the materials as designed.

- The materials provide guidance for administrators and coaches implementing the materials. The information within the Course Overview, Design Principles section includes guidance for the development of teachers to support implementation. The guidance states, "Professional learning for the curriculum materials includes video of the routines in classrooms so teachers

understand what the routines look like when they are enacted. Teachers also have opportunities in curriculum workshops and PLCs to practice and reflect on their own enactment of the routines."

- The Instructional Routines section of the Course Guide describes both warm-up and lesson routines with their function and identifies what the routine looks like during instruction. The instructional routines support student engagement in math, student contribution with their voice, and provide a predictable learning context for students. This provides additional information on the routines the curriculum includes for lesson delivery.
- The About These Materials section includes a Further Reading section with research articles about instructional components and content. The section preface states, "These are recommendations that can be used as resources for study to renew and fortify the knowledge of elementary mathematics teachers and other educators." These resources support other educators such as administrators and coaches.

Intentional Instructional Design

1.2	Unit-Level Design	3/4
1.2a	Materials include comprehensive unit overviews that provide the background content knowledge and academic vocabulary necessary to effectively teach the concepts in the unit.	**1/2**
1.2b	Materials contain supports for families in both Spanish and English for each unit with suggestions on supporting the progress of their student.	**2/2**

The materials include comprehensive unit overviews that provide the background content knowledge necessary to effectively teach the concepts in the units. Materials do not include comprehensive unit overviews that provide academic vocabulary necessary to effectively teach the concepts in the unit. Materials contain supports for families in English for each unit with suggestions on supporting the progress of their students. Materials contain supports for families in both Spanish and English for each unit with suggestions on supporting the progress of their student.

Evidence includes, but is not limited to:

Materials include comprehensive unit overviews that provide the background content knowledge and academic vocabulary necessary to effectively teach the concepts in the unit.

- The materials include a narrative section that includes an overview and background content knowledge, outlining the key ideas for the grade 8 materials. The narrative describes the main components of each unit, the new terminology for the grade level, and how the content connects to prior grades. Teachers are provided with a slide deck for the entire year of glossary terms that include the word, definition, and graphic or picture.
- The materials provide access to a set of academic terms within the resources. At the beginning of the course and throughout the units, the materials contain Glossary Terms. This includes a slide deck providing "a complete grade-level list including word, definition, and picture for all vocabulary words introduced in the IM Math curriculum." However, academic vocabulary is not clearly provided in the unit overviews. Academic vocabulary directly connected with each lesson or activity is not evident. Academic vocabulary is only offered for the entire resource. The glossary terms provided are insufficient to teach each unit's concepts effectively.

Materials contain supports for families in both Spanish and English for each unit with suggestions on supporting the progress of their student.

- The materials contain resources to support families with information to assist their students in learning in English and in Spanish. Family Support Materials in each unit provide an overview of student learning objectives and suggestions for ways caregivers can support the unit learning at home. Additionally, caregivers can access their student's progress.
- Each unit overview includes family support materials in English and Spanish. These materials can be accessed online or in PDF form and include lesson videos. The materials provide a

description of problem-based curriculum, support for learners, and ideas to encourage learners to be successful.

Intentional Instructional Design

1.3	Lesson-Level Design	34/34
1.3a	Materials include comprehensive, structured, detailed lesson plans that include daily objectives, questions, tasks, materials, and instructional assessments required to meet the content and language standards of the lesson.	**30/30**
1.3b	Materials include a lesson overview outlining the suggested timing for each lesson component.	**1/1**
1.3c	Materials include a lesson overview listing the teacher and student materials necessary to effectively deliver the lesson.	**2/2**
1.3d	Materials include guidance on the effective use of lesson materials for extended practice (e.g., homework, extension, enrichment).	**1/1**

The materials include comprehensive, structured, detailed lesson plans that include questions, tasks, materials, and instructional assessments required to meet the content and language standards of the lesson. Materials include a lesson overview outlining the suggested timing for each lesson component. Materials include a lesson overview listing the teacher and student materials necessary to effectively deliver the lesson. Materials include guidance on the effective use of lesson materials for extending practice.

Evidence includes, but is not limited to:

Materials include comprehensive, structured, detailed lesson plans that include daily objectives, questions, tasks, materials, and instructional assessments required to meet the content and language standards of the lesson.

- The online materials provide the teacher with comprehensive, structured, and detailed lessons that include questions to meet the content and language standards of the lesson. For example, in Unit 1, Lesson 1, the materials suggest questions to ask students such as "The proportional relationship y=5.5x includes the point (18,99) on its graph. How could you choose a scale for a pair of axes with a 10 by 10 grid to show this point?" and "What are some things you learned about graphing today that you are going to try to remember for later?"
- The materials provide Unit Narratives and learning goals for the teacher to internalize the lesson. Teachers are provided with a pre-assessment to check for student readiness, a mid-unit assessment, and an end-of-unit assessment. All assessments include multiple ways for students to show their learning.
- The materials include a lesson narrative, learning goals, and student-facing learning targets. A list of required materials and a description of the required preparation for the upcoming lesson is included in the material. The lessons provide clear descriptions of how to launch tasks, advance students' thinking, and how to engage the class in an activity synthesis.

Materials include a lesson overview outlining the suggested timing for each lesson component.

- The materials provide timing for the units in the Texas Scope and Sequence. Teachers are provided with the number of days needed to teach the lesson and days needed for reteaching and assessment.
- The material includes overall timing for lesson components such as the warm-up, the instructional activities, the lesson synthesis, and the cool-down. Each of the lesson phases has a link in the system which requires teachers to click each one to determine the total timing for the lesson. For example, Unit 3 Lesson 1 contains four parts including 1.1: Warm-up for 5 minutes, 1.2: Moving Through Representations for 15 minutes, 1.3: Moving Twice as Fast for 15 minutes, and 1.4: Cool-down for 5 minutes for a total of 40 minutes for the lesson sequence.

Materials include a lesson overview listing the teacher and student materials necessary to effectively deliver the lesson.

- The materials provide a section in the Course Overview titled "Required Materials" that lists the materials needed for each unit. This includes various items such as manipulatives, copies, and pre-cut materials. This section describes what teachers need to do before the lesson to prepare materials.
- At the lesson level, the materials provide a list of materials needed to support the lesson's objective by stating the Required Materials and the Required Preparation for the lesson. For example, in Unit 2, Lesson 2, the Required Materials state, "Pre-printed slips, cut from copies of the blackline master and straightedges" and the Required Preparation states "For Card Sort: Proportional Relationships, prepare 1 copy of the blackline master for every 2 students and cut them up ahead of time. Provide access to straightedges."

Materials include guidance on the effective use of lesson materials for extended practice (e.g., homework, extension, enrichment).

- The Section Level Planning guide for each lesson includes a description that includes guidance on what students can use for ongoing practice. In Unit 3, the materials state, "Assign one or more of the distributed practice problem sets from Lessons 1–4 to be completed over the time period that the section is being worked on."
- The Section Level Guide also includes "Anytime Resources" that can be used outside of instructional time for extended practice. Unit 3 suggests "Grade 7 Unit 2 Lesson 10: Activities 1 and 2 can be completed digitally. This lesson launches the introduction to graphing proportional relationships."
- The Family Support Materials found at the beginning of each lesson offer teachers activities that can be sent home with students for extended practice. For example, the materials for grade 8 Unit 3 describe the lesson, ask a question stem, and provide a solution to support students working at home.

Progress Monitoring

2.1	Instructional Assessments	21/24
2.1a	Materials include a variety of instructional assessments at the unit and lesson level (including diagnostic, formative, and summative) that vary in types of tasks and questions.	**12/12**
2.1b	Materials include the definition and intended purpose for the types of instructional assessments included.	**2/2**
2.1c	Materials include teacher guidance to ensure consistent and accurate administration of instructional assessments.	**0/2**
2.1d	Diagnostic, formative, and summative assessments are aligned to the TEKS and objectives of the course, unit, or lesson.	**6/6**
2.1e	Instructional assessments include standards-aligned items at varying levels of complexity.	**0/2**

The materials include a variety of instructional assessments at the unit and lesson level that vary in types of tasks and questions. Materials include the definition and intended purpose for the types of instructional assessments. Materials do not ensure consistent and accurate administration of instructional assessments. Materials include diagnostic, formative, and summative assessments that align to the TEKS and objectives of the course, unit, and lesson. Materials do not include assessments that vary in levels of complexity.

Evidence includes, but is not limited to:

Materials include a variety of instructional assessments at the unit and lesson level (including diagnostic, formative, and summative) that vary in types of tasks and questions.

- Materials provide various tasks at the unit level as seen in the grade 8 materials. Each unit includes a Check for Readiness diagnostic assessment, a formative cumulative practice, and a summative end-of-unit assessment. These materials feature a variety of question formats on the instructional assessments, including open-ended questions, short responses, multi-select, and multiple choice.
- Each lesson plan provides opportunities for formative assessment in various formal and informal ways. Opportunities include warm-ups, tasks throughout the lessons such as turn and talks, and cool-downs.
- The materials include a range of tasks at the lesson level. Each lesson includes a warm-up, activities, and a cool-down. The warm-ups often include activation of prior knowledge which may be considered diagnostic. For example, in grade 8, Unit 1, Lesson 1, students are asked to recall which information they remember from previous grades about linear graphs. The activities allow opportunities for students to share their understanding in a formative nature, and the cool-downs are often open-ended questions that require students to show what they have learned.

Materials include the definition and intended purpose for the types of instructional assessments included.

- The materials include definitions of instructional assessments in the Course Overview, Teacher Guide, and Assessment section. This description includes the purpose of each assessment, guidance on strategies teachers might use to administer the assessments, and examples. For instance, information about the diagnostic assessment states "Most of the problems address prerequisite concepts and skills for the unit. Teachers can use these problems to identify students with below-grade needs, or topics to carefully address during the unit. Check Your Readiness also may include problems that assess what students already know of the upcoming unit's key ideas, which teachers can use to pace or tune instructions; in rare cases, this may signal the opportunity to move more quickly through a topic to optimize instructional time."
- The Teachers Guide includes a rationale for the intended purpose of instructional assessments. It provides a narrative that details the lesson that each question is related to and what to do if a student misses the item. For example, the resource states "This item assesses how students approach finding the area of a rectangle with whole-number side lengths. Including tick marks is to help students who wish to draw a grid of unit squares. Responses that show drawing with the incorrect number of unit squares, irregular rows, or irregular columns may indicate that students have not yet learned to structure two-dimensional space; that is, to see a rectangle with whole-number side lengths as composed of unit squares or composed of iterated rows or columns of unit squares."

Materials include teacher guidance to ensure consistent and accurate administration of instructional assessments.

- The Cumulative Practice questions located at the end of every lesson include notes for evaluating responses and samples of how students might respond. This is provided to assist teachers with consistent administration and scoring of each assessment item. This resource does not assist in the consistent or accurate administration of instructional assessments.
- Materials do not include teacher guidance to ensure accurate administration of the assessments. Teachers need additional guidance on how long tests should take, how to score and calibrate, and how to provide instruction and support to the students during the assessment.

Diagnostic, formative, and summative assessments are aligned to the TEKS and objectives of the course, unit, or lesson.

- The Section Level Planning Guide includes a table that indicates the objective and related assessment suggestions for each lesson. The publisher provided a separate Formative Assessments — TX TEKS document that shows the alignment of the TEKS. This document includes the diagnostic, formative, and summative assessments within the material.

- The diagnostic, formative, and summative assessments are aligned with the TEKS, and objectives of each unit as outlined in the Formative Assessments — TX TEKS document provided by the publisher. For example, the document identifies Unit 2 Lesson 11.1 Warm-up as TEKS 8.4C, Unit 8 Lesson 7 Grade 8.8 Cumulative Pp Set as TEKS 8.6C.

Instructional assessments include standards-aligned items at varying levels of complexity.

- The Formative Assessment document outlines the alignment between the TEKS and the formative assessments within the resources. This resource includes the TEKS, the location of the formative assessment, and a description of what TEKS the formative assessment aligns with. The materials do not include items at varying levels of complexity.
- The End of Unit assessments include multiple-choice, multi-select, drawing, and short-answer open-response item types aligned to the assessment's objective. Items vary in item type but are not labeled as varying levels of complexity. There is no label of Depth of Knowledge or varying levels of Bloom's Taxonomy mentioned to support varying levels of complexity within the questions.

Progress Monitoring

2.2	Data Analysis and Progress Monitoring	4/4
2.2a	Instructional assessments and scoring information provide guidance for interpreting and responding to student performance.	**2/2**
2.2b	Materials provide guidance for the use of included tasks and activities to respond to student trends in performance on assessments.	**1/1**
2.2c	Materials include tools for students to track their own progress and growth.	**1/1**

The instructional assessment and scoring information provide guidance for interpreting and responding to student performance. Materials provide guidance for the use of included tasks and activities to respond to student trends in performance on assessments. Materials include tools for students to track their own progress and growth.

Evidence includes, but is not limited to:

Instructional assessments and scoring information provide guidance for interpreting and responding to student performance.

- The materials provide teachers with guidance on responding to student performance on assessments. The PDF version of the teacher's guide includes suggestions for teachers on how to proceed with students who miss each question on the Check for Readiness Assessment. For example, in the Response to Student Thinking, teachers are told "If students struggle with the general concept of describing ratios in the cool-down, plan to focus on the verbal description of ratios when opportunities arise over the next several lessons. For example, in Activity 2 of Lesson 4, ask students to clearly articulate the association between the two quantities."
- The Cumulative Practice questions contain guidance for educators to assess student performance by providing evaluation criteria and examples of potential student responses. This resource is designed to help teachers maintain consistency in administering and evaluating each assessment item. For example, each cumulative assessment and end-of-unit assessment includes guidance on the total number of points for each test and the number of points for each question in the assessment.
- Within the Formative Assessment Opportunities section, the materials include information for teachers to interpret and respond to student responses as specified. The materials state, "Each instructional task is accompanied by commentary about expected student responses and opportunities to advance student thinking so that teachers can adjust their instruction depending on what students are doing in response to the task. Often, there are suggested questions to help teachers better understand students' thinking."

Materials provide guidance for the use of included tasks and activities to respond to student trends in performance on assessments.

- Guidance is provided for teachers on how to respond to student performance on assessments. The cool-down provides a section, Responding to Student Thinking, which includes guidance on misconceptions. Lesson 1 cool-down states "If most students struggle with this item, plan to use this problem or a similar one as an additional warm-up activity."
- The diagnostic assessments, such as the Check Your Readiness, include guidance on how to respond to student thinking and direct teachers to tasks and activities such as additional warm-ups or lessons to support learning of the concepts missed.

Materials include tools for students to track their own progress and growth.

- The Student Dashboard allows students to track their progress and growth. Students can see late assignments, notifications about their assignments, grades, and teacher's feedback. This dashboard shows their overall grade but also breaks down the student's learning by standard.
- The section titled Information for Families provides students with student learning targets and a self-assessment tool. The resource includes lesson summaries, lessons, and practice sets students can use to track their progress through the course.

Supports for All Learners

3.1	Differentiation and Scaffolds	6/8
3.1a	Materials include teacher guidance for differentiated instruction, activities, and/or paired (scaffolded) lessons for students who have not yet reached proficiency on grade-level content and skills.	**3/3**
3.1b	Materials include pre-teaching or embedded supports for unfamiliar vocabulary and references in text (e.g., figurative language, idioms, academic language). (T/S)	**1/2**
3.1c	Materials include teacher guidance for differentiated instruction, enrichment, and extension activities for students who have demonstrated proficiency in grade-level content and skills.	**2/3**

The materials include teacher guidance for differentiated instruction, activities, and/or paired (scaffolded) lessons for students who have not yet reached proficiency on grade-level content and skills. Materials include pre-teaching or embedded supports for unfamiliar vocabulary in text (e.g., figurative language, idioms, academic language). Materials do not include pre-teaching or embedded supports for references in text (e.g., figurative language, idioms, academic language). Materials include teacher guidance for enrichment and extension activities for students who are proficient in grade-level content and skills. Materials do not include guidance for differentiated instruction for students who are proficient in grade-level content and skills.

Evidence includes, but is not limited to:

Materials include teacher guidance for differentiated instruction, activities, and/or paired (scaffolded) lessons for students who have not yet reached proficiency on grade-level content and skills.

- The Teacher's Course Guide provides teachers with all the elements of the resource that provide more access for students with disabilities. These elements provide structure for all students who have yet to reach proficiency on grade-level content and skills. The structures the text provides include consistent lesson structure, concepts developed from concrete to abstract, brain breaks, and planned processing time. Additional supports are designed using the Universal Design for Learning Guidelines provided in the material. Each lesson is carefully designed to maximize engagement and accessibility for all students. The Course Guide states, "Purposeful design elements support access for all learners but are especially helpful for students with disabilities."
- The materials include differentiated activities that provide guidance for teachers to support students still developing proficiency with grade-level content and skills. Lesson 2 includes opportunities for students to work together in dialogue before responding to the teacher. This differentiated activity provides students with time to process the information with a peer before sharing their thinking with the whole group.
- The Teacher's Guide includes Supporting Diverse Learners, Universal Design for Learning, and Access for Students with Disabilities. These sections describe features of the lessons that support learners of different levels.

Materials include pre-teaching or embedded supports for unfamiliar vocabulary and references in text (e.g., figurative language, idioms, academic language). (T/S)

- The materials include teacher guidance to support students with unfamiliar vocabulary found within the unit. For instance, Unit 8 includes guidance to help teachers introduce the concept of the Pythagorean Theorem and hypotenuse. The text reads, "Then tell students that the Pythagorean Theorem says: If a, b, and c are the sides of a right triangle, where c is the hypotenuse, then $a^2 + b^2 = c^2$." Similar guidance is provided for teachers whenever new vocabulary is introduced in the lessons.
- The New Terminology table in Unit 3 provides the teacher with an overview of where new vocabulary words appear within the lesson. The table identifies the vocabulary as receptive and productive vocabulary words. The resource states "The table shows lessons where new terminology is first introduced, including when students are expected to understand the word or phrase receptively and when students are expected to produce the word or phrase in their own speaking or writing."
- Materials provide information to assist teachers in anticipating students using unfamiliar vocabulary for mathematical purposes such as comparing, explaining, and describing. Throughout the unit, students will benefit from routines designed to support and grow a robust disciplinary language, both for their own sense-making and for building shared understanding with peers. Teachers can formatively assess how students are using language in these ways, particularly when students are using language to compare, explain, and describe. Materials do not include supports for unfamiliar references in the text.

Materials include teacher guidance for differentiated instruction, enrichment, and extension activities for students who have demonstrated proficiency in grade-level content and skills.

- The materials state, "Every extension problem is made available to all students with the heading 'Are You Ready for More?' These problems go deeper into grade-level mathematics and often make connections between the topic at hand and other concepts. Some of these problems extend the associated activity's work, but some involve work from prior grades or units in the course. The materials state that these problems are "not routine or procedural and they are not just the same thing again but with harder numbers."
- The materials provide teacher guidance for enrichment activities for students who have demonstrated proficiency in grade-level content and skills. The teacher guide includes the section "What is a Problem-Based Curriculum?" which states "The teacher's role is to ensure students understand the context and what is being asked, and to ask questions to advance students' thinking in productive ways." For example, in Unit 5, Lesson 22, the materials provide an enrichment activity to give students more experience working with non-linear functions that arise out of the work students have been doing with the volume of cylinders, cones, and spheres.
- Materials do not include teacher guidance for differentiated instruction for students who have demonstrated proficiency in grade-level content and skills. The materials include a Section

Level Planning guide that provides teachers with guidance on Deep Dive activities and assessment suggestions. These activities are intended to support teachers with guidance on how to deepen the learning for students who have shown proficiency with the grade level content in the form of practice and assessment but do not include guidance for differentiated instruction.

Supports for All Learners

3.2	Instructional Methods	11/13
3.2a	Materials include prompts and guidance to support the teacher in modeling, explaining, and communicating the concept(s) to be learned explicitly (directly).	**4/6**
3.2b	Materials include teacher guidance and recommendations for effective lesson delivery and facilitation using a variety of instructional approaches.	**4/4**
3.2c	Materials support multiple types of practice (e.g., guided, independent, collaborative) and include guidance for teachers and recommended structures (e.g., whole group, small group, individual) to support effective implementation.	**3/3**

The materials include prompts and guidance that support the teacher in explaining and communicating the concepts to be learned. Materials do not include prompts and guidance to support the teacher in modeling the concepts to be learned. Materials include teacher guidance and recommendations for effective lesson delivery and facilitation using various instructional approaches. Materials support multiple types of practice and include guidance for teachers and recommended structures to support effective implementation.

Evidence includes, but is not limited to:

Materials include prompts and guidance to support the teacher in modeling, explaining, and communicating the concept(s) to be learned explicitly (directly).

- The Lesson Narrative or Activity Narrative provided in each lesson and unit guides teachers with prompts to explain the concept to be learned. For instance, the Lesson Narrative in Unit 1, Lesson 2 states, "This lesson is to introduce students to translations and rotations of plane figures and to have them describe these movements in everyday language. Expect students to use words like slide and turn. In the next lesson, they will be introduced to mathematical terms. The term transformation is not yet used and will be introduced in a later lesson."
- Through the Launch of the lessons, the material includes explicit guidance and prompts to support the teacher in communicating the concept to be learned. Unit 2, Lesson 1 states, "Arrange students in groups of two. Provide each group with two whole sheets of paper, scissors, and a long straightedge. Direct students to create rectangles by folding and cutting an 8.5-inch by 11-inch piece of paper in half, and so on, as illustrated in the task statement. (Alternatively, these rectangles could be pre-cut and a set of 5 pre-cut rectangles provided to each group.)" The Building on Student's Thinking section guides the teacher through the situation where "Some students may forget how to check if two rectangles are scaled copies of one another. Prompt them to compare measurements of corresponding sides to see if they have the same scale factor. Students may recall that scaled copies have corresponding angles of the same measure, but they may not recall that equal angle measurements don't necessarily mean you have scaled copies." The text gives explicit guidance to support the teacher in communicating the concept to be learned.
- While the materials do have a short lesson narrative for teachers in the Lesson Summary, the guidance does not provide teachers with clarity on how to model the concept for students. For

example, the description in Unit 2, Lesson 6 says, "One method is to apply a dilation to one figure so that the corresponding figures are congruent. Then a sequence of rigid motions will finish taking one shape to the other. Alternatively, we could translate one pair of corresponding vertices together, apply rotations and reflections to adjust the orientations, and then conclude with a dilation so that they match." From this description, teachers are not given examples to model or practice these ideas with students.

Materials include teacher guidance and recommendations for effective lesson delivery and facilitation using a variety of instructional approaches.

- The Course Guide includes teachers eight instructional routines for delivering and facilitating an effective lesson. These instructional approaches include Stronger and Clearer Each Time, Collect and Display, Critique, Correct, Clarify, Information Gap Cards, Co-Craft Questions, Three Reads, Compare and Connect, and Discussion Supports.
- Teachers are offered a variety of instructional approaches for delivering an effective lesson. For example, the Course Guide Course Overview Instructional Approaches section lists the "MLR1: Stronger and Clearer Each Time" strategy. This strategy is described as a chance to "provide a structured and interactive opportunity for students to revise and refine their ideas and verbal and written output." This routine provides a purpose for student conversation as well as fortifies output."
- The materials offer a variety of instructional approaches for facilitating an effective lesson. The Lesson 9 Activity Synthesis in Unit 2 tells teachers to "Ask students if they think the value of (medium side) ÷ (long side) would be 57 for any triangle similar to ABC. Ask them to explain why. Help them see that a triangle like ABC will have side lengths 4s, 5s, and 7s for some (positive) scale factors.

Materials support multiple types of practice (e.g., guided, independent, collaborative) and include guidance for teachers and recommended structures (e.g., whole group, small group, individual) to support effective implementation.

- The materials provide teachers with guidance for effectively implementing the content. In Unit 8, Lesson 6, the Activity Synthesis states "Ask selected students to share their reasoning. Make sure the class comes to an agreement."
- Materials support multiple types of practice to support effective implementation. Warm-ups, activities, and cool-downs are provided in every lesson for student practice. Materials provide step-by-step instructions for guided practice, independent practice, and collaborative practice. For example, Unit 6, Lesson 1 Launch asks the teacher to have students think-pair-share their ideas relative to solving number puzzles and the strategies the student used to represent the puzzle.
- The materials include different learning structures such as individual, small group, and whole group. For example, Unit 3 Lesson 1 Launch guides the teacher to give students quiet individual think time for a few minutes, small group sharing with their partners, and then a whole-class follow-up discussion.

Supports for All Learners

3.3	Supports for Emergent Bilingual Students	8/11
3.3a	Materials include teacher guidance on providing linguistic accommodations for various levels of language proficiency [as defined by the English Language Proficiency Standards (ELPS)], which are designed to engage students in using increasingly more academic language.	1/2
3.3b	Materials include implementation guidance to support teachers in effectively using the materials in state-approved bilingual/ESL programs.	1/1
3.3c	Materials include embedded guidance for teachers to support emergent bilingual students in developing academic vocabulary, increasing comprehension, building background knowledge, and making cross-linguistic connections through oral and written discourse.	6/8
3.3d	If designed for dual language immersion (DLI) programs, materials include resources that outline opportunities to address metalinguistic transfer from English to the partner language.	Not scored

The materials include teacher guidance on linguistic accommodations designed to engage students in using increasingly more academic language. Materials do not include guidance on providing linguistic accommodations for various levels of language proficiency. Materials include implementation guidance to support teachers in effectively using the materials in state-approved bilingual/ESL programs. Materials include guidance for teachers to support emergent bilingual students in developing academic vocabulary, increasing comprehension, and building background knowledge through oral and written discourse. Materials do not provide guidance in supporting cross-linguistic connections. The materials are not designed for dual language immersion programs.

Evidence includes, but is not limited to:

Materials include teacher guidance on providing linguistic accommodations for various levels of language proficiency [as defined by the English Language Proficiency Standards (ELPS)], which are designed to engage students in using increasingly more academic language.

- The Teacher's Guide provides linguistic accommodations through Math Language Routines designed to engage students in academic language development. For example, the Stronger and Clearer Each Time routine guide for Unit 2, Lesson 7 directs the teacher to "give students time to meet with 2–3 partners to share and get feedback on their first draft response to whether they agree with Jada or Lin in the final question." The materials have teachers invite listeners to ask questions and give feedback that will help their partner clarify and strengthen their ideas and writing. Teachers should give students 3–5 minutes to revise their first draft based on the feedback they receive.
- The materials include a broad section in each lesson called "Support for English Learners." This section includes one of the Math Language Routines with ideas on how to engage students in listening, speaking, reading, and writing with content. Each lesson in the materials

includes one of these language routines for all students. The materials do not include guidance on providing accommodations for students at various levels of language development.

Materials include implementation guidance to support teachers in effectively using the materials in state-approved bilingual/ESL programs.

- The materials provide Mathematical Language Routines (MLRs) that are "grounded in four design principles that promote mathematical language use and development." The materials define MLRs as "instructional routines that provide structured but adaptable formats for amplifying, assessing, and developing students' language."
  The materials include a section titled Supporting Diverse Learners that supports teachers in effectively using the materials. The materials state, "Embedded MLRs are described in the teacher notes for the lessons in which they appear." They continue to state "MLRs are written into each lesson, either as an embedded structure of a lesson activity in which all students engage, or as a suggested optional support specifically for English learners."

Materials include embedded guidance for teachers to support emergent bilingual students in developing academic vocabulary, increasing comprehension, building background knowledge, and making cross-linguistic connections through oral and written discourse.

- The Course Guide describes instructional strategies for developing academic vocabulary and increased comprehension through oral and written discourse. For example, the Clarify, Critique, Correct Routine states, "This routine fortifies output and engages students in meta-awareness."
- The Course Guide provides teachers with sentence frames to support Emergent Bilingual (EB) students in oral and written discourse to increase comprehension of the content. These sentence frames are open-ended to "amplify language production rather than constrain it." The sentence frames are generic enough to be used with any topic and provide the language functions of describing, explaining, justifying, generalizing, critiquing, comparing and contrasting, representing, and interpreting.
- Unit 1, Lesson 1 supports EB students in building background knowledge using Math Language Routine 2, which states, "The purpose of this routine is to capture a variety of students' words and phrases in a display that students can refer to, build on, or make connections with during future discussions, and to increase students' awareness of language used in mathematic conversations." The materials do not provide guidance on making cross-linguistic connections through oral or written discourse.

If designed for dual language immersion (DLI) programs, materials include resources that outline opportunities to address metalinguistic transfer from English to the partner language.

- The materials are not designed for dual language immersion programs. However, the materials include a section in each lesson called Support for English Learners. This section

includes a Math Language Routine with ideas on how to engage students in listening, speaking, reading, and writing with content. Each lesson in the materials includes one of these language routines for all students. The Course Guide also supports teachers by providing sentence frames to support emergent bilingual students in oral and written discourse to increase comprehension of the content.

Depth and Coherence of Key Concepts

4.1	Depth of Key Concepts	3/3
4.1a	Practice opportunities over the course of a lesson and/or unit (including instructional assessments) require students to demonstrate depth of understanding aligned to the TEKS.	**1/1**
4.1b	Questions and tasks progressively increase in rigor and complexity, leading to grade-level proficiency in the mathematics standards.	**2/2**

The materials provide opportunities for students to demonstrate their depth of understanding aligned to the TEKS. Materials supply teachers with questions and tasks that increase in rigor and complexity with grade-level mathematical standards.

Evidence includes, but is not limited to:

Practice opportunities over the course of a lesson and/or unit (including instructional assessments) require students to demonstrate depth of understanding aligned to the TEKS.

- At the end of each unit, students complete an End-of-Unit Assessment that requires students to demonstrate their depth of understanding. The Teacher Guide states, "These assessments have a specific length and breadth, with problem types that are intended to gauge students' understanding of the key concepts of the unit while also preparing students for new-generation standardized exams."
- The publisher provides a separate document linking each unit to a list of TEKS covered in the lesson. For example, to address Texas Essential Knowledge and Skill standard 8.5I, Unit 5, Lesson 3, the Lesson Narrative states "This is the first of five lessons that introduces and connects the different ways in which we represent functions in mathematics: verbal descriptions, equations, tables, and graphs. In this lesson, students transition from input-output diagrams and descriptions of rules to equations."

Questions and tasks progressively increase in rigor and complexity, leading to grade-level proficiency in the mathematics standards.

- The materials provide practice questions relevant to the lesson and increase in complexity and rigor. For example, in the Cumulative Practice Problems Set for Unit 5 Lesson 8 question 3, the students are given a three-part question. Part A asks the students to describe the lines that represent the citation as going up or down. Part B asks the students to describe the differences between the two lines, and Part C asks the students to compare the two lines.
- The materials provide teachers with an example of tasks that progressively increase in rigor and complexity. In the Teacher Guide, Unit 4, Lesson 7, teachers are given instructions for the TEKS about finding volume for cylinders, cones, and spheres. This lesson begins with connecting the volume of rectangular prisms (from previous grades) to the volume of a cylinder with a height of one and then moves to the volume of cylinders with other heights.

- Tasks in the materials increase in rigor as the learning lessons move throughout the unit. For example, in grade 8, Unit 2, students progress from lessons involving dilations on a graph to connecting their understanding to explore the concept of slope.

Depth and Coherence of Key Concepts

4.2	Coherence of Key Concepts	12/12
4.2a	Materials demonstrate coherence across courses/grade bands through a logically sequenced and connected scope and sequence.	**2/2**
4.2b	Materials demonstrate coherence across units by explicitly connecting patterns, big ideas, and relationships between mathematical concepts.	**3/3**
4.2c	Materials demonstrate coherence across units by connecting the content and language learned in previous courses/grade levels and what will be learned in future courses/grade levels to the content to be learned in the current course/grade level.	**3/3**
4.2d	Materials demonstrate coherence at the lesson level by connecting students' prior knowledge of concepts and procedures from the current and prior grade level(s) to new mathematical knowledge and skills.	**4/4**

The materials demonstrate logically sequenced and connected scope and sequence across grade bands. Materials demonstrate coherence across units by explicitly connecting patterns, big ideas, and relationships between mathematical concepts. Materials demonstrate coherence across units by connecting the content and language learned in previous grades and what will be learned in future grades to the content to be learned in the current grade level. Materials demonstrate coherence between the students' prior knowledge of concepts and procedures to the current grade-level mathematical knowledge and skills at the lesson level.

Evidence includes, but is not limited to:

Materials demonstrate coherence across courses/grade bands through a logically sequenced and connected scope and sequence.

- The scope and sequence of the material describes how unit topics are logically sequenced. In the Unit Dependency Chart, an arrow indicates that a particular unit is designed for students who already know the material in a previous unit. The materials state that "Reversing the order would have a negative effect on mathematical or pedagogical coherence."
- The grade 8 Course Guide Narrative includes a detailed description of the progression of the units as well as how the units connect to prior grade levels. The materials are logically sequenced in the course narrative. For example, in the grade 8 progression details for Unit 1, the materials share details about prior grade-level experiences by sharing the following: "Students began to learn about two- and three-dimensional shapes in kindergarten, and continued this work in grades 1 and 2, composing, decomposing, and identifying shapes." From here, they continue to describe how to connect this prior learning to the current unit.
- The Course Guide provides teachers with a dependency guide that outlines the vertical alignment of each unit between grade 6 and grade 8. The Course Guide also provides teachers with a dependency guide for grade 3 through grade 8 for those who need to know the sequence of lower grades to work with their students. For example, the information in Unit 6.1 leads to Unit 7.7 which then leads to Unit 8.5.

Materials demonstrate coherence across units by explicitly connecting patterns, big ideas, and relationships between mathematical concepts.

- The materials begin with the concrete concept of Rigid Transformations and Congruence, before moving on to Dilations and Similarity, Linear Relationships, Linear Equations and Linear Systems, Functions and Volume, Associations in Data, Exponents and Scientific Notation, and then Pythagorean Theorem. Although districts may choose or prefer various sequences of instruction, this is a coherent flow of the big ideas that will connect concepts for students across the grade 8 materials.
- The Course Guide Narrative describes coherence across units connecting big ideas of mathematical concepts. The sequence of concepts is as follows: Rigid Transformations and Congruence, Dilations, Similarity, and Introducing Slope, Linear Relationships, Linear Equations and Linear Systems, Functions and Volume, Associations in Data, Exponents and Scientific Notation, and Pythagorean Theorem and Irrational Numbers.

Materials demonstrate coherence across units by connecting the content and language learned in previous courses/grade levels and what will be learned in future courses/grade levels to the content to be learned in the current course/grade level.

- The materials reference prior learning which assists teachers in understanding how to connect the content being learned in the current course to the previous grade level. Unit 2 Lesson 1.2 Warm-Up begins by reminding the teacher that students learned about the scaled copies in previous grades by sharing that "This activity recalls work from grade 7 on scaled copies, purposefully arranging a set of scaled copies to prepare students to understand the process of dilation." As the lesson progresses, students make connections to the dilations they will be using in the grade 8 materials.
- The material describes what the students will learn and how it's related to concepts and language learned in future grade levels. For example, the Unit 5 Unit Narrative states "Exponents — in particular, negative exponents — are not a focus of this unit. Students work with integer exponents in grade 8 and non-integer exponents in high school."
- The materials connect the current grade level content to how that content will be seen in future grade levels. For example, Unit 3 Narrative provides the teacher with information about the content that students have seen in previous units that relate to the material in this unit. In this example, teachers are informed that at the end of the previous unit on dilations, students learned the terms slope and slope triangle, and used the similarity of slope triangles on the same line to understand that any two distinct points on a line determine the same slope, and found an equation for a line with a positive slope and vertical intercept. "In this unit, students gain experience with linear relationships and their representations as graphs, tables, and equations through activities designed and sequenced to allow them to make sense of problems and persevere in solving them (MP1). Because of this dependency, this unit and the previous one should be done in order."

Materials demonstrate coherence at the lesson level by connecting students' prior knowledge of concepts and procedures from the current and prior grade level(s) to new mathematical knowledge and skills.

- The materials provide teachers with opportunities to learn about students' prior understanding of concepts and procedures. To connect to students' prior understanding, in Unit 2, Lesson 6.1, teachers are reminded that students worked with operations and properties of operations in prior grades. In this unit, the materials ask teachers to "Arrange students in groups of two. Tell students they are writing a list of several expressions equivalent to 10(2+3)−8·3. Give students two minutes of quiet think time followed by one minute to discuss their responses with a partner." Students use prior content knowledge to apply it to a new type of problem. The Lesson Narrative in Unit 5, Lesson 8 instructs teachers that the students will be using linear functions in the next three lessons, but that "Students are already familiar with linear equations and their graphs from previous units."
- The materials provide students with opportunities to connect prior knowledge of concepts and procedures from the current grade level. For example, in Unit 3, Lesson 4, the students participate in an activity, Comparing Two Different Representations, which states "The purpose of this activity is for students to compare two different proportional relationships represented in different ways using the skills they have worked on over the past three lessons."

Depth and Coherence of Key Concepts

4.3	Spaced and Interleaved Practice	4/8
4.3a	Materials provide spaced retrieval opportunities with previously learned skills and concepts across lessons and units.	**4/4**
4.3b	Materials provide interleaved practice opportunities with previously learned skills and concepts across lessons and units.	**0/4**

The materials provide spaced retrieval opportunities for previously learned skills and concepts across lessons and units. Materials do not provide interleaved practice opportunities with previously learned skills and concepts across the lessons and units.

Evidence includes, but is not limited to:

Materials provide spaced retrieval opportunities with previously learned skills and concepts across lessons and units.

- The materials integrate skills from the current lesson and previous lessons within the same unit. For Example, the Cumulative Practice Problem Set for 5.5.C has 10 questions for both piecewise linear functions (current lesson) and input/output tables (previous lesson).
- The materials provide a spiral review of concepts and skills across lessons. The Unit Assessments have questions about several concepts and skills from all lessons within the unit. For example, the 7.8 End-of-Unit Assessment has questions about several concepts and skills, such as when to divide based on the situation, dividing fractions, and solving problems with fractions.
- The materials provide students with opportunities for spaced retrieval practice to show mastery of previously learned concepts and skills across units. Unit 8, Lesson 1 Practice Problem Set includes practice questions from Unit 8, Lesson 1, but also includes questions from Unit 7, Lesson 14, and Unit 7 Lesson 15.

Materials provide interleaved practice opportunities with previously learned skills and concepts across lessons and units.

- The materials do not provide interleaved practice opportunities for skills and concepts across lessons and units. In Unit 4, Lesson 1.2, the materials have students solve number puzzles to prepare for solving equations. Still, the skills and steps for solving an equation are not interleaved practice opportunities with previously learned skills and concepts across lessons and units. "The purpose of this activity is for students to solve number puzzles using any representation they choose."
- The materials leverage questions that are aligned to each lesson and unit instead of interleaved practice. The cumulative practice questions, mid-unit assessments, and end-of-unit assessments all include questions aligned with the current lesson and unit.

- The materials include a cumulative practice set at the end of each lesson. These question sets are focused on the skills in the current lesson and unit and do not include interleaved practice opportunities across lessons or units.

Balance of Conceptual and Procedural Understanding

5.1	Development of Conceptual Understanding	18/18
5.1a	Questions and tasks require students to interpret, analyze, and evaluate a variety of models and representations for mathematical concepts and situations.	**12/12**
5.1b	Questions and tasks require students to create a variety of models to represent mathematical situations.	**2/2**
5.1c	Questions and tasks provide opportunities for students to apply conceptual understanding to new problem situations and contexts.	**4/4**

The materials include questions and tasks that require students to interpret, analyze, and evaluate a variety of models and representations for mathematical concepts and situations. Materials include questions and tasks that require students to create a variety of models to represent mathematical situations. Materials include questions and tasks that provide opportunities for students to apply conceptual understanding to new problem situations and contexts.

Evidence includes, but is not limited to:

Questions and tasks require students to interpret, analyze, and evaluate a variety of models and representations for mathematical concepts and situations.

- The materials provide questions requiring students to use various models and representations for mathematical situations. For example, in Unit 3, Lesson 1.2, in the Student-Facing Task Statement, the students are given a situation that involves two bugs, a ladybug and an ant. The two bugs move at constant speeds and are represented on number lines. The students are then given a multipart question to answer. The first question asks the students to analyze and identify which line shows the ladybug's and ant's movement. The second question asks the students to interpret the graph and determine how long it takes the ladybug and ant to travel 12 centimeters. Question 5 asks the students to evaluate the graph to determine how fast the ladybug and ant are moving.
- The materials contain tasks that require students to evaluate various representations of mathematical concepts and situations. For example, in Unit 3, Lesson 2.2, in the Student-Facing Task Statement, the students are asked to interpret and analyze 12 proportional relationship graph cards. Students then sort these cards into groups based on what they represent. Next, the students are asked to write an equation to represent the cards that are in each group.

Questions and tasks require students to create a variety of models to represent mathematical situations.

- The materials include questions that require students to use models to represent situations. In the assessment section of the Teacher Guide, the materials note that questions provide

multiple ways for students to demonstrate understanding using representations such as tables, graphs, diagrams, expressions, and equations. The materials contain questions with mathematical situations in which students must create models. For example, in Unit 3, Lesson 5.3, question 1 asks students to create a graph that represents the height of the cups when x number of cups are stacked.

- The materials include tasks that require students to understand mathematical situations seen in data and how to represent them. The Design Principles include information about how when a new representation is introduced, it is often presented with a familiar idea first and students are asked to interpret it. The new representations are connected to familiar representations or extended from familiar representations. Students are then given clear instructions on how to create such a representation as a tool for understanding or solving problems. The materials state, "For subsequent activities and lessons, students are given opportunities to practice using these representations and to choose which representation to use for a particular problem." For example, in Unit 3, Lesson 5.2, the Activity Synthesis has students stack cups to reach a height of 50 centimeters. The students are then asked to create a table to represent the height of the cups based on the number of cups stacked.

Questions and tasks provide opportunities for students to apply conceptual understanding to new problem situations and contexts.

- The materials include questions that prompt the student to apply conceptual understanding to new contexts. The Design Principles discuss the learning progress of students and as students consolidate their conceptual understanding they can see and understand more efficient methods of solving problems. For example, in Unit 3, Lesson 5, Cumulative Practice Problem Set question 2, the students graph a problem situation to represent the cost of painting a house. The students are asked to identify and interpret the slope in the context of the situation.
- The materials provide tasks for students to apply conceptual understanding to new problem situations. For example, in Unit 3 Lesson 5.4, the students are applying what they have learned about graphing a non-proportional relationship to another stack of cups that are different in size from those analyzed in this activity. The question set uses a shorter style cup to model the new problem situation.

Balance of Conceptual and Procedural Understanding

5.2	Development of Fluency	12/12
5.2a	Materials provide tasks that are designed to build student automaticity and fluency necessary to complete grade-level tasks.	**2/2**
5.2b	Materials provide opportunities for students to practice the application of efficient, flexible, and accurate mathematical procedures within the lesson and/or throughout a unit.	**3/3**
5.2c	Materials provide opportunities for students to evaluate procedures, processes, and solutions for efficiency, flexibility, and accuracy within the lesson and throughout a unit.	**6/6**
5.2d	Materials contain embedded supports for teachers to guide students toward increasingly efficient approaches.	**1/1**

The materials provide tasks that are designed to build student automaticity and fluency for grade-level tasks. Opportunities are provided in the material for students to practice efficient, flexible, and accurate mathematical procedures within lessons and units. Materials include the opportunity for students to evaluate procedures, processes, and solutions for efficiency, flexibility, and accuracy within lessons and units. Support is embedded within the material for teachers to guide students toward increasingly efficient approaches.

Evidence includes, but is not limited to:

Materials provide tasks that are designed to build student automaticity and fluency necessary to complete grade-level tasks.

- The materials include tasks designed to build student automaticity and fluency throughout the lessons. The Typical IM Lesson describes the warm-up as an opportunity to strengthen number sense or procedural fluency by asking students to do mental arithmetic or reasoning numerically or algebraically. The warm-up also gives students a chance to make deeper connections and become more flexible in their thinking. For example, in Unit 4, Lesson 1.1, the Warm-Up asks students to write a story and equation that a given number line diagram could represent. Next, the teacher tells the students that the diagram is about money and invites students to share a possible story and equation that the diagram represents.
- The materials provide tasks designed to build student automaticity for grade-level tasks. For example, in Unit 4, Lesson 1.4, the Cool-Down asks students to describe, in words, how many pages Elena has left to read in her book based on the diagram provided. The materials offer appropriate sample student responses that use mathematical language. One example is, "The diagram shows Elena read 1/5 of the book. To represent that Andre read 1/5 of the book, subtract 20 from Elena's 55 pages to get that Andre has read 35 pages. If 35 pages is 1/5 of the book, then the book must be 5·35, or 175 pages long."

Materials provide opportunities for students to practice the application of efficient, flexible, and accurate mathematical procedures within the lesson and/or throughout a unit.

- The materials offer students opportunities to practice being efficient, flexible, and accurate in their mathematical procedures when solving problems. In the Design Principles, the materials state that "carefully chosen anchor contexts are used to motivate new mathematical concepts, and students have many opportunities to make connections between contexts and the concepts they are learning. In some cases, students spend more time developing mathematical concepts before tackling more complex application problems, and the focus is on mathematical contexts." The students are provided opportunities to practice the application of skills learned with the lessons and units. For example, Unit 4, Lesson 6, Lesson Narrative states "In previous lessons, students have started to acquire fluency with a general method of solving equations and have seen that different solution paths are possible. In this lesson, students learn to stop and think ahead strategically before plunging into a solution method." This lesson supports students in building efficient, flexible, and accurate procedures for problem-solving.
- The materials include a warm-up at the beginning of each lesson. One of the instructional routines used in the warm-up is Think, Pair, Share. The materials provide the teachers with structured math talks that lead to more efficient mathematics throughout the unit. The materials provide opportunities for the application of mathematical procedures learned with the unit. For example, in Unit 4, Lesson 6.1, students pair up for Think, Pair, Share in the warm-up. The students are given two triangles with equal perimeters and are instructed to find the value of x and the perimeter of each triangle. After two minutes, the students will share their strategies with their partners.

Materials provide opportunities for students to evaluate procedures, processes, and solutions for efficiency, flexibility, and accuracy within the lesson and throughout a unit.

- In Unit 5, the materials provide opportunities for students to demonstrate their understanding of procedures and solutions learned within that unit. For example, the Unit Narrative states, "In the second section, students connect the terms independent variable and dependent variable (which they learned in grade 6) with the inputs and outputs of a function. They use equations to express a dependent variable as a function of an independent variable, viewing formulas from earlier grades (e.g., $C=2\pi r$), as determining functions."
- Unit 5, Lesson 4, Lesson Narrative states "By matching contexts and graphs and reading information about functions from graphs and tables, students become familiar with the different representations and draw connections between them." This lesson provides students an opportunity to evaluate procedures, processes, and solutions for accuracy within the lesson.

Materials contain embedded supports for teachers to guide students toward increasingly efficient approaches.

- Support is embedded in the materials for teachers to help guide students. For example, in Unit 5, Lesson 4.2, the students first match function contexts and equations to graphs. Next, the students label the axes and calculate input-output pairs for each function. The materials instruct the teacher to "monitor for students who recognize that there is one graph that is not linear and match that graph with the equation that is not linear."
- In Unit 5, Lesson 5.2, the students begin using a graph of a functional relationship between two quantities to make quantitative observations about their relationship. For some questions, students must identify specific input-output pairs while in others they can use the shape of the graph. The materials instruct the teacher to "identify students who reason about the graph without identifying specific values to share during the discussion." This assistance enables educators to provide students with guidance on effective problem-solving strategies.

Balance of Conceptual and Procedural Understanding

5.3	Balance of Conceptual Understanding and Procedural Fluency	14/16
5.3a	Materials explicitly state how the conceptual and procedural emphasis of the TEKS are addressed.	**0/2**
5.3b	Questions and tasks include the use of concrete models and manipulatives, pictorial representation (figures/drawings), and abstract representations.	**6/6**
5.3c	Materials include supports for students in connecting, creating, defining, and explaining concrete and representational models to abstract (symbolic/numeric/algorithmic) concepts.	**8/8**

The materials do not explicitly state how the conceptual and procedural emphasis of the TEKS are addressed. Material provides questions and tasks that include the use of concrete models and manipulatives, pictorial representations, and abstract representations. Support for students in connecting, creating, defining, and explaining concrete and representational models to abstract concepts is provided within the materials.

Evidence includes, but is not limited to:

Materials explicitly state how the conceptual and procedural emphasis of the TEKS are addressed.

- The lesson narratives include an overview of the lessons, the learning goals, and student-facing learning targets. Neither the learning goals nor learning targets are aligned to the concepts or procedures aligned with the TEKS. For example, in Unit 7, Lesson 10 narrative, the learning goals are "Compare large numbers using powers of 10 and explain (orally) the solution method" and "Use number lines to represent (orally and in writing) large numbers as multiples of powers of 10." There is no alignment mentioned nor is there guidance about grade-level-specific TEKS with these learning goals.
- There is a separate TX TEKS IM document provided includes a list of the TEKS covered in each lesson. This list does not include how the materials explicitly state the conceptual and procedural emphasis of the TEKS addressed in the lesson.

Questions and tasks include the use of concrete models and manipulatives, pictorial representation (figures/drawings), and abstract representations.

- Questions and tasks are included in the materials that utilize concrete models and manipulatives to make abstract representations. For example, in Unit 3 Lesson 5.2 Activity Synthesis, the students are asked to stack cups to reach a height of 50 centimeters. The students are then asked to create a table to represent the height of the cups based on the number of cups stacked.
- The materials provide tasks that include concrete manipulatives to help students build abstract representations. For example, in Unit 5, Lesson 11.2, the Student-Facing Task Statement asks the students to measure water with a graduated cylinder. Next, the students

will create a graph to represent the data that compares the height of the cylinder in centimeters to the volume of the water in centimeters cubed. Lastly, the students will choose a point from their graph and explain its meaning in the context of the situation.

Materials include supports for students in connecting, creating, defining, and explaining concrete and representational models to abstract (symbolic/numeric/algorithmic) concepts.

- The Unit 3 Unit Narrative describes how students connect and explain concrete models to abstract concepts from the unit. For example, the narrative states "Students analyze the relationship between the number of cups in each stack of cups and the height of the stack—a relationship that is linear but not proportional—to answer the question 'How many cups are needed to get to a height of 50 cm?' They are not asked to solve this problem in a specific way, allowing them to choose and use strategic representations that appeared earlier in this unit (table, equation, graph) or in the previous unit (equation, graph). Students are introduced to 'rate of change' as a way to describe the rate per 1 in a linear relationship and note that its numerical value is the same as that of the slope of the line that represents the relationship."
- The materials provide students with opportunities to define and connect representational models to abstract mathematical concepts. The Unit 3 Unit Narrative begins by revisiting different representations of proportional relationships (graphs, tables, and equations), and the role of the constant of proportionality in each representation and how it may be interpreted in context.

Balance of Conceptual and Procedural Understanding

5.4	Development of Academic Mathematical Language	14/14
5.4a	Materials provide opportunities for students to develop their academic mathematical language using visuals, manipulatives, and other language development strategies.	**3/3**
5.4b	Materials include embedded guidance for the teacher addressing scaffolding and supporting student development and use of academic mathematical vocabulary in context.	**2/2**
5.4c	Materials include embedded guidance for the teacher to support the application of appropriate mathematical language to include vocabulary, syntax, and discourse to include guidance to support mathematical conversations that provide opportunities for students to hear, refine, and use math language with peers and develop their math language toolkit over time as well as guide teachers to support student responses using exemplar responses to questions and tasks.	**9/9**

The materials provide opportunities for students to develop their academic mathematical language using visuals, manipulatives, and other language development strategies. Materials include embedded guidance for the teacher to address scaffolding and supporting student development and use of academic mathematical vocabulary in context. Materials include embedded guidance for the teacher to support applying appropriate mathematical language to include vocabulary, syntax, and discourse. Material provides guidance to support mathematical conversations that provide opportunities for students to hear, refine, and use math language with peers as they develop their mathematical language toolkit. Exemplar responses are provided for the teacher to support student responses to questions and tasks.

Evidence includes, but is not limited to:

Materials provide opportunities for students to develop their academic mathematical language using visuals, manipulatives, and other language development strategies.

- Opportunities for students to develop their academic mathematical language are provided within the materials. For example, in Unit 8, Lesson 1.2, the Activity Synthesis Support for English Language Learners has the students prepare a visual display of their work to find the area of a square that shares what worked well in a particular approach.
- The use of manipulatives to develop mathematical language is available in the material. For example, the Optional Activity in Lesson 1.4 of Unit 8 states, "The students use squares with known areas to determine the total area of five shapes. How students determine the area of the shapes is left open-ended on purpose. Students may calculate each shape individually, or, with a bit of rearranging, they may "fit" the shapes into the squares."
- The materials offer teachers a slide deck in the Glossary Terms section with the grade-level vocabulary. The teacher can find the vocabulary slides for each unit at the beginning of the unit. These glossary slides offer teachers the academic vocabulary, the definition, and a visual representation to share with the students.

- Suggestions are provided within the materials for different types of language development strategies. The Progression of Disciplinary Language guide provides suggestions for students to use their academic language through routines. The material states that it is "designed to grow robust disciplinary language." It suggests that students use the strategy lists to critique, explain, interpret, and justify. This document provides routines and suggested prompts for students in building their mathematical language.

Materials include embedded guidance for the teacher addressing scaffolding and supporting student development and use of academic mathematical vocabulary in context.

- Embedded guidance for the teacher to support scaffolding and student development and use of academic mathematical vocabulary is provided within the material. For example, in Unit 4, Lesson 1.2 Launch Access for English Language Learners, the material suggests the use of the strategy, Representing, Speaking, and Listening based on the Mathematical Language Routine 2 (MLR2), Collect and Display. The strategy instructs the teacher to circulate and listen to students explain their representations of the problems to one another during the partner discussion. Teachers should listen for a variety of ways students describe their number line diagrams, tape diagrams, and equations. Then, the teachers record examples of the student language heard and diagrams seen on a visual display. This display will continue to be updated, introducing mathematical vocabulary next to student language as students move through the activity. Teachers should remind students that they can "borrow words, phrases or representations from the display to support their work. This will help students develop mathematical language about each representation."
- Each unit provides teachers with a Progression of Disciplinary Language that includes a section for critique, justify, and generalize. For example, Unit 4 states, "In this unit, teachers can anticipate students using language for mathematical purposes such as critiquing, justifying, and generalizing. Throughout the unit, students will benefit from routines designed to grow robust disciplinary language, both for their own sense-making and for building shared understanding with peers."

Materials include embedded guidance for the teacher to support the application of appropriate mathematical language to include vocabulary, syntax, and discourse to include guidance to support mathematical conversations that provide opportunities for students to hear, refine, and use math language with peers and develop their math language toolkit over time as well as guide teachers to support student responses using exemplar responses to questions and tasks.

- The materials offer guidance for teachers in supporting mathematical vocabulary development. For example, in Unit 4, Lesson 3.2 Activity Synthesis Support for English Language Learners discusses MLR3, focusing on Clarify, Critique, and Correct. The materials have teachers display the statements "When we add to both sides, it is the same" and "When we multiply both sides, it stays the same." Then, the teachers are guided to ask students to clarify or improve these statements in a more specific way. Teachers should prompt students to think about positive and negative numbers as well as fractions. This helps students use the

language of equations to "explain why you can add (or subtract) and multiply (or divide) each side of an equation by an expression involving rational numbers and still have an equivalent equation."

- Opportunities for students to hear, refine, and use mathematical language are included in the materials. For example, Unit 4, Lesson 5.2 Activity Synthesis Support for English Language Learners states, "Speaking: MLR8 Discussion Supports. Use this routine to support students in producing statements about common errors in problem-solving. Use the example offered, (the second line has 3.5x−6 instead of 3.5x−3 for problem 2) and provide sentence frames to support the discussion. Restate or revoice student language to demonstrate the use of correct mathematical language to describe each move and include mathematical reasoning." The materials help teachers clarify explanations that detail differences in problem-solving strategies rather than errors, to help students see differences in solution paths. This helps students describe differences in solution paths and justify each step.
- The materials include embedded guidance for the teacher to support student responses using exemplar responses to questions and tasks. For example, Unit 5 Lesson 9.2 Student Facing Task Statement provides a table that represents the amount of water in two tanks every 5 minutes. Question 1 asks the students to describe what is happening in each tank by either drawing a picture, saying it verbally, or writing a few sentences. The teacher is provided with sample student responses for evaluation purposes.

Balance of Conceptual and Procedural Understanding

5.5	Process Standards Connections	6/6
5.5a	Process standards are integrated appropriately into the materials.	**1/1**
5.5b	Materials include a description of how process standards are incorporated and connected throughout the course.	**2/2**
5.5c	Materials include a description for each unit of how process standards are incorporated and connected throughout the unit.	**2/2**
5.5d	Materials include an overview of the process standards incorporated into each lesson.	**1/1**

The process standards are integrated appropriately into the materials. Materials include a description of how process standards are incorporated and connected throughout the course. Materials include a description for each unit of how process standards are incorporated and connected throughout the unit. Materials include an overview of the process standards incorporated into each lesson.

Evidence includes, but is not limited to:

Process standards are integrated appropriately into the materials.

- The materials include a How to Use These Materials section that contains The Math Process Standards Chart. The chart outlines the TEKS process standards that are integrated in the materials.
- The materials include evidence of the process standards within the Activity Narrative description of each lesson. The mathematics process standards aligned to the lesson are in parentheses at the end of the description.

Materials include a description of how process standards are incorporated and connected throughout the course.

- The How to Use These Materials section describes how process standards are incorporated and connected throughout the course. It states, "The Math Process Standards describe the types of thinking and behaviors students engage in as they are doing mathematics." For example, "Students have an opportunity to explore the tools before they are asked to use them to represent mathematical situations in later lessons."
- The online materials include evidence of a description of how process standards, or mathematical practices, are connected throughout the course. In the How to Use These Materials section of the Teacher Guide, there is a Math Process Standards Chart section that states, "Teachers will notice that some instructional routines are generally associated with certain mathematical practices." Following, there is a description of how instructional

routines throughout the course align with mathematical practices. The chart also demonstrates how process standards connect throughout the course.

Materials include a description for each unit of how process standards are incorporated and connected throughout the unit.

- The materials include a description for each unit of how process standards are incorporated and connected throughout the unit. In the How to Use These Materials section, there is a Math Process Standards Chart. This chart correlates the process standards present in each unit of the materials and each lesson.
- The materials include a Process Standards Integration Document for the TEKS and illustrate how the process standards build and connect throughout the units by connecting the student expectation with a narrative description of how the process standard(s) are represented in the units.

Materials include an overview of the process standards incorporated into each lesson.

- The materials include a description for each unit of how process standards are incorporated in the lessons. In the How to Use These Materials section, there is a Math Process Standards Chart. This chart provides a useful overview of how the process standards are incorporated into each lesson.
- Mathematical Process Standards are found in the warm-up activity of every lesson throughout the units. In the A Typical IM Lesson section, the materials state that the warm-ups "place value on students' voices as they communicate their developing ideas, ask questions, justify their responses, and critique the reasoning of others."

Productive Struggle

6.1	Student Self-Efficacy	15/15
6.1a	Materials provide opportunities for students to think mathematically, persevere through solving problems, and to make sense of mathematics.	**3/3**
6.1b	Materials support students in understanding, explaining, and justifying that there can be multiple ways to solve problems and complete tasks.	**6/6**
6.1c	Materials are designed to require students to make sense of mathematics through doing, writing about, and discussing math with peers and teachers.	**6/6**

The materials provide opportunities for students to think mathematically, persevere through solving problems, and to make sense of mathematics. Materials support students in understanding, explaining, and justifying that there can be multiple ways to solve problems and complete tasks. Materials are designed to require students to make sense of mathematics through doing, writing about, and discussing math with peers and teachers.

Evidence includes, but is not limited to:

Materials provide opportunities for students to think mathematically, persevere through solving problems, and to make sense of mathematics.

- The curriculum encourages mathematical thinking and problem-solving through its design principles and Typical Kiddom Lesson structure. Each lesson challenges students to explore, reason, and understand mathematics, promoting resilience in problem-solving. For example, in Unit 5 Lesson 21.4, students analyze figures of different dimensions and discuss their findings with peers and the class.
- Students are required to think mathematically and persevere through solving problems when performing activities like the one to be assigned in Unit 5 Lesson 21.4. The task states "Students once again consider different figures with given dimensions, this time comparing their capacity to contain a certain amount of water. The goal is for students to not only apply the correct volume formulas but to slow down and think about how the dimensions of the figures compare and how those measurements affect the volume of the figures."
- Opportunities are provided within the materials for students to persevere and make sense of mathematics. For example, in Unit 3 Lesson 7.3, "Students are asked to express regularity in repeated reasoning to both describe a procedure in words and then as an algebraic expression. It is more important that students know a technique or way of thinking about it that works for them than it is that they memorize a particular way to express a formula."

Materials support students in understanding, explaining, and justifying that there can be multiple ways to solve problems and complete tasks.

- The materials promote diverse problem-solving approaches through the components. The Teacher Guide "Supporting Diverse Learners" section includes strategies for recognizing different approaches. Instructional Routines in the Course Guide encourage varied thinking. For example, the "MLR7: Compare and Connect" routine requires students to compare different mathematical approaches while explaining and justifying their various problem-solving methods.
- Students are offered many opportunities within the material to provide multiple ways to solve problems. The Supporting Diverse Learners section, located in the Course Overview Teacher Guide, describes several ways communication and language are used to support learners. For example, Principle 3: Cultivate Conversation is used throughout the curriculum. The materials state the purpose of Cultivate Conversation is to "Strengthen opportunities and structures for constructive mathematical conversations (pairs, groups, and whole class). Conversations act as scaffolds for students developing mathematical language because they provide opportunities to simultaneously make meaning, communicate that meaning, and refine the way content understandings are communicated. When students have a purpose for talking and listening to each other, communication is more authentic. During effective discussions, students pose and answer questions, clarify what is being asked and what is happening in a problem, build common understandings, and share experiences relevant to the topic."
- The teacher is instructed in Unit 1 Lesson 2 to have students complete a card sort based on translations, rotations, and reflections. They will ask the students questions that require them to understand, explain, and justify their reasoning, such as "Did you need to make adjustments to which category a card was sorted into? What might have caused an error? What adjustments were made?" The teacher is then instructed to "Select one or more groups to share the names of their categories. Select one or more groups to share how they sorted the cards into categories. Ask the class if they disagree with any of the choices and give students opportunities to justify their reasoning."

Materials are designed to require students to make sense of mathematics through doing, writing about, and discussing math with peers and teachers.

- The curriculum engages students in actively understanding mathematics through interactive components. Instructional Routines provide structured opportunities for exploring and discussing mathematical concepts, supported by guidance in the "How To Use These Materials" section. Warm-ups and Lesson Activities encourage students to actively participate in math tasks, write about their thoughts, and discuss ideas with peers and teachers, promoting collaborative learning.
- The materials use the MLR strategy Stronger and Clearer. The strategy helps teachers guide students to make sense of math through doing math and writing with their peers. Lesson 5.3 in Unit 7 instructs teachers to "give students time to meet with 2–3 partners to share and get feedback on their first-draft response to how they identified a point on the line that is closer to [the square root of 3]. Invite listeners to ask questions and give feedback that will help their

partner clarify and strengthen their ideas and writing, such as 'How do you know that [the square root of 3] is between 1.5 and 2?' and 'How did you determine the area of the square that you drew?' Give students 3–5 minutes to revise their first draft based on the feedback they receive."

- The materials are designed to assist students in making sense of mathematics by doing, writing, and discussing math with teachers. For example, in Unit 7 Lesson 13.3, students use the Representing, Conversing: MLR8 Discussion Supports strategy. The materials state "Demonstrate the steps of how to play the game. To do this, select a student to play the game with you while the rest of the class observes. This will help clarify the expectations of the task, invite more student participation, and facilitate meta-awareness of the language involving scientific notation."

Productive Struggle

6.2	Facilitating Productive Struggle	10/10
6.2a	Materials support teachers in guiding students to share and reflect on their problem-solving approaches, including explanations, arguments, and justifications.	**6/6**
6.2b	Materials offer prompts and guidance to assist teachers in providing explanatory feedback based on student responses and anticipated misconceptions.	**4/4**

The materials support teachers in guiding students to share and reflect on their problem-solving approaches, including explanations, arguments, and justifications. Materials offer prompts and guidance to assist teachers in providing explanatory feedback based on student responses and anticipated misconceptions.

Evidence includes, but is not limited to:

Materials support teachers in guiding students to share and reflect on their problem-solving approaches, including explanations, arguments, and justifications.

- The materials assist teachers in helping students articulate and reflect on their problem-solving methods. The Key Structures Document provides a framework for facilitating explanations, arguments, and justifications. Samples of prompts to promote reflection, explanation, and justification include: "I knew one of my answers was right today when..., Another strategy I could have used to solve a problem today is..., The most important thing to remember when doing the problems like we did today is..."
- Teachers are provided insight into prompting students to put their thinking into words. Students' communication may be explaining, arguing, or justifying in these activities, but sharing and reflecting are also included. For example, "If a student is presenting an explanation, play the role of not understanding and say, 'Could you help me make sense of your thinking? Could you revise your explanation?'"
- The Course Overview provides a section, Supporting Diverse Learners, which describes the five Design Principles for Promoting Mathematical Language Use and Development. Principle 2: Optimize Output focuses on guiding students to share and reflect on their problem-solving approaches by explaining, arguing, and justifying. It states, "Opportunities for students to produce output should be strategically optimized for both (a) important concepts of the unit or course, and (b) important disciplinary language functions (making generalizations, making conjectures and claims, justifying claims with evidence, explaining reasoning, critiquing the reasoning of others, and comparing approaches and representations)."

Materials offer prompts and guidance to assist teachers in providing explanatory feedback based on student responses and anticipated misconceptions.

- Unit 8, Lesson 5.4 Cool-Down includes a section called Responding to Student Thinking and guides teachers on how to respond to students who are struggling. The lesson states "By this

point in the unit, there should be some student mastery of the concepts in this cool-down. If a student struggles with whether the concepts in this cool-down are widespread or ongoing, make time to examine related work in Section 1: Square Roots and Side Lengths." Lesson Cool-Downs also provide specific prompts to help teachers respond to student answers, ensuring feedback is informative and corrective, thereby reinforcing correct mathematical thinking.

- In the Responding to Student Thinking section, teachers are offered guidance on providing feedback to student responses. In Unit 4, Lesson 15, teachers are instructed that "If students continue to struggle to solve systems of equations algebraically, make time for students to practice solving equations with and without fractions involved." It also gives them two problems that they can work through with students who are struggling.