

Kiddom, Inc.

English Mathematics, 7

Kiddom Texas Math: Grade 7

MATERIAL TYPE	ISBN	FORMAT	ADAPTIVE/STATIC
Full-Subject, Tier-1	9798894492964	Both Print and Digital	Static

Rating Overview

TEKS SCORE	ELPS SCORE	ERROR CORRECTIONS (IMRA Reviewers)	SUITABILITY NONCOMPLIANCE	SUITABILITY EXCELLENCE	PUBLIC FEEDBACK (COUNT)
100%	100%	2	Flags Addressed	Flags in Report	0

Quality Rubric Section

RUBRIC SECTION	RAW SCORE	PERCENTAGE
1. Intentional Instructional Design	21 out of 28	75%
2. Progress Monitoring	24 out of 26	92%
3. Supports for All Learners	23 out of 27	85%
4. Depth and Coherence of Key Concepts	15 out of 19	79%
5. Balance of Conceptual and Procedural Understanding	37 out of 41	90%
6. Productive Struggle	22 out of 22	100%

Breakdown by Suitability Noncompliance and Excellence Categories

SUITABILITY NONCOMPLIANCE FLAGS BY CATEGORY	IMRA REVIEWERS	PUBLIC	Flags NOT Addressed by November Vote
1. Prohibition on Common Core	2	0	0
2. Alignment with Public Education's Constitutional Goal	0	0	0
3. Parental Rights and Responsibilities	0	0	0
4. Prohibition on Forced Political Activity	0	0	0
5. Protecting Children's Innocence	0	0	0
6. Promoting Sexual Risk Avoidance	0	0	0
7. Compliance with the Children's Internet Protection Act (CIPA)	1	0	0

SUITABILITY EXCELLENCE FLAGS BY CATEGORY	IMRA REVIEWERS
Category 2: Alignment with Public Education's Constitutional Goal	3
Category 6: Promoting Sexual Risk Avoidance	0

IMRA Quality Report

1. Intentional Instructional Design

Materials support educators in effective implementation through intentional course and lesson-level design.

1.1 Course-Level Design

GUIDANCE	SCORE SUMMARY	RAW SCORE
1.1a	All criteria for guidance met.	4/4
1.1b	Materials do not include suggested pacing (pacing guide/calendar), various instructional calendars (e.g., varying numbers of instructional days—165, 180, 210).	1/2
1.1c	Materials do not include an explanation for the rationale of the unit order. Specifically, while the "Course Narrative" is identified as the Unit Rationale, the unit names cannot be found within the document. This is different from Grades 6 and 8, where unit names are highlighted in unit order.	1/2
1.1d	All criteria for guidance met.	2/2
1.1e	All criteria for guidance met.	2/2
—	TOTAL	10/12

1.1a – Materials include a scope and sequence outlining the TEKS, ELPS, and concepts taught in the course.

The materials include a grade 7 scope and sequence" with 13 units that outline the alignment of the grade 7 Texas Essential Knowledge and Skills (TEKS) with correlating concepts taught in each unit through the title of the lesson, and the learning targets for each lesson. Each of the 13 units has specified English Language Proficiency Standards (ELPS) within the scope and sequence.

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).

The "Texas 6–8 Pacing Guide" in the "Course Overview" outlines unit numbers and titles that match the scope and sequence.

The materials include only one pacing timeline of 32 weeks.

1.1c – Materials include an explanation for the rationale of unit order as well as how concepts to be learned connect throughout the course.

The "Course Narrative" includes the concept order and how concepts are connected throughout the course. For example, when connecting personal finance with assets and liabilities to a section on rational numbers, the material states, "Building on this foundation, students explore operations with rational numbers, including positive and negative values, in contexts such as elevation, temperature, and financial gain or loss."

The materials do not name the units in alignment with the scope and sequence.

1.1d – Materials include protocols with corresponding guidance for unit and lesson internalization.

Materials include protocols with corresponding guidance for unit and lesson internalization in the *Curriculum Study For Educators* which states, "Internalization protocols provide a structured way for teachers to study a unit or lesson before instruction, focusing on the 'why' behind the content."

1.1e – Materials include resources and guidance for instructional leaders to support teachers with implementing the materials as designed.

The materials include resources and guidance for instructional leaders to support teachers with implementing the materials as designed within the *Administration Implementation Guide*.

"The most effective types of support that administrators can provide to improve teacher confidence and curriculum fidelity are rooted in creating a culture of collaborative professionalism and intentional, protected structures for curriculum study—especially through Professional Learning Communities (PLCs). . . . 'included' are the key supports administrators should implement, each connected to research-backed strategies and tied to the PLC framework."

1.2 Unit-Level Design

GUIDANCE	SCORE SUMMARY	RAW SCORE
1.2a	Materials do not include comprehensive unit overviews that provide the background content knowledge and academic vocabulary necessary to effectively teach the concepts in the unit.	0/2
1.2b	All criteria for guidance met.	2/2
—	TOTAL	2/4

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.

The materials include comprehensive unit overviews, titled the "Unit Narrative." The background content knowledge and academic vocabulary necessary to effectively teach the concepts within the units are not included in the "Unit Narrative."

1.2b – Materials contain supports for families in both Spanish and English for each unit with suggestions on supporting the progress of their student.

Materials contain supports for families in both Spanish and English for each unit with suggestions on supporting the progress of their student. "Unit 1: Family Support Materials" titled "Content FAQs" are available in English and include a section called "What Can I Do to Support My Student at Home?"

In Unit 1 there is an audio recording within the "Family Support Materials" that includes tips to support students.

1.3 Lesson-Level Design

GUIDANCE	SCORE SUMMARY	RAW SCORE
1.3a	Materials do not include comprehensive, structured, detailed lesson plans required to meet the language standards of the lesson (aligned to the ELPS).	7/8
1.3b	Materials do not include a lesson overview listing the teacher and student materials necessary to effectively deliver the lesson.	1/3
1.3c	All criteria for guidance met.	1/1
—	TOTAL	9/12

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 (aligned with the TEKS and the ELPS).

The materials include comprehensive, structured, detailed lesson plans that include daily objectives. For example, the Unit 11, Lesson 2: "Info Gap—Angle Finding" lesson plans are aligned to the TEKS and include daily objectives (titled as learning goals) aligned to those TEKS.

The "Activity Synthesis" sections of the lesson plans include teacher questions to check for understanding. Each activity includes tasks that promote the mastery of each objective, as well as a list of necessary materials and an instructional assessment.

The lesson plans include supports for English Language Learners, such as "'Conversing.' Use this modified version of 'MLR4 Information Gap' to give students an opportunity to discuss the information necessary to solve for an unknown angle measure." However, alignment to ELPS is not addressed in lesson plans.

1.3b – Materials include a lesson overview listing the teacher and student materials necessary to effectively deliver the lesson, and the suggested timing for each lesson component.

The "Lesson Overview" includes required materials; however, the materials do not specify either teacher or student.

The "Lesson Overview" includes a linked presentation with the suggested timing for each lesson component; however, the timing is not listed directly in the unit overview.

1.3c – Materials include guidance on the effective use of lesson materials for extended practice (e.g., homework, extension, enrichment).

In the *Middle School Course Guide for Teachers*, the section on practice problems states, "Each lesson includes an associated set of practice problems. Assign practice problems for homework or for extra practice in class."

The materials do not include guidance to specify practice as homework, extension, or enrichment.

2. Progress Monitoring

Materials support educators in effective implementation through frequent, strategic opportunities to monitor and respond to student progress.

2.1 Instructional Assessments

GUIDANCE	SCORE SUMMARY	RAW SCORE
2.1a	Materials do not include a variety of instructional assessments at the unit level (including diagnostic and summative) that vary in type of task.	7/9
2.1b	All criteria for guidance met.	2/2
2.1c	All criteria for guidance met.	2/2
2.1d	All criteria for guidance met.	6/6
2.1e	All criteria for guidance met.	2/2
—	TOTAL	19/21

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.

Materials include a variety of instructional assessments at the unit level (including diagnostic, formative, and summative). Each unit includes one or more diagnostic "Check Your Readiness" and summative "End of Unit Assessment" with varying types of questions including multiple choice, open-ended, and written responses.

Diagnostic and summative assessments at the unit level, which vary in types of tasks, were not found.

Materials include instructional assessments at the lesson level. Formative assessments that vary in the type of questions can be found in each lesson as the "Warm-up" and the "Cooldown." In Unit 4, Lesson 2, "2.5: Cooldown—More Laundry Soap," a variety of types of questions are seen, such as written responses and fill-in-the-blank.

2.1b – Materials include the definition and intended purpose for the types of instructional assessments included.

The materials include definitions of the types of instructional assessments. In the *Middle School Course Guide for Teachers*, an "Assessment Guidance" section of the document defines each type of assessment. For diagnostic assessments, the document states, "Use these problems to identify students with particular below-grade needs, or topics to carefully address during the unit." In a section about cooldown activities, the document states, "Use this as a formative assessment to provide feedback or to plan further instruction." For summative assessments, the document states, "These assessments gauge

students' understanding of the key concepts of the unit while also preparing students for new-generation standardized exams."

The materials include the intended purpose for the types of instructional assessments included. For diagnostic assessments, the materials state, "Use these to pace or tune instruction. In rare cases, they may signal the opportunity to move more quickly through a topic to optimize instructional time." For formative assessments, the materials state, "Each lesson ends with a cooldown to formatively assess students' thinking in relation to an important math concept from the day's learning. Each cooldown is accompanied by guidance on how to continue teaching grade-level content, with appropriate and aligned practice and support for students."

2.1c – Materials include teacher guidance to ensure consistent and accurate administration of instructional assessments.

Materials include teacher guidance to ensure accurate administration of instructional assessments, as they have learning goals that are referred to multiple times in the *Middle School Course Guide for Teachers* and within each lesson.

Materials include teacher guidance to ensure consistent administration of instructional assessments. Materials, such as a teacher script or teacher directions for assessments, were found in the "Assessment Guidance."

2.1d – Diagnostic, formative, and summative assessments are aligned to the TEKS and objectives of the course, unit, or lesson.

Diagnostic assessments included are aligned to the TEKS of the course and the objectives of the unit. For example, in Unit 2, Question 2 of the "Grade 7.2 Check Your Readiness (A)" diagnostic assessment is aligned to TEKS 7.4B and an objective of the unit found in the "Section Level Planning Guide" that states, "Analyze and compare multiple strategies for solving proportional relationships involving fractional quantities, including unit rates and constants of proportionality."

Formative assessments included are aligned to the TEKS of the course and the objectives of the lesson. For example, in Unit 2, Lesson 1, the formative assessment activity "1.5: Cooldown—Comparing Ketchup Prices" is aligned to TEKS 7.4B and the lesson objective "Explain how to find and use a unit rate to solve a problem involving fractional quantities," found in the first section of the lesson.

The summative assessments included are aligned to the course's TEKS and the unit's objectives. In the "Grade 7.2 End of Unit Assessment (A)," summative assessment questions are aligned to TEKS 7.4B. These questions are also aligned with the unit objectives found in the "Section Level Planning Guide."

2.1e – Instructional assessments include TEKS-aligned items at varying levels of complexity.

Instructional assessments include TEKS-aligned items at varying levels of complexity. For example, in the "Grade 7.5 End of Unit Assessment (A)," summative assessment questions 4, 5, and 6 are all asked at different levels of complexity.

Another example of instructional assessments that include TEKS-aligned items at varying levels of complexity is found within "Grade 7.3.4 Cumulative Pp Set for More About the Constant of Proportionality," where there are varying levels of complexity between questions 1, 2, and 3.

2.2 Data Analysis and Progress Monitoring

GUIDANCE	SCORE SUMMARY	RAW SCORE
2.2a	All criteria for guidance met.	2/2
2.2b	All criteria for guidance met.	1/1
2.2c	All criteria for guidance met.	2/2
—	TOTAL	5/5

2.2a – Instructional assessments and scoring information provide guidance for interpreting student performance.

Instructional assessments and scoring information provide guidance for interpreting student performance. In the "Grade 7.9 End Of Unit Assessment(A)," notes for evaluating responses, seen throughout the assessment, give the teacher guidance on why students may have answered questions in certain ways and what to look for on student work pages to ensure skill mastery for different types of questions.

Another example of guidance for interpreting student performance is found within the questions. For example, Question 1 in "2.3: Every Story Needs a Picture" includes a point value for scoring information, and each formative assessment item has a "Note for Evaluating Responses."

2.2b – Materials provide guidance for the use of included tasks and activities to respond to student trends in performance on assessments.

Materials provide guidance for the use of included tasks and activities to respond to student trends in performance on assessments by providing a list of strategies a teacher could use if "a large number of students" cannot complete the same pre-unit assessment problem.

Another example of guidance for the use of included tasks and activities to respond to student trends in performance on assessments is found in pre-assessments. For example, under Question 1, Part B within "Grade 7.6 Check Your Readiness (A)," there is teacher guidance: "If most students struggle with this item, plan to launch Activity 3 in Lesson 1 with a review of sea level and elevation, since this context will be used throughout the unit."

2.2c – Materials include tools for teachers to track student progress and growth, and tools for students to track their own progress and growth.

Materials include tools for teachers to track student progress and growth, and tools for students to track their own progress and growth. Teachers and students have a "Class Standard Mastery" report, and students can check their progress weekly or monthly.

Additional information regarding tracking student progress and growth can be found on the Support site. The article, in "What Insights Do My Reports Offer?" describes tools given to teachers and states, "The Reports help monitor student progress over time, track growth by mastery level, and analyze both class and student performance on individual standards." For students, "What Do My Reports Mean?" states, "The Reports feature . . . allows you to track your performance in each class based on standards and assignments."

3. Supports for All Learners

Materials support educators in reaching all learners through design focused on engagement, representation, and action/expression for learner variability.

3.1 Differentiation and Scaffolds

Guidance marked with a (T) refers to teacher-facing components. Guidance with an (S) refers to student-facing components.

GUIDANCE	SCORE SUMMARY	RAW SCORE
3.1a	All criteria for guidance met.	3/3
3.1b	All criteria for guidance met.	2/2
3.1c	All criteria for guidance met.	2/2
—	TOTAL	7/7

3.1a – Materials include teacher guidance for differentiated instruction, activities, and paired (scaffolded) lessons for students who have not yet reached proficiency on grade-level content and skills.

Materials include teacher guidance for differentiated instruction, activities, and paired (scaffolded) lessons for students who have not yet reached proficiency on grade-level content and skills. For example, instructions and activities can be found below Question 2 within "Grade 7.6 Check Your Readiness (A)," which states, "If most students struggle with this item, plan to do the optional activity in Lesson 1, Activity 4, 'Card Sort with Rational Numbers.' This will give students an opportunity to consider magnitude while ordering integers and rational numbers. Students will continue to work with this concept in future lessons. Students will have more opportunities to work on this skill in Lessons 2 and 3 as well."

Another example in the grade 7, Unit 4, "9.4: Dining at a Restaurant," the "Anticipated Misconceptions" section instructs teachers on how to respond to student misconceptions throughout the activity: "Students may attempt to write an equation, but place numbers in the wrong place. Ask them what each piece of their equation means in this situation."

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)

Materials include pre-teaching or embedded supports for unfamiliar vocabulary and references in text (e.g., figurative language, idioms, and academic language). The *Middle School Course Guide for Teachers* states, "Visual aids, such as images, diagrams, vocabulary anchor charts, color coding, or physical demonstrations, are suggested throughout the materials to support conceptual processing and language development."

In grade 7, vocabulary support is embedded throughout Unit 9, Lesson 3.2. The "Support for Students with Disabilities" section states, "Create a display of important terms and vocabulary. Invite students to suggest language or diagrams to include that will support their understanding and memory. Include the following terms and maintain the display for reference throughout the unit: *random*, *outcome*, and *sample space*."

3.1c – Materials include teacher guidance for differentiated instruction, enrichment, and extension activities for students who have demonstrated proficiency in grade-level content and skill.

Materials include teacher guidance for enrichment and extension activities for students who have demonstrated proficiency in grade-level content and skill. For example, some activities include problems titled "Are You Ready for More?" The *Middle School Course Guide for Teachers* references these problems and states, "These problems go deeper into grade-level mathematics, and often make connections between the topic at hand and other concepts."

The *Teacher Resource Guide* includes a section explaining the contents of a math lesson including the sections "Instructional Activities" and "Instructional Routines," where descriptions of what teachers are guided to do for students on-level, below-level, and above-level.

3.2 Instructional Methods

GUIDANCE	SCORE SUMMARY	RAW SCORE
3.2a	All criteria for guidance met.	4/4
3.2b	All criteria for guidance met.	2/2
3.2c	All criteria for guidance met.	3/3
—	TOTAL	9/9

3.2a – Materials include explicit (direct) prompts and guidance to support the teacher in modeling and explaining the concept(s) to be learned.

Materials include explicit (direct) prompts and guidance to support the teacher in modeling and explaining the concept(s) to be learned. For example, "Instructional Routines" are outlined in the *Middle School Course Guide for Teachers* to engage students in mathematical conversations. The information included ranges from "How to Prepare for and Conduct the Modeling Lesson or Project" to "Ideas for Setting up an Environment Conducive to Modeling," and tools that could be useful for students. Question prompts are also given in the guide to assist in engaging students with the process, such as "What pictures, diagrams, graphs, or equations might help people understand the relationship between the quantities?"

Another example can be found within the lessons. In the grade 7, Unit 7, Lesson 10, "10.3: Solution Pathways," the launch section gives teachers guidance on what to say to students when starting the lesson. For example, the following launch is given in a lesson on solving equations: "Display this equation and a hanger diagram to match: $3(x + 2) = 21$. Tell students, 'Any time you want to solve an equation in this form, you have a choice to make about how to proceed. You can either divide each side by 3 or you can distribute the 3.' Demonstrate each solution method side by side, while appealing to reasoning about the hanger diagram."

3.2b – Materials include teacher guidance and recommendations for effective lesson delivery and facilitation using a variety of instructional approaches.

Materials include teacher guidance and recommendations for effective lesson delivery and facilitation using a variety of instructional approaches. In the *Middle School Course Guide for Teachers*, guidance for effective lesson delivery and facilitation using a variety of instructional approaches is present. For example, in a section on student work time, the guide states, "The launch of an activity frequently includes suggestions for grouping students. At different times, students are given opportunities to work individually, with a partner, and in small groups."

Also, in grade 7, Unit 4 "Lesson 2: One Hundred Percent," teachers are given guidance and recommendations for delivering each part of the lesson. This includes a warm-up, where students analyze a double number line, make observations, discuss them with a partner, and then share with the

class; three short activities that progress from individual to partnered to whole-group discussions; a lesson synthesis; a cooldown designed as an individual exit ticket; and a practice problem set for extra practice or homework. Throughout these lesson components, guidance for effective lesson delivery and facilitation can be found, such as how to group students for lesson components, the timing for each component, and potential guided questions.

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.

Materials support multiple types of practice (e.g., guided, independent, and collaborative) and include support for teachers and recommended structures (e.g., whole group, small group, and individual) to support effective implementation. The *Middle School Course Guide for Teachers* mentions the launch for supporting teachers and giving suggestions on whether an activity should be individual or grouped. For example, in a section on student work time, the guide states, "The launch of an activity frequently includes suggestions for grouping students. At different times, students are given opportunities to work individually, with a partner, and in small groups."

Materials support multiple types of practice (e.g., guided, independent, and collaborative) and include guidance for teachers and recommended structures (e.g., whole group, small group, and individual) to support effective implementation. Materials include instructional routines with clear headings and descriptions to help the teacher effectively implement recommended structures. For example, in grade 7, Unit 10, Lesson 3, Activity 3, in the section titled "Instructional Routines," the materials offer a list of strategies to use in the activity, including "Collect and Display (T-Chart)," "Notice and Wonder," and "Think Pair Share."

3.3 Support for Emergent Bilingual Students

An emergent bilingual student is a student who is in the process of acquiring English and has another language as the primary language. The term emergent bilingual student replaced the term English learner in the Texas Education Code 29, Subchapter B after the September 1, 2021 update. Some instructional materials still use English language learner or English learner and these terms have been retained in direct quotations and titles.

GUIDANCE	SCORE SUMMARY	RAW SCORE
3.3a	Materials do not include teacher guidance on providing linguistic accommodations for various levels of language proficiency, as defined by the ELPS, which are designed to engage students in using increasingly academic language.	0/2
3.3b	All criteria for guidance met.	1/1
3.3c	Materials do not include making cross-linguistic connections through oral and written discourse.	6/8
3.3d	This guidance is not applicable to the program.	N/A
—	TOTAL	7/11

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.

Materials do not include teacher guidance on providing linguistic accommodations for various levels of proficiency, [as defined by the ELPS, which are designed to engage students in using increasingly more academic language. The various levels of proficiency (Pre-production, Beginning, Intermediate, High intermediate, and Advanced) are not identified or used throughout the materials.

3.3b – Materials include implementation guidance to support teachers in effectively using the materials in state-approved bilingual/ESL programs.

The materials include implementation guidance for teachers in using the materials in a state-approved English as a Second Language (ESL) program. "The Course Overview" includes "Eight Mathematical Language Routines."

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.

Materials include embedded guidance for teachers to support emergent bilingual students in developing academic vocabulary, increasing comprehension, and building background knowledge through oral and written discourse. The *Middle School Course Guide for Teachers* includes Mathematical Language Routines (MLRs) which "are instructional routines that provide structured but adaptable formats for amplifying, assessing, and developing students' language." The MLRs included in this curriculum were selected because they simultaneously support students' learning of mathematical practices, content, and language. They are particularly well-suited to meet the needs of linguistically and culturally diverse students who are learning mathematics while concurrently acquiring English. The resource guide also states, "Use the optional, suggested MLRs to support access and language development for English Learners, based on the language demands students will encounter. They are described in the Activity Narrative, under the heading 'Access for English Learners.' Use the suggested MLRs and language strategies, as appropriate, to provide students with access to an activity, without reducing the mathematical demands of the task."

Grade 7, Unit 3, Lesson 6, "Activity 6.3: Filling a Water Cooler" guides teachers in supporting the development of academic vocabulary and the building of background knowledge through oral and written discourse with the language routine "Writing, Conversing: MLR1 Stronger and Clearer Each Time."

The materials do not include embedded guidance for teachers to support emergent bilingual students in making cross-linguistic connections through oral and written discourse.

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.

This guidance is not applicable because the program is not designed for dual language immersion (DLI) programs.

4. Depth and Coherence of Key Concepts

Materials are designed to meet the rigor of the standards while connecting concepts within and across grade levels/courses.

4.1 Depth of Key Concepts

GUIDANCE	SCORE SUMMARY	RAW SCORE
4.1a	All criteria for guidance met.	2/2
4.1b	All criteria for guidance met.	1/1
—	TOTAL	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.

Practice opportunities over the course of a lesson require students to demonstrate depth of understanding aligned to the TEKS. The resource cites that the lesson level Cumulative Pp Sets are for practice or homework. In the "Grade 7.1.2 Cumulative Pp Set for Exploring Circumference (Part 2)" document, questions are aligned to the depth of understanding of TEKS 7.5B and 7.9B.

Instructional assessments provide practice opportunities over the course of a unit that require students to demonstrate depth of understanding aligned to the TEKS. For example, the "Grade 7.2 End of Unit Assessment (A)" is aligned to TEKS 7.4B and includes a variety of questions that cover the range of the TEKS included.

4.1b – Questions and tasks progressively increase in rigor and complexity, leading to grade-level proficiency in the mathematics TEKS.

Questions and tasks progressively increase in rigor and complexity, leading to grade-level proficiency in the mathematics TEKS. The level of rigor and complexity found in warm-ups, cooldowns, activities, and cumulative practice problems within a lesson asks students to apply their knowledge in a situation later in the lesson and not at the beginning of the lesson.

The *Middle School Course Guide for Teachers* gives examples of different tasks that can be seen at the lesson level. The document also explains the progressive increase in rigor and complexity, stating, "The initial lesson in a unit activates prior knowledge and provides an easy entry point to new concepts, so that students at different levels of both mathematical and English language proficiency engage productively in the work. As the unit progresses, students are systematically introduced to representations, contexts, concepts, language, and notation. As their learning progresses, they make connections between different representations and strategies, consolidating their conceptual understanding, and see and understand more efficient methods of solving problems, supporting the shift toward procedural fluency."

4.2 Coherence of Key Concepts

GUIDANCE	SCORE SUMMARY	RAW SCORE
4.2a	Materials do not demonstrate coherence across units by explicitly connecting patterns, big ideas, and relationships between mathematical concepts.	0/1
4.2b	Materials do not demonstrate coherence across units by connecting the content and language learned in previous courses and grade levels and what will be learned in future courses/grade levels to the content to be learned in the current course and grade level.	0/3
4.2c	All criteria for guidance met.	4/4
—	TOTAL	4/8

4.2a – Materials demonstrate coherence across units by explicitly connecting patterns, big ideas, and relationships between mathematical concepts.

Evidence not found. Materials do not demonstrate coherence across units by explicitly connecting patterns, big ideas, and relationships between mathematical concepts.

4.2b – 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.

Evidence not found. Materials do not 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.

4.2c – 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.

Materials demonstrate coherence at the lesson level by connecting students' prior knowledge of concepts and procedures from the current to new mathematical knowledge and skills. Unit 7, Lesson 2, "Lesson Narrative" states, "In this lesson, students review measures of center and variability from grade 6 and work to informally decide whether or not two distributions are very different from each other."

Additional evidence to demonstrate coherence at the lesson level by connecting students' prior knowledge of concepts and procedures from the prior grade level(s) to new mathematical knowledge and skills can be found in the *Middle School Course Guide for Teachers*. There, it states, "As their learning progresses, students make connections between different representations and the concepts and procedures they show" after giving specific examples of content and procedures from prior knowledge.

4.3 Coherence and Variety of Practice

GUIDANCE	SCORE SUMMARY	RAW SCORE
4.3a	All criteria for guidance met.	4/4
4.3b	All criteria for guidance met.	4/4
—	TOTAL	8/8

4.3a – Materials provide spaced retrieval opportunities with previously learned skills and concepts across lessons and units.

Materials provide spaced retrieval opportunities with previously learned skills and concepts across lessons and units. For example, in the "Activity Synthesis" section of "Unit 3, Lesson 4-4.3: Pittsburgh to Phoenix," an included question to ask is, "Which quantities are in a proportional relationship? How do you know?" This shows a spaced retrieval opportunity with a previously learned concept across lessons.

Additionally, materials provide spaced retrieval opportunities with previously learned skills and concepts across units within the questioning of the "Check your Readiness" diagnostic at the beginning of each unit. For example, the statement "content assessed in this problem is first encountered in 'Lesson 1: Interpreting Negative Numbers'" was in grade 7, Unit 6.

Materials provide spaced retrieval opportunities with previously learned skills and concepts across lessons within the lesson narrative section inside each lesson. For example, in Unit 11, Lesson 2 states, "In the previous lesson, students solved single-step problems about supplementary, complementary, and vertical angles."

4.3b – Materials provide interleaved practice opportunities with previously learned skills and concepts across lessons and units.

Materials provide interleaved practice opportunities with previously learned skills and concepts across learning pathways. The set of practice problems associated with each lesson includes a few questions about the contents of that lesson, plus additional problems that review material from earlier in the unit and previous units.

Materials provide interleaved practice opportunities with previously learned skills and concepts across lessons and units. The Cumulative Pp Sets integrate the lesson-specific content with previously learned skills and concepts. For example, in the "Grade 7.12.2 Cumulative Pp Set For Decomposing Bases For Area," the practice problem set includes questions about congruence, angle relationships from Unit 11, proportionality from Unit 3, and decomposing bases for area of a shape to find volume.

5. Balance of Conceptual and Procedural Understanding

Materials are designed to balance conceptual understanding, procedural skills, and fluency.

5.1 Development of Conceptual Understanding

GUIDANCE	SCORE SUMMARY	RAW SCORE
5.1a	All criteria for guidance met.	3/3
5.1b	All criteria for guidance met.	1/1
5.1c	All criteria for guidance met.	1/1
—	TOTAL	5/5

5.1a – Questions and tasks require students to interpret, analyze, and evaluate models and representations for mathematical concepts and situations.

Questions and tasks require students to interpret, analyze, and evaluate models and representations for mathematical concepts and situations. For example, in grade 7, Unit 9, "Activity 9.2: Lists, Tables, and Trees," students analyze the equation models given and explain why those models fit a scenario.

The *Middle School Course Guide for Teachers* provides guidance on questions and tasks that require students to interpret, analyze, and evaluate models and representations for mathematical concepts and situations.

The *Middle School Course Guide for Teachers* provides information related to Mathematical Modeling Prompts for teachers to use when students are engaged in interpreting, analyzing, and evaluating models and representations for mathematical concepts and situations.

5.1b – Questions and tasks require students to create models to represent mathematical situations.

Questions and tasks require students to create models to represent mathematical situations. For example, in "Activity 9.2: Lists, Tables, and Trees," students represent sample spaces using lists, tables, and trees.

Questions and tasks require students to create models to represent mathematical situations. For example, questions in the "Grade 7.12.7 Cumulative Pp Set For Surface Area—Triangular Prisms and Pyramids" require students to create a model of shapes by drawing a net of each shape and labeling its dimensions.

5.1c – Questions and tasks provide opportunities for students to apply conceptual understanding to new problem situations and contexts.

Questions and tasks provide opportunities for students to apply conceptual understanding to new problem situations and contexts. The *Middle School Course Guide for Teachers* states, "Access to new mathematics and problems prompts students to apply their conceptual understanding and procedural fluency to novel situations," and "As their learning progresses, they make connections between different representations and strategies, consolidating their conceptual understanding, and see and understand more efficient methods of solving problems, supporting the shift toward procedural fluency."

Questions and tasks provide opportunities for students to apply conceptual understanding to new problem situations and contexts. In grade 7, Unit 5, "3.2: Building A Personal Balance Sheet," an activity about personal finance, students create a list of assets and liabilities. After the activity is completed, instructions are given for the teacher to ask questions such as, "What are some examples of assets and liabilities? Why is it important to understand your assets and liabilities? How can a balance sheet help you understand your financial health?" This connects students' understanding of what an asset and a liability are to net worth.

5.2 Development of Fluency

GUIDANCE	SCORE SUMMARY	RAW SCORE
5.2a	All criteria for guidance met.	2/2
5.2b	All criteria for guidance met.	3/3
5.2c	All criteria for guidance met.	3/3
5.2d	All criteria for guidance met.	1/1
—	TOTAL	9/9

5.2a – Materials provide tasks that are designed to build student automaticity and fluency necessary to complete grade-level tasks.

Materials provide tasks that are designed to build student automaticity and fluency necessary to complete grade-level tasks. For example, the *Middle School Course Guide for Teachers* explains the contents of a math lesson by stating, "The first event in every lesson is a Warm-up." It then states, "A Warm-up designed to strengthen number sense or procedural fluency asks students to do mental arithmetic or reason numerically or algebraically."

Automaticity is focused on in the warm-up part of lessons, as seen in grade 7, Unit 2, Lesson 1 Warm-up "1.1: Warm-up—Number Talk: Division." This activity has students mentally calculating quotients of different expressions, including fractions, given a time limit of 30 seconds per problem.

Materials provide tasks that are designed to build student automaticity and fluency necessary to complete grade-level tasks. A focus on fluency is often found in the Cumulative Pp Set in a lesson. One example can be found in "Grade 7.2.1 Cumulative Pp Set For Ratios and Rates with Fractions." The problem set includes comprehensive questions based on ratios and rates that focus on identifying and applying strategies, such as finding a unit rate, and then multiplying to determine an equivalent rate.

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.

Materials provide opportunities for students to practice the application of efficient, flexible, and accurate mathematical procedures within the lesson and throughout a unit. For example, opportunities for flexibility are found within Section D of the "Section Level Planning Guide" for Unit 3, which states that students will "Develop and justify connections between different representations of proportional relationships while constructing and comparing graphs with varying coordinate arrangements."

In grade 7, Unit 9, Lesson 7, "Activity 2: Diego's Walk," the materials provide opportunities for students to practice efficient mathematical procedures when it states, "The purpose of this discussion is for students

to understand why simulations are useful in place of actual experiments," and then asks, "Why do you think these simulations are more useful than actually doing the experiment many times?"

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.

Materials provide opportunities for students to evaluate procedures, processes, and solutions for efficiency, flexibility, and accuracy within the lesson and throughout a unit. For example, the two goals in Section A within the "Section Level Planning Guide" are to "As the unit progresses, students coordinate multiple representations—tape diagrams, equations, and verbal descriptions. They develop fluency in moving between these representations, using tape diagrams to solve equations, and explain their reasoning both orally and in writing."

In grade 7, the "Activity Synthesis" portion of some activities provides opportunities for students to evaluate procedures, processes, and solutions for efficiency, flexibility, and accuracy. The Unit 7, Lesson 10, "10.3: Solution Pathways" activity synthesis states, "Display the list of equations in the task, and ask students to help you label them with which solution method was easier, either 'divide first' or 'distribute first.' Discuss any disagreements and the reasons one method is easier than the other." This has students evaluating and discussing the procedures and processes needed to reach a solution efficiently.

5.2d – Materials contain embedded supports for teachers to guide students toward increasingly efficient approaches.

Materials contain embedded supports for teachers to guide students toward increasingly efficient approaches. The *Middle School Course Guide for Teachers* reinforces this, stating, "Across lessons and units, students are systematically introduced to representations and encouraged to use those that make sense to them. As their learning progresses, students make connections between different representations and the concepts and procedures they show. Over time, they see and understand more efficient methods of representing and solving problems, which supports the development of procedural fluency."

Materials contain embedded supports for teachers to guide students toward increasingly efficient approaches in almost every lesson in the section called "Advancing Student Thinking." This section provides materials to help teachers to guide students toward the most efficient way to understand the content when they are struggling.

5.3 Balance of Conceptual Understanding and Procedural Fluency

GUIDANCE	SCORE SUMMARY	RAW SCORE
5.3a	All criteria for guidance met.	2/2
5.3b	All criteria for guidance met.	3/3
5.3c	All criteria for guidance met.	6/6
—	TOTAL	11/11

5.3a – Materials explicitly state how the conceptual and procedural emphasis of the TEKS are addressed.

Materials explicitly state how the conceptual and procedural emphasis of the TEKS are addressed in grade 7, Unit 6, the "Section Level Planning Guide." The planning guide ties in the conceptual understanding of negative number operations to rules for positive and negative numbers. For example, in "Section B: Multiplying and Dividing Rational Numbers," the materials state, "Students investigate multiplication with signed numbers, discovering the rules for products of positive and negative numbers. They progress from single-digit integers to more complex rational numbers, developing an understanding of why the product of a negative and positive number is negative and why two negative numbers yield a positive product."

In grade 7, Unit 1, Lesson 7, "7.2: Making a Polygon out of a Circle," the conceptual and the procedural emphasis of the area of a circle are addressed. For example, the "Launch" states, "As students work in groups to make sense of the shapes glued on the paper, circulate and listen to the language students use as they compare the shapes and discuss how to find the area of the shape that resembles a parallelogram. Write down the words and phrases students use to explain why the areas of both shapes are equal and why the area of the shape is half of the circumference multiplied by the radius."

5.3b – Questions and tasks include the use of concrete models and manipulatives, pictorial representations (figures/drawings), and abstract representations, as required by the TEKS.

Questions and tasks include the use of concrete models and manipulatives, pictorial representations (figures/drawings), and abstract representations, as required by the TEKS. In grade 7, Unit 12, Lesson 1, "1.2: Finding Volume With Cubes," the materials task students to use snap cubes, a concrete manipulative, to model the volume of shapes and then connect that to abstract representations. The "Activity Synthesis" states, "If not mentioned by students, explain that calculating the total number of cubes to make the prism is the same as calculating the volume of the prism. We can find the area of the base of the prism and multiply that by the number of layers in the prism, which is the same as the height of the prism."

In grade 7, Unit 7, Lesson 2, "2.2: Every Picture Tells a Story," questions and tasks include pictorial representations of situations using a tape diagram. The "Student Facing Task Statement" gives instructions for using the tape diagram and states, "Here are three stories with a diagram that represents it. With your group, decide who will go first. That person explains why the diagram represents the story. Work together to find any unknown amounts in the story. Then, switch roles for the second diagram and switch again for the third."

5.3c – Materials include supports for students in connecting, creating, defining, and explaining concrete and representational models to abstract (symbolic/numeric/algorithmic) concepts, as required by the TEKS.

In grade 7, Unit 7, "Lesson 2: Reasoning about Contexts with Tape Diagrams," the materials include supports for students in connecting, creating, defining, and explaining representational models to abstract concepts. For example, one activity in the lesson tasks students with looking at a tape diagram and connecting the diagram to abstract concepts. A second activity in the lesson tasks students with observing a tape diagram and connecting the representational model to a situation. A third activity in the lesson tasks students with creating a tape diagram to represent a situation. The Activity Narrative of "2.3: Every Story Needs a Picture" states, "In the previous activity, students interpreted given tape diagrams and explained how they represented a story. Here, they have a chance to draw tape diagrams to represent a story."

Materials include supports for students in connecting, creating, defining, and explaining representational models to abstract (symbolic/numeric/algorithmic) concepts, as required by the TEKS. For example, the Activity Synthesis within grade 7, Unit 12, Lesson 8, "Activity 8.3: Filling the Sandbox" provides discussion questions that promote connecting, defining, and explaining the representational models to abstract concepts.

Materials include supports for students in connecting, creating, defining, and explaining concrete and representational models to abstract (symbolic/numeric/algorithmic) concepts, as required by the TEKS. In grade 7, Unit 12, Lesson 1, "1.2: Finding Volume With Cubes," the materials include supports for students to create concrete models using snap cubes to connect to the abstract concept of volume of prisms. "If not mentioned by students, explain that calculating the total number of cubes to make the prism is the same as calculating the volume of the prism. We can find the area of the base of the prism and multiply that by the number of layers in the prism, which is the same as the height of the prism."

5.4 Development of Academic Mathematical Language

GUIDANCE	SCORE SUMMARY	RAW SCORE
5.4a	All criteria for guidance met.	3/3
5.4b	All criteria for guidance met.	1/1
5.4c	All criteria for guidance met.	6/6
—	TOTAL	10/10

5.4a – Materials provide opportunities for students to develop academic mathematical language using visuals, manipulatives, and other language development strategies.

Materials provide opportunities for students to develop their academic mathematical language using visuals and other language development strategies. In grade 7, Unit 3, Lesson 4, "4.2 Centimeters and Millimeters," students use a visual and a table to develop their academic language. The activity states specifically to "revoice student ideas to demonstrate mathematical language, and invite students to chorally repeat phrases that include relevant vocabulary in context, such as 'constant of proportionality.'"

In grade 7, Unit 12, Lesson 1, "1.2: Finding Volume With Cubes," the materials provide opportunities for students to develop academic mathematical language through the use of manipulatives and class discussions. The materials include questions for discussion, including "How do you calculate the total number of cubes to make the prism? If you find the area of the base, how do you use that information to calculate the volume of the prism? How would the volume of the prism change if we changed the shape of the base but still used 27 cubes to build it?" Additional teacher instructions include information to guide student discussion if it does not lead to the target outcome. "If not mentioned by students, explain that calculating the total number of cubes to make the prism is the same as calculating the volume of the prism. We can find the area of the base of the prism and multiply that by the number of layers in the prism, which is the same as the height of the prism. The height of the prism is measured in units, the area of the base is measured in units 2 , and the volume of the prism is measured in units 3 ."

5.4b – Materials include embedded teacher guidance to scaffold and support students' development and use of academic mathematical vocabulary in context.

Materials include embedded teacher guidance to scaffold and support students' development and use of academic mathematical vocabulary in context. The materials define conversations as being a scaffold for the development and use of academic mathematical vocabulary in the *Middle School Course Guide for Teachers*. The guide states, "Conversations act as scaffolds for students developing mathematical language because they offer opportunities to simultaneously make meaning, communicate that meaning, and refine the way content understandings are communicated."

Teacher guidance in the "Support for English Language Learners" section of Unit 1, Lesson 7, "7.3: Making Another Polygon out of a Circle," states, "After students have the opportunity to think about how to find

the area of the triangle in terms of the circle's measurements, ask students to write a brief explanation of their process. As students prepare their explanation, look for students who state that the area of the shape that resembles a triangle is half of the circumference multiplied by the radius of the circle. Ask each student to meet with two–three other partners for feedback. Provide students with prompts for feedback that will help them strengthen their ideas and clarify their language (e.g., 'Can you explain how . . .,' 'You should expand on . . .,' etc.). Students can borrow ideas and language from each partner to refine and clarify their original explanation. This will help students revise and refine both their ideas and their verbal and written output."

5.4c – Materials include embedded teacher guidance 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.

Materials include embedded teacher guidance 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. In the *Middle School Course Guide for Teachers*, teacher guidance on using MLRs to support academic language is addressed. The materials state, "Mathematical Language Routines (MLRs) are instructional routines that provide structured but adaptable formats for amplifying, assessing, and developing students' language. The MLRs included in this curriculum were selected because they simultaneously support students' learning of mathematical practices, content, and language." In another section of the topic in the guide, the materials continue with "MLRs, included in select activities of each unit, offer all students explicit opportunities to develop mathematical and academic language proficiency. These 'embedded' MLRs are described in the Teacher Guide for the lessons in which they appear." The use of discourse during these routines is also stated within the materials as "Using these supports can help maintain students' engagement in mathematical discourse and ensure that the struggle remains productive."

The "MLR4 Information Gap" within grade 7, Unit 3, Lesson 9, Activity 2 includes embedded teacher guidance to support the application of appropriate mathematical language, vocabulary, syntax, and discourse to support mathematical conversations through the use of sentence stems that provide opportunities for students to hear, refine, and use math language with peers. "Display questions or question starters for students who need a starting point, such as: 'Can you tell me. . . (specific piece of information),' and 'Why do you need to know . . . (that piece of information)?"

5.5 Process Standards Connection

GUIDANCE	SCORE SUMMARY	RAW SCORE
5.5a	All criteria for guidance met.	1/1
5.5b	Materials do not include a description of how the TEKS process standards are incorporated and connected throughout the course.	0/2
5.5c	Materials do not include a description for each unit of how the TEKS process standards are incorporated and connected throughout the unit.	0/2
5.5d	All criteria for guidance met.	1/1
—	TOTAL	2/6

5.5a – TEKS process standards are integrated appropriately into the materials.

The TEKS process standards are integrated appropriately into the materials. The "Grade 7 Scope and Sequence" document identifies what the TEKS, including process standards, are included in each lesson.

At the lesson level, process standards that are focused on in the lesson are listed with the TEKS on the cover page of that lesson. For example, grade 7, Unit 1, Lesson 5 cites the process standard 7.1A: Apply mathematics to problems arising in everyday life, society, and the workplace. In the lesson, the materials include tasks and questions that integrate this process standard, such as finding the area of a house's floor plan and finding the area of other places in the world.

5.5b – Materials include a description of how TEKS process standards are incorporated and connected throughout the course.

Materials do not include a description of how the TEKS process standards are incorporated and connected throughout the course.

5.5c – Materials include a description for each unit of how TEKS process standards are incorporated and connected throughout the unit.

Materials do not include a description for each unit of how the TEKS process standards are incorporated and connected throughout the unit.

5.5d – Materials include an overview of the TEKS process standards incorporated into each lesson.

The TEKS process standards are coded at the top of each lesson, and an overview involving the standards can be seen in the "Lesson Narrative." For example, in grade 7, Unit 3 "Lesson 4: More About Constant of Proportionality," all of the TEKS, including a process standard, are shown at the top of the lesson page. The "Learning Goals" section of the page provides an overview of how these standards are being addressed in the lesson. The "Learning Goals" section states, "Compare, contrast, and critique (orally and

in writing) different ways to express the constant of proportionality for a relationship," and "Explain (orally) how to determine the constant of proportionality for a proportional relationship represented in a table," showing how the process standard should be seen in the lesson.

Materials include an overview of the TEKS process standards incorporated into each lesson. For example, the "Lesson Narrative" within grade 7, Unit 7, Lesson 1 uses language that applies process standard 1E to create and use representations to organize, record, and communicate mathematical ideas. "In this lesson, students write expressions with one variable to represent situations in which a calculation can be carried out repeatedly with different numbers."

6. Productive Struggle

Materials support students in applying disciplinary practices to productive problem-solving, including explaining and revising their thinking.

6.1 Student Self-Efficacy

GUIDANCE	SCORE SUMMARY	RAW SCORE
6.1a	All criteria for guidance met.	3/3
6.1b	All criteria for guidance met.	6/6
6.1c	All criteria for guidance met.	3/3
—	TOTAL	12/12

6.1a – Materials provide opportunities for students to think mathematically, persevere through solving problems, and to make sense of mathematics.

The grade 7, Unit 12, the "Unit Narrative," states, "Confident students solve real-world problems involving volume and surface area, calculating costs, exploring proportions, and connecting shapes. They demonstrate understanding by explaining solutions, comparing methods, and recognizing that surface area and volume are measured in different units, showcasing their ability to apply geometric concepts practically." This summarizes the focus in the materials for students to think mathematically, persevere through solving problems, and make sense of the mathematics involved.

Materials provide opportunities for students to think mathematically, persevere through solving problems, and make sense of mathematics. The materials in grade 7, Unit 11, Lesson 2, Activity 1 provide opportunities for students to think mathematically and make sense of mathematics by asking the students, "Do you agree or disagree? Why? Who can restate ___'s reasoning in a different way? And does anyone want to add on to ____'s reasoning?"

6.1b – Materials support students in understanding, explaining, and justifying that there can be multiple ways to represent and solve problems and complete tasks.

In the grade 7, Unit 11, "Section Level Planning Guide," the materials provide learning targets for the unit. In "Section A: Angle Relationships," the materials state, "Confident students tackle multi-step problems combining various angle relationships, writing and solving equations for complex geometric figures. They demonstrate mastery by explaining their reasoning verbally and in writing, justifying solutions using multiple representations, and applying concepts to real-world geometric problems. This shows their ability to integrate geometric and algebraic thinking with precise mathematical communication." This section-level summary of the unit shows intent for the materials to support students in understanding, explaining, and justifying that there can be multiple ways to represent and solve problems and complete tasks.

Materials support students in understanding, explaining, and justifying that there can be multiple ways to represent and solve problems and complete tasks. For example, the Activity Narrative within grade 7, Unit 4, Lesson 5, Activity 4 states, "Students are asked to sort scenarios to different descriptors using the images, sentences, or questions found on the scenario cards."

6.1c – Materials are designed to require students to make sense of mathematics through multiple opportunities for students to do, write about, and discuss math with peers and teachers.

The *Middle School Course Guide for Teachers*, describes the "MLR7 Compare and Connect" routine used in the instructional materials and states, "In this routine, students make sense of mathematical strategies other than their own by relating and connecting other approaches to their own. Prompt students to reflect on, and verbally respond to, these comparisons (for example, by exploring why or when to approach, represent, or say a mathematical problem a certain way, or by identifying and explaining correspondences between different mathematical representations or methods)." This routine, when implemented, is designed to require students to make sense of mathematics through multiple opportunities for students to do, write about, and discuss math with their peers and teacher.

Materials are designed to require students to make sense of mathematics through multiple opportunities for students to do, write about, and discuss math with peers and teachers. In grade 7, Unit 4, Lesson 3, "3.4: Representing Percent Increase and Decrease: Equations," the materials state, "To begin the whole-class discussion, use this routine to give students a structured opportunity to revise and refine their response to the first question, 'Explain why this situation can be represented by the equation $(1.5) \cdot 12 = t$.' Give students time to meet with two–three partners, to share and get feedback on their initial explanations. Provide listeners with prompts for feedback such as, 'What does t represent?' 'Where is 50% in the equation?' 'Can you say that another way?' Invite students to go back and refine their written explanation based on the peer feedback they receive. This will help students understand how situations of percent increase or decrease can be represented by an equation."

6.2 Facilitating Productive Struggle

GUIDANCE	SCORE SUMMARY	RAW SCORE
6.2a	All criteria for guidance met.	6/6
6.2b	All criteria for guidance met.	4/4
—	TOTAL	10/10

6.2a – Materials support teachers in guiding students to share and reflect on their problem-solving approaches, including explanations, arguments, and justifications.

In the *Middle School Course Guide for Teachers*, the instructional routine "MLR7 Compare and Connect" supports teachers in guiding students to decide on a problem-solving approach, solve problems, share their solutions and reasoning on a display, and then, finally, observe other students' work and reflect on their own and other students' problem-solving approaches. The materials state, "In this routine, students make sense of mathematical strategies other than their own by relating and connecting other approaches to their own. Prompt students to reflect on, and verbally respond to, these comparisons (for example, by exploring why or when to approach, represent, or say a mathematical problem a certain way, or by identifying and explaining correspondences between different mathematical representations or methods)."

Materials support teachers in guiding students to share and reflect on their problem-solving approaches, including explanations, arguments, and justifications. For example, the "Lesson Synthesis" within grade 7, Unit 2, Lesson 4 provides a teacher question asking, "When might it be helpful to find a 'rate per 1' or an equivalent ratio with 1 as the value for one quantity?"

6.2b – Materials include prompts and guidance to support teachers in providing explanatory feedback based on student responses and anticipated misconceptions.

Materials offer prompts and guidance to support teachers in providing explanatory feedback based on student responses and anticipated misconceptions. For example, the "Anticipated Misconceptions" section within grade 7, Unit 2, Lesson 1, Activity 2 offers the teacher guidance and prompts with misconceptions by stating, "Students might calculate the unit rate as $6 \div 15/2$. Ask students what this number would mean in this problem. (This number means that it takes $4/5$ of a minute to travel 1 kilometer.) In this case, students should be encouraged to create a table or a double number line, since it will help them make sense of the meaning of the numbers."

In the *Middle School Course Guide for Teachers*, the materials cite the lesson's cooldown as an important area for providing explanatory feedback. The materials state, "Give each student brief, written feedback on a Cooldown that nudges them to re-examine their work. Ask students to revise and resubmit."