Curriculum Associates, LLC

Supplemental English Mathematics, 8
Ready Texas Mathematics, Grade 8

MATERIAL TYPE	ISBN	FORMAT	ADAPTIVE/STATIC
Supplemental	**9781728022345**	**Print**	**Static**

Rating Overview

TEKS SCORE	TEKS BREAKOUTS ATTEMPTED	ERROR CORRECTIONS (IMRA Reviewers)	SUITABILITY NONCOMPLIANCE	SUITABILITY EXCELLENCE	PUBLIC FEEDBACK (COUNT)
100%	40	0	Flags Addressed	Flags in Report	0

Quality Rubric Section

RUBRIC SECTION	RAW SCORE	PERCENTAGE
1. Intentional Instructional Design	19 out of 23	83%
2. Progress Monitoring	15 out of 20	75%
3. Supports for All Learners	32 out of 36	89%
4. Depth and Coherence of Key Concepts	16 out of 16	100%
5. Balance of Conceptual and Procedural Understanding	38 out of 38	100%
6. Productive Struggle	21 out of 21	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	0	0	0
2. Alignment with Public Education's Constitutional Goal	1	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)	0	0	0

SUITABILITY EXCELLENCE FLAGS BY CATEGORY	IMRA REVIEWERS
Category 2: Alignment with Public Education's Constitutional Goal	1
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	The materials do not include an alignment guide outlining the ELPS covered.	4/5
1.1b	All criteria for guidance met.	3/3
1.1c	The materials do not include diagnostic tests.	1/2
1.1d	All criteria for guidance met.	2/2
1.1e	All criteria for guidance met.	2/2
—	**TOTAL**	12/14

1.1a – Materials include an alignment guide outlining the TEKS, ELPS, and concepts covered, with a rationale for learning paths across grade levels (vertical alignment) and within the same grade level (horizontal alignment) as designed in the materials.

The materials include a *Ready Texas Mathematics Teacher Resource Book.* This book contains a unit flowchart before each unit and a Texas Essential Knowledge and Skills (TEKS) correlation chart in the front matter. Both resources outline the TEKS and concepts taught across the course for each grade level. The materials do not include the corresponding English Language Proficiency Standards (ELPS). The "TEKS Coverage by Ready Texas Mathematics Instruction" correlation chart consists of the TEKS (written out in their entirety), the reporting category, and correlating lessons in a table format.

The materials do not explicitly link process standards to lessons in a correlation chart. The *Ready Texas Mathematics Teacher Resource Book* includes Mathematical Process Standard (MPS) tips in each lesson. These tips reinforce the mathematical habits of mind that are embedded in the process standards. For example, in Unit 1, Lesson 3, the MPS tip requires students to use repeated reasoning, supporting Process Standard 7.1.C.

The materials include unit flowcharts at the beginning of each unit. These charts detail how concepts align horizontally and vertically between grade levels. For example, in grade 8, Unit 3: Geometry and Measurement, the *Ready Texas Mathematics Teacher Resource Book* includes a flowchart detailing the lessons that students build on from grades 6–7. The chart also details the current concepts that Unit 3 covers, as well as lessons that students prepare for moving into grade 8 and geometry. The materials do not assess student performance in alignment with the ELPS.

1.1b – Materials include an implementation guide with usage recommendations and strategies for effective educator use, such as just-in-time supports, advanced learning, or as a course.

The materials provide implementation guidance in the *Ready Texas Mathematics Teacher Resource Book* for classroom contexts, such as whole-group, small-group, or independent practice settings. The online Teacher Toolbox includes a program implementation link, which includes teaching and learning resources and implementation support. These resources include suggested activities, such as discourse cards, grade-level games, digital math tools, and manipulative lists. Each lesson provides implementation steps for teachers that suggest which classroom context to use. Students can either work individually, in small groups, or participate in whole-class instruction.

The materials provide recommendations for differentiating instruction for various student needs. Each lesson ends with a "Differentiated Instruction" page. Several lessons include an "Assessment and Remediation" section on this page. The "Assessment and Remediation" section offers a question or situation to students. A chart follows this question, which explains potential errors and gives the teacher tips for remediation and further lessons. "Hands-on" activities in each lesson foster learning using concrete models, manipulatives, or objects. The "Challenge" activity is for students who master the content early. The materials provide resources in each lesson for teachers to support English Language Learners (ELLs) and enrichment tasks. The "Concept Extension" box gives the teacher suggestions on extending learning for more proficient students.

The *Ready Texas Mathematics Teacher Resource Book* includes guidance for using the materials in various instructional formats, such as intervention, enrichment, extension, or as a course. The book also includes two options for weekly pacing guides: one lesson or two lessons per week.

1.1c – Materials include a TEKS correlation guide with recommended skill entry points based on diagnostic assessment results.

The materials provide TEKS connections within each unit lesson. The *Ready Texas Mathematics* front matter also provides a "TEKS Coverage by Ready Texas Mathematics Instruction" correlation chart.

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

The *Ready Texas Mathematics Teacher Resource Book* includes processes for educators to thoroughly understand and prepare to teach a concept. Preparation includes: previewing the unit to understand key standards, unit objectives, vocabulary, and assessments; understanding the sequence of learning in the context of the learning progression; considering the diverse needs of students and finding places within the unit for differentiation and scaffolding strategies; and preparing for instruction by gathering the materials and tools necessary for lesson delivery.

The materials include a page at the beginning of each lesson that gives the teacher an overview of the objectives, prerequisite skills, essential academic vocabulary, and the learning progression based on current skills. This page also details the TEKS that the lesson addresses and explains whether the standard relates to readiness or support.

The *Ready Texas Mathematics Teacher Resource Book* includes sections for educators considering diverse student needs. These sections support educators within the unit for differentiation and reviewing formative assessments. Each lesson covers formative assessments in the "Solutions and Explanations with Error Alerts" and "Assessment and Remediation" sections. Lessons include detailed steps, strategies, and prepared questions for teachers. For example, in Unit 2, Lesson 5, an extension activity at the end of the lesson asks students to write a proportional relationship situation that includes multiple representations of a graph, table, and ordered pairs.

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

The online Teacher Toolbox includes a "Program Implementation" section. This section contains resources such as manipulative lists, documents to help teachers and instructional leaders set up for the year or by unit, and a guide on implementing learning centers. The materials include academic language glossaries and correlations for digital resources, comprehension checks, and cumulative practice. The *Program Resources User Guide* lists the student and teacher resources and whether they are available online, in print, and/or in Spanish.

The online Teacher Toolbox *Implementation Guide* gives instructional leaders guidance for effectively implementing the program, such as outlining the program's structure, addressing potential challenges, explaining instructional strategies, and providing pacing recommendations. The "Program Overview" document is available in English and Spanish. The document details the program's overall vision, mission, and organization. It also offers sheets that provide an overview on implementing hands-on learning, building number sense, implementing powerful instructional frameworks, and supporting ELLs.

The homepage of the Teacher Toolbox has a "Success Central" option, which includes information related to topics such as "Plan and Teach," "Assess and Use Data," and "Professional Growth." The *Unpacking a Unit CLE (Collaborative Learning Extension) Guide* can facilitate meetings when beginning a new unit to discuss learning goals, prerequisite skills, and upcoming learning connected to the unit. The "Learning Walks for Teachers CLE" document gives step-by-step instructions for teacher leaders to thoroughly plan for, implement, and reflect on learning walks through teachers' classrooms.

1.2 Lesson-Level Design

GUIDANCE	SCORE SUMMARY	RAW SCORE
1.2a	The materials do not align with the ELPS. The materials meet all other criteria.	5/7
1.2b	This guidance is not applicable to the program.	N/A
1.2c	All criteria for guidance met.	2/2
—	**TOTAL**	7/9

1.2a – If designed to be static, materials include detailed lesson plans with learning objectives, teacher and student materials, lesson components with suggested timeframes, and assessment resources aligned with the TEKS and ELPS.

The *Ready Texas Mathematics Teacher Resource Book* contains a "Lesson Overview" page for each lesson. This page details the progression of learning, alignment to the standards for mathematical practice, and content and language objectives. The "Lesson Overview" page also includes suggested pacing, suggested times (in minutes) for parts of the lesson, and an at-a-glance area providing ideas for differentiation.

The *Ready Texas Mathematics Teacher Resource Book* and the online Teacher Toolbox provide ideas for concrete and representational activities, hands-on learning opportunities, differentiations, reteaching opportunities, language supports, and enrichment activities. The educator supports are easily identifiable by shaded boxes that make them stand out. Student materials correspond to the lesson components in the *Ready Texas Mathematics Teacher Resource Book*. These materials allow students space for reflection, exploration, practice, and enrichment.

The Teacher Toolbox contains classroom resources (organized by lesson). These resources include sections for instruction and practice, interactive tutorials, assessments, instructional tools, and enrichment. All lessons tie back to the TEKS using the correlation guide. Assessments do not explicitly state the TEKS; however, assessments align with each lesson's TEKS. Assessment resources do not align with the ELPS.

1.2b – If designed to be adaptive, materials include detailed lesson overviews with learning objectives, lesson components with suggested timeframes, and assessment resources aligned with the TEKS and ELPS.

This guidance is not applicable because the program is not designed to be adaptive.

1.2c – Materials contain support for families in Spanish and English for each unit, with suggestions on supporting the progress of their student(s).

The "English Language" section of the *Ready Texas Mathematics Teacher Resource Book* contains family letters. Each letter is available in multiple languages, including Spanish. These letters introduce the current lesson's skills and vocabulary, as well as explain two ways to use the skills. The letters also contain visuals and a conversation starter paired with an activity.

The Teacher Toolbox includes an email template for teachers and/or instructional leaders to share with families to help them understand the materials. This email template contains questions and answers about the materials, questions for parents to ask about homework, and questions for parents to ask children if they are stuck on a question. This introductory email also introduces each lesson's family letter.

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	All criteria for guidance met.	2/2
2.1b	All criteria for guidance met.	2/2
2.1c	This is a static program. The materials do not include printable or digital versions. The materials do not include accommodations, such as text-to-speech, content and language supports, or calculators that can be enabled or disabled for individual students.	Not Scored
2.1d	The materials do not include diagnostic tests.	0/4
2.1e	All criteria for guidance met.	4/4
—	**TOTAL**	8/12

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

The "Supporting Research" section of the *Ready Texas Mathematics* front matter defines formative assessment, or progress monitoring, opportunities. This information is also in the "Solutions and Explanations with Error Alerts" section and each lesson's "Assessment and Remediation" section. The materials cite research as the purpose of formative assessments, stating the following: "Teachers' regular use of formative assessment improves their students' learning, especially if they have additional guidance on using the assessment to design and to individualize instruction."

Each lesson includes "TEKS Practice" problems in various assessment formats. Each unit also includes "Unit Practice" pages. The *Ready Texas Mathematics Teacher Resource Book* provides sample solutions for all of the questions, Depth of Knowledge (DOK) levels for each response, and a rubric. The materials offer answer explanations for students, helping teachers give immediate feedback—an essential part of scaffolded instruction.

The individual lessons guide formative assessments. Each lesson's materials incorporate the intended purpose of formative assessments. The materials do not include diagnostic and summative assessments.

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

Each lesson includes "TEKS Practice" problems in various assessment formats. The *Ready Texas Mathematics Teacher Resource Book* provides sample solutions with DOK levels for each response. The book also provides a rubric to help teachers consistently and accurately assess student performance.

The "Unit Practice" section after each unit includes a scoring guide and answer analysis for each review question. The "Unit Practice Correlation Chart" in the front matter details the TEKS and DOK level that each question assesses.

2.1c – Digital assessments include printable versions and accommodations, including text-to-speech, content and language supports, and calculators, that educators can enable or disable to support individual students.

The materials do not include assessments at the end of each unit, which are only in the *Student Instructional Book*. The lessons include TEKS practice and performance tasks that allow students to demonstrate mastery of the materials covered in lessons. The materials do not include digital assessments, printable versions or accommodations, such as text-to-speech, content and language supports, or calculators that can be enabled or disabled for individual students.

2.1d – Materials include diagnostic assessments with TEKS-aligned tasks or questions, including interactive item types with varying complexity levels.

The materials do not meet the criteria for diagnostic assessments with TEKS-aligned tasks or questions. The materials include TEKS Practice assessments with different item types and varying DOK levels; however, these assessments do not include interactive or adaptive components. The product is static and does not contain printed or online diagnostic assessments.

2.1e – Materials include a variety of formative assessments with TEKS-aligned tasks or questions, including interactive item types with varying complexity levels.

Each lesson's "Guided Practice" section requires students to work independently while the teacher monitors and assesses their work. For instance, in Unit 3, Lesson 16, the *Ready Texas Mathematics Teacher Resource Book* guides the teacher on what constitutes a correct solution and explanation for each of the three problems. The book also details the DOK level for each problem.

The "TEKS Practice" pages in Unit 3, Lesson 16 include five types of assessment questions, including a written explanation of mathematical thinking, multiple-choice, multiple-step, open response/text entry, and graphing questions. These questions cover three DOK levels. The materials are static and include interactive item types that require students to engage with content beyond traditional multiple-choice formats.

The materials include multipart performance tasks for most lessons that allow students to demonstrate their learning regarding the lesson's concepts. These performance tasks include an assigned DOK level and rubrics to guide teachers in assessing and scoring student understanding. For example, Lesson 6 includes a performance task at DOK Level 3 that consists of four parts. The materials provide teachers with a rubric as guidance for each part of the task.

2.2 Data Analysis and Progress Monitoring

GUIDANCE	SCORE SUMMARY	RAW SCORE
2.2a	All criteria for guidance met.	3/3
2.2b	All criteria for guidance met.	1/1
2.2c	The materials do not include tools for teachers to track student progress and growth.	1/2
2.2d	All criteria for guidance met.	2/2
2.2e	This guidance is not applicable to the program.	N/A
—	**TOTAL**	7/8

2.2a – Instructional assessments include scoring information and guidance for interpreting student performance, including rationale for each correct and incorrect response.

The grade 8 *Ready Texas Mathematics Teacher Resource Book* provides many opportunities for students to demonstrate understanding of lesson content, including "Guided Practice," "TEKS Practice," "Performance Tasks," and "Unit Practice" sections. The "Guided Practice" sections throughout the lessons include scoring information and guidance for multiple-choice questions. This information and guidance offers rationales for correct and incorrect answers.

The materials include "Guided Practice" open-ended questions. These questions include a "Solutions" section that explains correct answers. For example, in grade 8, Unit 3, Lesson 20, in the "Guided Practice" section, students analyze the answer choice of a fictional student. The materials guide teachers to lead students through the rationales for correct and incorrect answer choices.

The materials provide multistep "Performance Tasks," which are spread among lessons and provide another form of assessment. Each task includes an accompanying rubric that guides the teacher in objectively determining each student's overall performance. Rubrics include explanations for each point value for every problem. Grade 8 consists of 14 performance tasks. For example, the "Performance Task" in Lesson 12 has four parts. The *Ready Texas Mathematics Teacher Resource Book* includes a rubric for each section to assess each student's performance.

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

The *Ready Texas Mathematics Teacher Resource Book* provides guidance on using multiple tasks and activities to respond to students' assessed needs. Each lesson concludes with activities that challenge students who have mastered skills, opportunities to reteach concepts and skills for students who need extra practice, and opportunities to give on-level students problems that apply and extend their knowledge to new situations. For example, at the end of Lesson 11 on the "Differentiated Instruction"

page, the materials give students a multistep equation to solve. The problem provides an error analysis table and guidance for the teacher based on the mistake that the student made.

The supplementary lesson resources in the Teacher Toolbox provide teachers with at least one task for each lesson. The "Student-Led Activities" pages differentiate this task for on-level, below-level, and above-level students. For instance, in Lesson 6, the "Finding Slope in Tables and Graphs" board game differentiates cognitive demand by changing the slope from whole numbers to more complex fractions and decimals.

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

The *Ready Texas Mathematics Teacher Resource Book* offers many opportunities to assess student learning.

The materials provide a unit self-check for students to track their progress on each unit's content.

The materials do not include tools for teachers to track student progress and growth.

2.2d – If designed to be static, materials provide prompts and guidance to support educators in conducting frequent checks for understanding at key points throughout each lesson or activity.

The *Ready Texas Mathematics Teacher Resource Book* includes guidance throughout lessons. For example, "Step by Step," "Mathematical Discourse," "Hands-on Activity," and "Student Misconception Alert" sections provide specific and frequent prompts to check on student understanding. The materials give educators questions and instructions for students along the learning pathway. For example, in grade 8, Unit 4, Lesson 29, the "Introduction" section of the lesson includes a "Mathematical Discourse" question. This question prompts a discussion about whether students would rather have an investment that earns simple or compound interest.

The Teacher Toolbox includes a "Tools for Instruction" section, which includes a document that supports teachers in checking students' understanding of the lesson's prerequisite material. For example, within the Teacher Toolbox for Lesson 12: Understanding Systems of Equations, the "Tools for Instruction" document guides the teacher through activities to ensure students understand how to solve simple equations with one variable. An activity checks for student understanding at the end of the review. An error analysis table guides teachers with the following information: "For the student who struggles, use the chart below to help pinpoint where extra help may be needed."

The materials use the term *English Language Learner (ELL).* However, a less deficit-oriented term, *Emergent Bilingual (EB)*, would be more appropriate.

2.2e – If designed to be adaptive, materials provide frequent checks for understanding at key points throughout each lesson or activity.

This guidance is not applicable because the program is not designed to be adaptive.

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	SCORE SUMMARY	RAW SCORE
3.1a	All criteria for guidance met.	1/1
3.1b	All criteria for guidance met.	4/4
3.1c	All criteria for guidance met.	2/2
3.1d	This program is static and do not include digital accommodations, such as text-to-speech, content and language supports, or calculators, that educators can enable or disable to support individual students.	Not Scored
3.1e	All criteria for guidance met.	2/2
—	**TOTAL**	9/9

3.1a – Materials include explicit educator guidance for lessons or activities scaffolded for students who have not yet reached proficiency in prerequisite or grade-level concepts and skills.

The lessons in the *Ready Texas Mathematics Teacher Resource Book* include scaffolding and prerequisite review information to support teachers in meeting the needs of students at every level of understanding. For example, in grade 8, Unit 2, Lesson 5, the "Introduction" section reviews students' prerequisite understanding of unit rates, equivalent ratios, and proportional relationships. The "Think" section guides students to compare tables and decide whether each represents a proportional relationship. These materials provide teachers with reminders to scaffold students' learning by reviewing vocabulary. The materials also advise teachers to inquire if students can "tell just by looking at the tables whether the relationship between x and y is proportional."

The grade 8 materials include differentiated "Student-Led Activities" in the Teacher Toolbox. For example, grade 8, Unit 2, Lesson 6, which covers representations of proportional relationships, includes a supplemental differentiated activity that includes on-, below-, and above-grade-level versions. These versions differ in the amount of scaffolding or extension that they provide to students.

The Teacher Toolbox includes a "Tools for Instruction" section. This section provides supplemental resources for each lesson, including leveled support for students needing additional help within a lesson or with prerequisite skills. For example, Lesson 10: Write Equations and Inequalities for Problem Situations includes three documents. Two of these documents support students' prerequisite skills related to solving equations and graphing linear inequalities. The other document supports students' learning in the current lesson by providing additional support on solving equations with variables on both sides.

3.1b – Materials include explicit educator guidance for language supports, including pre-teaching and embedded supports for developing academic vocabulary and unfamiliar references in text.

The *Ready Texas Mathematics Teacher Resource Book* for grade 8 includes lesson objectives, prerequisite skills, essential academic vocabulary for the upcoming lesson, and definitions for all words. For example, Lesson 3 provides the vocabulary term *scientific notation*, offering a student-friendly definition. The "Step by Step" section prompts teachers to guide students in understanding the meaning of *scientific notation*. The section explains the different parts of the notation and how students represent a number with which they are more familiar.

The *Ready Texas Mathematics Teacher Resource Book* for grade 8 includes at least one "ELL Support" box in each lesson that gives explicit educator guidance for language support. For example, in Lesson 4, the materials guide educators to help students understand input and output using the real-world example of putting money into a vending machine (input) and getting a drink (output).

The lessons for grade 8 in the *Ready Texas Mathematics Teacher Resource Book* include embedded guidance for language support as needed. The materials teach academic vocabulary and symbols through hands-on experiences, manipulatives, or visuals. For example, Lesson 17 provides step-by-step guidance for teachers and students to place two parallel strips of paper side by side. Teachers cut both strips on a drawn line to introduce the terms *transversal* and *corresponding angles*.

3.1c – Materials include explicit educator guidance for enrichment and extension activities for students who have demonstrated proficiency in grade-level and above grade-level content and skills.

The grade 8 *Ready Texas Mathematics Teacher Resource Book* offers "Challenge" activities at the end of lessons for students who have mastered the grade-level lesson's content. For example, Lesson 5 includes a "Challenge" activity in which students create a situation involving a proportional relationship. Students then represent the situation with an equation, graph, and table. Students trade and discuss their problems with partners, making revisions as needed. In Lesson 7, the "Challenge" activity requires students to reason about the y-intercept equation of a line given two points, without graphing.

The materials contain "Enrichment" activities in the Teacher Toolbox that align with each lesson. For example, Lesson 3: Scientific Notation includes an activity called "Humans and Ants." The materials include a student copy and a teacher copy of the activity.

The "Modeled Instruction" part of each lesson includes a "Concept Extension" section, which offers teachers ideas on extending students' thinking about an explored concept. For example, in Unit 4, Lesson 27, the extension activity guides the teacher through steps that allow students to explore mean absolute deviation on a dot plot.

3.1d – Digital materials include accommodations, including text-to-speech, content and language supports, and calculators that educators can enable or disable to support individual students.

The materials include the online Teacher Toolbox, a digital component for teachers. In this digital space, teachers can access various resources, including the *Teacher Resource Guide,* Teacher Toolbox, small group intervention documents, and digital student pages. The materials do not include digital components that offer accommodations (such as text-to-speech support, content and language supports, and calculators) that educators can enable or disable to support individual students.

3.1e – Materials include educator guidance on offering options and supports for students to demonstrate understanding of mathematical concepts in various ways, such as perform, express, and represent.

The grade 8 materials provide a variety of options for students to demonstrate their understanding of concepts during each lesson. These options include, but are not limited to, different interactive-type questions embedded in "TEKS Practice" and "Unit Practice" pages, "Performance Tasks," and "Assessment and Remediation" sections. Lesson 11 in the *Ready Texas Mathematics Teacher Resource Book* guides students to represent word problems with algebraic expressions. Students explore how to solve these problems differently. Lesson 16 in the *Ready Texas Mathematics Teacher Resource Book* requires students to express how much money they would have after four days, multiply exponents, and represent the data using a table.

The materials provide educators with suggested activities throughout lessons that allow for multiple problem-solving methods, including using visual models and real-world connections. For example, in grade 8, Unit 3, Lesson 21, which focuses on distance on the coordinate plane, the "Real-World Connection" section guides the educator in leading a discussion on using the Pythagorean theorem in the real world to find unknown distances. Using the Pythagorean theorem, the "Visual Model" section guides the educator in showing students how to find the distance between two points on a coordinate plane.

The *Ready Texas Mathematics Teacher Resource Book* provides educators with a rubric and instructions in the "Step by Step" section of the "Performance Tasks" component. This section appears at the end of several lessons. The *Ready Texas Mathematics* front matter describes these tasks as open-ended "critical thinking problem(s) that integrate multiple standards." For example, in grade 8, Unit 4, Lesson 30, the "Performance Task" covers college costs. The materials provide students with a yearly list of college expenses. Multiple questions about this situation allow students to perform operations on the costs, evaluate budget constraints, and express their thinking in writing.

3.2 Instructional Methods

GUIDANCE	SCORE SUMMARY	RAW SCORE
3.2a	All criteria for guidance met.	5/5
3.2b	All criteria for guidance met.	2/2
3.2c	All criteria for guidance met.	3/3
3.2d	All criteria for guidance met.	2/2
3.2e	All criteria for guidance met.	2/2
—	**TOTAL**	14/14

3.2a – Materials include explicit (direct) prompts and guidance for educators to build knowledge by activating prior knowledge, anchoring big ideas, and highlighting and connecting key patterns, features, and relationships through multiple means of representation.

The *Ready Texas Mathematics Teacher Resource Book* provides prompts and guidance designed to help educators activate what students already know about a topic before introducing new information. For example, in Lesson 3, before students learn about scientific notation, teachers remind students how to multiply by large multiples of ten. Students explore these large numbers using different representations. Then, the "Step by Step" section walks teachers through the steps to help students write multiples of ten in scientific notation.

The materials anchor big ideas. Lessons in the *Ready Texas Mathematics Teacher Resource Book* provide questions that the educator can use to elicit students' critical thinking. For example, in Unit 2, Lesson 8, the "Step by Step" component in the "Introduction" section activates students' prior knowledge. The materials guide the educator to do the following: "Remind students that, in a linear relationship, the rate of change and slope are the same." The materials anchor big ideas through questions that appear in the "Mathematical Discourse" and "Real-World Connection" sections. One of these questions ask students to "describe real-world relationships that are linear but non-proportional." The question reminds teachers of the following about students: "Be sure they can identify the initial value and rate of change."

The materials include explicit prompts and guidance for educators to highlight and connect key patterns, features, and relationships. For example, grade 8, Unit 3, Lesson 25 explores patterns multiple times between tables of ordered pairs and scatterplots. The "At a Glance" section of the "Modeled Instruction" component reminds educators that the table and scatterplot data help students determine the "patterns of associations and clusters between two quantities."

3.2b – If designed to be static, materials include educator guidance for effective lesson delivery and facilitation using various instructional approaches.

The grade 8 lesson plans in the *Ready Texas Mathematics Teacher Resource Book* include guidance for several instructional routines and supplementary resources. The lesson plans also include guidance on when and how to use such routines and resources for differentiated instruction. For example, in Lesson 8, the *Ready Texas Mathematics Instruction Pacing Guide* suggests that the lesson should take five days (35–45 minutes daily). The lesson guides teachers through the "Step by Step" prompts to use "Visual Model," "Mathematical Discourse," "Real-World Connection," "Hands-on Activity," "Try-It," and "TEKS Practice" pages with students. The materials provide differentiation strategies through each lesson's "ELL Support," "Differentiated Instruction," "Hands-on," and "Challenge" activities.

The materials include opportunities throughout lessons for students to collaborate and share their mathematical thinking in the "Think-Share-Compare," "Mathematical Discourse," and "Real-World Connection" activities. For example, in Unit 2, Lesson 11, the "Guided Instruction" section requires students to compare two fictitious student solutions for solving an equation. Students discuss which method they prefer with a partner. Next, the "Guided Practice" section prompts students to discuss their solutions to the practice problems with a partner or small group.

The materials include explicit guidance for educators and opportunities for students to use a variety of instructional approaches. These approaches include whole-group instruction, small-group activities, individual differentiation, and partner collaboration throughout the lessons. The Teacher Toolbox includes multiple center activities for most lessons that allow students to work at their level in small groups to complete tasks.

3.2c – Materials include multi-tiered intervention methods for various types of practice and structures and educator guidance to support effective implementation.

The materials provide multi-tiered interventions with step-by-step teacher guidance. These interventions support students through various practice models. For example, in the Teacher Toolbox, students receive targeted support through "Teacher-Led Activities" (which allow students to work in whole or small groups), "Student-Led Activities" (which allow students to collaborate with peers to solve problems), and "Enrichment" activities (which allow students to work individually or in small groups).

The *Ready Texas Mathematics Teacher Resource Book* includes performance tasks and formative assessments that offer error analysis guidance for the teacher. These tasks and assessments suggest activities or lessons that teachers should complete with students who make errors. For example, in Lesson 12, students complete a performance task that is broken into three parts. The task includes a scoring rubric for each part that guides the teacher. The rubric's wording supports the teacher's understanding of where each student may need additional assistance. In response to the performance

task, the following page includes "Intervention," "On-Level," and "Challenge" activities to support students' learning from the lesson.

Each lesson includes several consistent routines. These routines offer teachers guidance on checking each student's level of knowledge as well as ideas for differentiated instruction. For example, in grade 8, Lesson 27, the "Assessment and Remediation" section includes guidance for the educator to require students to find a data set's mean average distribution. The materials include a chart with advice for struggling students and a "Hands-on" or "Challenge" activity for follow-up instruction. If students struggle, the materials refer to a grade 6 lesson to reinforce the underlying conceptual knowledge that students need for this skill.

3.2d – Materials include enrichment and extension methods that support various forms of engagement, and guidance to support educators in effective implementation.

The materials include enrichment and extension activities at various parts of the lessons that support student engagement. These activities also offer guidance to support educators in practical implementation. For instance, many lessons in the *Ready Texas Mathematics Teacher Resource Book* include a "Concept Extension" component in the "Modeled Instruction" section to extend students' thinking about the lesson's central concept. In Lesson 20, the "Concept Extension" guides students to deepen their understanding of the Pythagorean theorem by finding alternative problem-solving approaches. In Lesson 27, the "Concept Extension" challenges students to determine the mean and mean absolute deviation of given data points on a dot plot. The materials provide teachers with explicit guidance for each activity, as well as extension questions.

Lessons include "Enrichment" activities within the Teacher Toolbox. These activities include guidance for teachers and students on their completion. The activities also provide answer keys. For example, grade 8, Lesson 19: Understand the Pythagorean Theorem includes an enrichment activity in which students test a proof of the Pythagorean theorem using semicircles.

The *Ready Texas Mathematics Teacher Resource Book* includes a "Challenge" activity at the end of each lesson, which helps students extend and enrich their understanding. In Lesson 23, the materials challenge students to extend their thinking about volume to compare cone-shaped and cylindrical dog feeder volumes. In Lesson 27, the "Challenge" activity requires students to enrich their understanding of mean absolute deviation by creating data sets that satisfy specific criteria. The materials include guidance for educators on these tasks, as well as student instructions and questions.

3.2e – Materials include prompts and guidance to support educators in providing timely feedback during lesson delivery.

The grade 8 lesson materials in the *Ready Texas Mathematics Teacher Resource Book* include prompts and guidance to support educators in providing timely feedback across all parts of a lesson's delivery. In Lesson 9's "Guided Practice" component, the "Step by Step" section guides the teacher to work through

the "Connect It" activity as a class. Teachers then ask students the following question: "How can you check to see if your equations are correct?" Next, students complete the "Try It" activity, which includes an "Error Alert" section. This alert explains how students may get the wrong answer and offers guidance on how teachers can support students.

Lessons incorporate formative assessment questions and guidance on how to use students' responses to provide timely feedback. For example, after a question or problem-solving activity, the *Ready Texas Mathematics Teacher Resource Book* may suggest that teachers ask students to explain their reasoning, provide feedback on students' approaches, or clarify any misconceptions that students may have. Then, the "Error Analysis" section guides teachers on performance tasks, end-of-lesson assessments, and remediation activities. The section's error analysis tables guide teachers in supporting students while providing meaningful and timely feedback.

The "Step by Step" sections of the lessons guide and support educators. For example, in grade 8, Unit 3, Lesson 23, the "Step by Step" section of the "Guided Instruction" component gives educators guidance to lead students through the lesson's "Try It" activity. Teachers ask students the following: "Would it be correct to set up the volume for the cylinder as V = (pi)(3 squared)(4)? Why or why not?" This lesson's guidance also includes an "Error Alert" section, which advises educators to watch for students who may have used the diameter instead of the radius.

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	The materials do not include educator guidance on providing and incorporating linguistic accommodations for all 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 materials only include guidance for one level of academic language support.	1/4
3.3b	This guidance is not applicable to the program.	N/A
3.3c	The materials do not address or align with state-approved bilingual/ESL program models, such as dual language immersion or ESL pull-out programs.	0/1
3.3d	All criteria for guidance met.	8/8
3.3e	This guidance is not applicable to the program.	N/A
—	**TOTAL**	9/13

3.3a – If designed to be static, materials include educator guidance on providing and incorporating linguistic accommodations for all 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 grade 8 *Ready Texas Mathematics Teacher Resource Book* includes educator guidance on providing and incorporating linguistic accommodations for at least one level of language proficiency (advanced). The *Ready Texas Mathematics* front matter explains where to find ELL support in "Hands-on Activity," "Visual Model," "ELL Support," and "Concept Extension" sections, as well as academic discourse activities throughout all lessons.

The grade 8 materials include generalized tips for ELLs; however, they do not specifically address multiple levels of language proficiency. The materials offer helpful guidance, but this support is not vocabulary-focused or helpful to students at varying levels of independence. The materials include hands-on activities, visual models, and discourse opportunities, but the *Ready Texas Mathematics Teacher Resource Book* does not explicitly offer guidance for teachers to support ELLs at the beginning or intermediate levels.

The materials contain sections throughout each lesson that include strategies to support ELLs who can understand English with some second language acquisition support, including "ELL Support," "Visual Model," and "Hands-on Activity" sections. For example, in grade 8, Unit 1, Lesson 3 ("Scientific Notation"), an "ELL Support" section includes the vocabulary words *thousand, million,* and *trillion*. The section guides teachers to write these numbers out and then practice reading several large numbers. The "Mathematical Discourse" section extends this conversation by connecting a number of zeros or digits with powers of ten. A "Visual Model" section also shows a visual way of making and counting arcs that represent the number of place values between the first non-zero digit and the end of a large number to find the power of ten.

Some lessons include two "ELL Support" boxes. For example, Lesson 14's "Introduction" section provides educators with guidance to help students understand corresponding segments and angles. Then, in the "Modeled Instruction" section, another "ELL Support" box suggests that students create posters and illustrations of transformations on a coordinate plane.

3.3b – If designed to be adaptive, materials include embedded linguistic accommodations for all 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.

This guidance is not applicable to the program because it is not designed to be adaptive.

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

The materials do not address or align with state-approved bilingual/ESL program models, such as dual language immersion or ESL pull-out programs.

3.3d – Materials include embedded guidance 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 *Ready Texas Mathematics Teacher Resource Book* provides many opportunities for students to discuss their mathematical thinking. The book also provides guidance for teachers to facilitate these discussions, increasing students' comprehension and building their background knowledge. For example, grade 8, Lesson 21's "Introduction" section prompts teachers to ask guiding questions to explore the segments and hypotenuse of a right triangle on a coordinate plane. The "Visual Model" section introduces students to the connection between the Pythagorean theorem and finding the distance between two points by creating a right triangle.

Each lesson includes embedded guidance for teachers to help ELLs increase their comprehension through oral and written discourse opportunities. For example, in grade 8, Unit 3, Lesson 18, the "Introduction" section includes multiple teacher prompts to increase students' comprehension of angle relationships in triangles. The "Mathematical Discourse" section of the "Modeled Instruction" component extends the discussion of angle relationships, guiding students' discovery that the sum of the angles in any triangle is 180°. Each lesson's "Guided Instruction" and "TEKS Practice" pages include written explanations and justifications.

The grade 8 materials offer oral and written discourse opportunities for cross-linguistic connections with ELLs. For example, several lessons include "ELL Support" callout boxes that describe how to promote multilingualism by leveraging proficient speakers to help ELLs. The "ELL Support" sections within lessons demonstrate how to use cognates and other language connections to support ELLs.

3.3e – 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.	4/4
—	**TOTAL**	6/6

4.1a – Practice opportunities throughout learning pathways (including instructional assessments) require students to demonstrate depth of understanding aligned to the TEKS.

Each lesson's "TEKS Practice" section includes several questions in various assessment formats. The *Ready Texas Mathematics Teacher Resource Book* provides sample solutions, DOK levels for each response, and a rubric. These questions correlate to the TEKS and DOK levels.

The "Unit Practice" section after each unit includes a scoring guide and answer analysis for each review question. The "Unit Practice Correlation Chart" in the front matter lists the TEKS and DOK level that each question addresses.

Each lesson in the *Ready Texas Mathematics Teacher Resource Book* includes a variety of tasks and questions for guided and independent practice with varying DOK levels, from recall to extended thinking. The "Solutions" section lists the DOK level for each question. For example, in Unit 4, Lesson 25, students read, interpret, analyze, and compare data on a coordinate plane. When the materials explicitly ask students about the association between the variables, students transition toward higher levels of rigor and understanding.

4.1b – Questions and tasks, including enrichment and extension materials, increase in rigor and complexity, leading to grade-level and above grade-level proficiency in the mathematics TEKS.

Lesson structure in the *Ready Texas Mathematics Teacher Resource Book* supports teachers in increasing rigor and complexity for students by promoting critical thinking, problem-solving, and real-world applications. For instance, the grade 8 lessons require students to think about a mathematical concept that involves a real-world connection. Students deepen their conceptual understanding through various "Mathematical Discourse" opportunities along the learning pathway, in which the materials encourage students to discuss, analyze, and defend their own (and others') mathematical thinking. "Concept Extensions" ask students to build on their understanding of a concept by extending it to a different

scenario. "Challenge" activities are for students who have mastered content and are ready to try a more complex problem-solving activity.

Learning pathways through each lesson in the *Ready Texas Mathematics Teacher Resource Book* require students to demonstrate a depth of understanding that aligns with the TEKS. Each lesson ends with a page that guides teachers on remediation, "Hands-on" activities to reinforce learning, and "Challenge" activities to push students toward connected concepts in the next grade level. For example, Lesson 2 includes a "Hands-on" activity in which students work in groups to compare and order real numbers using notecards. The lesson also includes a "Challenge" activity in which students generate their own set of real numbers with defined parameters, find equivalents, and plot them on a number line.

Each lesson in the *Ready Texas Mathematics Teacher Resource Book* includes a "Challenge" activity. This activity is students' only preparation for the next grade-level proficiency. The materials promote proficiency for above-grade-level concepts.

4.2 Coherence of Key Concepts

GUIDANCE	SCORE SUMMARY	RAW SCORE
4.2a	All criteria for guidance met.	1/1
4.2b	All criteria for guidance met.	1/1
4.2c	All criteria for guidance met.	4/4
—	**TOTAL**	6/6

4.2a – Materials demonstrate coherence across concepts horizontally within the grade level by connecting patterns, big ideas, and relationships.

The *Ready Texas Mathematics* front matter for grade 6 provides "Table of Contents" and "Correlation Chart" resources, which detail each lesson's TEKS coverage. These resources also detail which lessons connect to the TEKS in each reporting category. The unit flowchart at the beginning of each unit gives an overview of how lessons build from one another horizontally and vertically between grade levels. For example, in grade 8, the geometry lessons in Unit 3 require students to first understand and then apply properties of transformations. Students then transition to understanding similarity and proportionality before working on dilations and scale factors.

The grade-level materials offer horizontal alignment to support teachers and students in connecting grade-level concepts. The "Prerequisite Skills" and "Learning Progression" sections of the *Ready Texas Mathematics Teacher Resource Book* review students' prior knowledge and learning from the current unit, connecting this knowledge to what students will learn in current and future lessons. For example, in grade 8, Unit 3, Lesson 23, which covers solving problems with cylinders, cones, and spheres, the "Prerequisite Skills" section requires students to understand and use area and volume formulas. The section describes the relationships between various three-dimensional shapes, reinforcing that cubic units describe volume. The "Learning Progression" section explains that, earlier in grade 8, students "learned about the volume of cones, cylinders, and spheres and formulas to solve real-world problems."

4.2b – Materials demonstrate coherence vertically across concepts and grade bands, including connections from grades 3–12, by connecting patterns, big ideas, and relationships.

The *Ready Texas Mathematics Teacher Resource Book* demonstrates the coherent vertical alignment of concepts and the TEKS through a flowchart at the beginning of each unit. Each unit chart shows each lesson's foundational, current, and future skills. For example, at the beginning of grade 8, Unit 3, the chart lists the rationale for a learning path that began in grades 6–7 when students studied the area of polygons and composite figures. This learning path continues with the current grade 8 skills of finding total and lateral surface area. These skills prepare students for high school geometry.

The beginning of each lesson in the *Ready Texas Mathematics Teacher Resource Book* includes a "Learning Progression" section. This section includes information about how related learning from prior grade levels is relevant to the current lesson. This section also explains how the teaching in the current lesson will progress toward the next grade level. For example, the introductory page for grade 8, Lesson 21 states the following: "In Lesson 19, students explained the Pythagorean theorem. In Lesson 20, they used it to find missing side lengths and distances in mathematical and real-world problems. In this lesson, students use the Pythagorean theorem to find the distance between any two points on a coordinate plane. In high school, students will continue to use the Pythagorean theorem to prove theorems and solve right triangle problems."

4.2c – Materials demonstrate coherence across lessons or activities by connecting students' prior knowledge of concepts and procedures to the mathematical concepts to be learned in the current grade level and future grade levels.

The introductory pages of lessons in the *Ready Texas Mathematics Teacher Resource Book* list prerequisite skills and information regarding how learning progresses from prior grade levels, within the grade level, and toward the following grade level (when appropriate). For example, the "Introduction" page for Lesson 25 in grade 8 reviews how students should have already developed the skill of plotting ordered pairs on a coordinate plane. Students should also have a general understanding of linear relationships and be able to title and label graphs. Students discuss how they will develop knowledge of analyzing graph trends in the lesson, which they will later apply during grade 8 to draw and interpret lines of best fit.

The materials demonstrate coherence across lessons by connecting students' prior conceptual knowledge to concepts that students will learn in future grade levels. For example, in grade 8, Unit 4, Lesson 28, which focuses on credit costs, the "Learning Progression" section reminds teachers that students should have prior knowledge of credit and debit cards, credit reports, simple and compound interest, and borrowing money from banks. The current grade-level lesson connects these understandings to solving real-world problems, as students compare interest rates and loan length costs. The materials explain that in future math courses, students "will learn how to compute continuously compounded interest."

4.3 Coherence and Variety of Practice

GUIDANCE	SCORE SUMMARY	RAW SCORE
4.3a	All criteria for guidance met.	2/2
4.3b	All criteria for guidance met.	2/2
—	**TOTAL**	4/4

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

The materials provide spaced retrieval opportunities with previously learned skills across learning pathways between lessons and within lessons. The *Ready Texas Mathematics Instruction Pacing Guide* states that lessons will take two to five days to cover. The guide states that students will see the materials progress daily from the "Introduction" section of the lesson to the "TEKS Practice" section, which is the last part of each lesson. For example, in grade 8, Unit 3, Lesson 18, which focuses on angle relationships in triangles, students use a diagram showing two parallel lines with two transversals. Students form a triangle with the diagram to review relationships. The lesson eventually progresses to "TEKS Practice" problems that include partially completed models. Most of these problems feature explanation questions or open-ended questions that align with DOK Levels 2–3.

The materials provide spaced retrieval opportunities for previously learned concepts across unit lessons. The "Unit Practice" section at the end of each unit includes questions that integrate skills and ideas from previous lessons. For example, in grade 8, at the end of Unit 4, the "Unit Practice" section includes problems related to reading and interpreting graphs, calculating the interest paid on a loan, comparing the length of the loan, checking the loan interest rate, and calculating college costs.

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

The *Ready Texas Mathematics Teacher Resource Book* provides interleaved practice opportunities with previously learned skills and concepts by mixing different topics or types of problems in one lesson. For example, grade 8, Unit 2, Lesson 9 covers two TEKS and compares proportional and linear relationships. Multiple graphs and tables illustrate proportional and nonproportional relationships throughout the lesson.

The *Ready Texas Mathematics Teacher Resource Book* supports teachers in providing interleaved practice opportunities across units by leveraging a learned concept across several lessons. For example, grade 8, Unit 3, Lesson 21 continues a learning pathway that started with the grade 6 skill of understanding conditions for triangles. The pathway continued with previous grade 8 lessons on understanding and solving problems using the Pythagorean theorem and then understanding distance in the coordinate plane. In the "Unit Practice" section, students practice using these skills again.

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.	2/2
5.1c	All criteria for guidance met.	1/1
—	**TOTAL**	6/6

5.1a – Questions and tasks provide opportunities for students to interpret, analyze, and evaluate mathematical concepts and complex, real-world situations.

Questions and tasks in the *Ready Texas Mathematics Teacher Resource Book* require students to interpret mathematical concepts and complex real-world situations. For example, in Lesson 17, "TEKS Practice" and "Performance Task" sections require students to work through problems in which they interpret, analyze, and evaluate angle relationships at DOK Levels 1–3.

In the *Ready Texas Mathematics Teacher Resource Book* for grade 8, questions and tasks require students to analyze mathematical concepts and complex real-world situations. For instance, in Lesson 25, students interpret and analyze scatterplots to determine if there is a relationship within the data. Students think of real-world situations in which the variable pairs may not have an association with each other.

The materials require students to evaluate mathematical concepts and complex real-world situations in grade 8. For example, Lesson 30 asks students to review college expenses for two students. They consider how much each college student will need to take out in loans and what their payments will look like after graduation. Students then evaluate the data and determine considerations to make when choosing a college and the type of degree they might want to earn. Teachers discuss whether students think it is worth attending a four-year college. Students consider the costs and long-term benefits.

5.1b – Questions and tasks provide opportunities for students to create concrete models and representations of mathematical situations.

Questions and tasks in the *Ready Texas Mathematics Teacher Resource Book* provide opportunities for students to create concrete models and representations of mathematical situations. Each lesson offers these opportunities in the "Differentiated Instruction" section. For example, grade 8, Lesson 17 includes an intervention activity in which students use paper or poster board to illustrate vertical angles, linear pairs, corresponding angles, alternate interior angles, same-side interior angles, and same-side exterior angles. In Lesson 10, students model and solve equations using algebra tiles and a pan balance.

The grade 8 lessons contain questions and tasks requiring students to create different representations of mathematical situations. For example, in Unit 3, Lesson 16, Questions 4–5 in the "TEKS Practice" section require students to represent dilations of original figures. Question 5 also requires students to draw an original figure. In Unit 2, Lesson 6, Question 4 provides two proportional relationships from verbal descriptions. The question requires students to graph each of the relationships on the same graph to compare unit rates.

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

Questions and tasks across lesson pathways in the grade 8 *Ready Texas Mathematics Teacher Resource Book* provide opportunities for students to apply their conceptual understanding to new problem situations and contexts. For example, in Lesson 13, students develop an understanding of the properties of transformation. In Lesson 14, they must determine the image or pre-image after a series of transformations. In Lesson 15, students begin to understand similarity and proportionality. In Lesson 16, they identify similar figures with proportional sides and congruent angles.

The materials include pathways within different lesson activities that provide opportunities for students to apply their conceptual understanding to new problems or situations. For example, in the grade 8 *Ready Texas Mathematics Teacher Resource Book*, Lesson 16: Dilations and Scale Factors requires students to learn how to create a dilation using a scale factor. In the Teacher Toolbox, an enrichment activity called "Dilation and Perspective" allows students to apply this knowledge in an artistic format. Students use a dilation to create a figure that appears to be three-dimensional, explaining that this is a technique that artists and architects use.

In the grade 8 *Ready Texas Mathematics Teacher Resource Book*, Unit 3, Lesson 13 provides students with several visuals and explanations of three different transformations. Multiple problems break down the exact movements of the figures in the transformations. The Teacher Toolbox contains "Student-Led Activity" sections. One of these activities is "Hidden Transformations," a Battleship-style game that students play in two teams. During this game, students apply their knowledge of transformations by performing each transformation on a given figure.

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 mathematical tasks.

The grade 8 materials provide tasks designed to build the automaticity and fluency necessary for students to complete grade-level mathematical tasks. For example, in the Teacher Toolbox, Lesson 3: Scientific Notation includes one activity in the "Unit Practice" section. This activity allows students to practice the necessary skills to work toward fluency. The practice page also includes a teacher answer key. The "Teacher-Led Activities" and "Student-Led Activities" sections of the Teacher Toolbox provide two additional practice opportunities.

Each lesson in the *Ready Texas Mathematics Teacher Resource Book* progresses from introducing vocabulary and refreshing students' necessary background knowledge to "Guided Instruction," "Modeled Instruction," and (finally) "TEKS Practice" sections. Throughout the lessons, the materials provide students with opportunities to use concrete models, use and build representations, and see mathematical situations represented in various ways (such as through number lines, area models, arrays, graphs, and tables). Students can also see math in real-world scenarios as they work toward a level of understanding that will allow them to apply their learning with automaticity.

For example, in the grade 8 *Ready Texas Mathematics Teacher Resource Boo*k, Unit 2, Lesson 6 covers proportional relationships. The lesson begins by exploring a graph that shows a proportional relationship and linear function. As the lesson progresses, students have multiple opportunities to analyze different representations of proportional relationships before arriving at the "TEKS Practice" pages.

5.2b – Materials provide opportunities for students to practice the application of efficient, flexible, and accurate mathematical procedures throughout learning pathways.

The *Ready Texas Mathematics Teacher Resource Book* provides opportunities for students to practice applying efficient, flexible, and accurate mathematical procedures throughout learning pathways. Lessons include a variety of representations and models that students can work with, as well as real-world examples through which they can apply their learning. The lessons allow students flexibility in their learning as they work efficiently and use accurate methods. For example, in grade 8, Lesson 8, students represent linear representations in various ways. They begin by using a more visual graphical

representation, compare this representation to a tabular representation, and look for patterns that the two share. Students discuss real-world relationships that are linear but not proportional. The materials continually expose students to various representations as students work toward efficiently understanding all linear representations.

The *Ready Texas Mathematics Student Instruction Book* allows students to reflect and participate in structured lesson plans. Lesson plans begin with an "Introduction" section, which details the TEKS. This section activates students' prior learning, providing a question for student reflection and explanation. Lesson plans then progress to a "Modeled Instruction" section that allows students to "explore different ways of solving real-world or mathematical problems." Next, a "Guided Instruction" page uses "scaffolded questions for students to solve, increase understanding, and apply new/current strategies." Finally, the "Guided Practice" pages include a sample problem, strategies to gain or improve study habits, prompts for academic discourse, opportunities for error analysis, and opportunities to "apply higher-order thinking skills." All lessons end with a "TEKS Practice" section. This section includes questions that vary in type and DOK levels.

The grade 8 materials include multiple variations of practice activities through modeled and guided practice. The materials also include independent TEKS practice and formative assessments. Practice problems employ several question types, present different representations, and include a mixture of DOK levels. For example, in Lesson 2, the "TEKS Practice" section includes matching, multiple-choice, multiselect, fill-in-the-blank, and open-ended questions in which students must explain their reasoning.

5.2c – Materials provide opportunities for students to evaluate mathematical representations, models, strategies, and solutions for efficiency, flexibility, and accuracy throughout learning pathways.

The grade 8 materials allow students to evaluate mathematical representations, models, and strategies across lesson activities. For instance, in Lesson 17's "Guided Instruction" section, students use angle pair relationships to find measurements of other angles. Each question asks students to use another strategy to determine the measurement. In the "Mathematical Discourse" section, the materials lead students through the following series of questions: "Is there more than one way to find the measure of angle d in the first diagram? If so, list some of the ways. Suppose students use different ways to find the measure of angle d. Should they get the same answer? Explain."

The *Ready Texas Mathematics Teacher Resource Book* provides support opportunities for student evaluation through "Mathematical Discourse" questions. These questions require students to evaluate and dig deeper into their understanding. For example, in grade 8, Lesson 3, the "Mathematical Discourse" question asks students how they can move digits to find the factor between one and ten when rewriting a number in scientific notation. The question then requires students to discuss how they might know the sign of the exponent when using that strategy.

Several lessons include "Think-Share-Compare" routines that allow students to analyze and compare one another's solutions, methods for checking answers, rationales for determining answers, and more. For example, Unit 3, Lesson 20 asks students to think about whether there are two ways to solve one of the problems. The lesson also asks students to think about how an answer would change if they "expressed the width in terms of the height."

5.2d – Materials contain guidance to support students in selecting the most efficient approaches when solving mathematics problems.

The *Ready Texas Mathematics Teacher Resource Book* contains "Step by Step" section guidance. This guidance helps students select increasingly efficient approaches to solving mathematical problems. In Lesson 6's "Guided Instruction" component, the "Step by Step" section guides teachers to "point out that using a graph to find the rate of change is not ideal because the output values are relatively large." The section prompts teachers to encourage students to find the rate of change by "finding the ratio of the change." In Lesson 3's "Introduction" section, the "Step by Step" instructions guide the educator to remind students of the following: "Numbers written in scientific notation have two parts. Note that the first power will only have one digit to the left of the decimal because the number will be less than 10 and greater than or equal to 1."

The "Mathematical Discourse" questions in the lessons support students in selecting increasingly efficient approaches to solving mathematical problems. These questions help each student develop more efficient methods and a deeper understanding. In Lesson 6, a "Mathematical Discourse" question begins by asking students how they can tell that a relationship on a graph is proportional by looking at it. The question then asks the same thing about looking at an equation.

Each lesson in the *Ready Texas Mathematics Teacher Resource Book* helps students select increasingly efficient approaches to solutions. Lessons begin with models, pictorial representations, or strategies that break down concepts in straightforward ways. As lessons progress, strategies become more concise and efficient. For example, in Lesson 3 ("Scientific Notation"), the "Introduction" section breaks down numbers into parts, emphasizing repeated powers of ten that are written in expanded form. The "Modeled Instruction" section displays a table through which students can identify patterns for powers of ten. In the "Guided Practice" and "TEKS Practice" sections of the lesson, students strictly use scientific and standard notation for their conversions.

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.

The *Ready Texas Mathematics Teacher Resource Book* explicitly states how the materials address the conceptual and procedural emphases of the TEKS in the "Learning Progression" section at the beginning of each lesson. For example, in Lesson 3, the materials address the conceptual emphasis of the TEKS by stating the following: "Work with place value in the earlier grade levels led to the discovery that a digit in a number is ten times as much as the digit to the right and one-tenth as much as the digit to the left. This understanding was used to explain patterns in zeros when multiplying and dividing by powers of ten . . . In this lesson, the powers of ten are represented as positive and negative exponents and show multiplication by single-digit whole numbers and decimals to represent very small and large numbers."

The "Learning Progression" at the beginning of Lesson 3 addresses the procedural emphasis of the TEKS by stating the following: "This standard introduces scientific notation and expects students to convert between this form and standard form of numbers."

The grade 8 lessons provide explicit guidance and activities that address the conceptual and procedural aspects of the TEKS. For instance, in Lesson 21, students discover that they can use the Pythagorean theorem to find the distance between any two points in the coordinate plane (reflecting the conceptual emphasis of the TEKS). Later, students use the formula to find the distance between two points on the coordinate plane and show their thinking (reflecting the procedural emphasis of the TEKS).

5.3b – Questions and tasks provide opportunities for students to use concrete models, pictorial representations, and abstract models as required by the TEKS.

Questions and tasks in the grade 8 materials provide opportunities for students to use concrete models, pictorial representations, and abstract models. In Lesson 10, the "Hands-on" activity uses algebra tiles to create concrete models of equations with variables on both sides. Students check their solutions by substituting the number of unit tiles. Pictorial models of pan balances and organized lists of steps help students solve equations and inequalities throughout the lesson. Multiple problems toward the end of the lesson include only equations or inequalities. These problems require solutions with explanations.

In Lesson 13, students use concrete models, pictorial representations, and abstract models to understand transformations. Students start with a "Hands-on" activity in which they cut out paper block letters and move them around on a coordinate plane to mimic different transformations. Next, students use pictorial models of shapes on a plane to interpret and create certain moves. Finally, the "TEKS Practice" section asks students to find new coordinates of an image when they are given the coordinates of the original figure and the type of transformation.

The *Ready Texas Mathematics Teacher Resource Book* includes questions and tasks that allow students to use concrete models, pictorial representations, and abstract models (as required by the TEKS throughout lesson pathways). For example, Unit 3, Lesson 18 includes a "Hands-on" activity in the "Guided Instruction" section that requires students to use a large construction paper triangle. Students tear the corners off of the triangle to prove that the sum of a triangle's interior angles total 180°. Students then use angle relationships in pictorial models to find missing angle measures. By the end of the lesson, students can create equations to solve based on these relationships.

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.

The grade 8 materials support students in connecting, creating, defining, and explaining concrete and representational models to abstract (symbolic/numeric/algorithmic) concepts, as required by the TEKS. For example, in Lesson 10, students use algebra tiles and drawings to help them make connections to equations and real-world situations. In the "Modeled Instruction" section, the materials ask students to analyze a scenario about two friends shopping. Students create an equation model to represent the situation. In the "Guided Instruction" section, students make an anchor chart that lists specific steps to solve an equation or inequality. In the "Concept Extension" section, students solve another verbal situation in two different ways. Students share those strategies, explaining their differences and evaluating which one they like best.

In Lesson 20, students use sketches, pictures, and coordinate grids to review the Pythagorean theorem. Students then use the theorem to solve different types of problems. In the "Modeled Instruction" section, students read a situation, then discuss and decide how to use a right triangle to solve a problem. Then, a "Hands-on" activity requires students to use various materials to build a three-dimensional model of a situation. This model helps students understand how to use the Pythagorean theorem to solve problems. Practice pages also allow students to connect and use the Pythagorean theorem to solve various problems.

Lessons in the *Ready Texas Mathematics Teacher Resource Book* follow a predictable sequence of activities. First, students create or use concrete or pictorial models of concepts, then build connections to more abstract concepts. Practice opportunities often feature a mix of different types of representations. For example, Unit 3, Lesson 23 includes a "Hands-on" activity in the "Modeled Instruction" section that

requires students to define and explain the concept of volume using three-dimensional shapes made of clay. The "Step by Step" section asks the educator the following question: "Is there anything we need to do before setting up the volume equations?" The representational models in the "Guided Practice" section help students define and explain the volume of spheres and cylinders. The "TEKS Practice" section allows students to transition to the abstract concept of calculating the volume of three-dimensional shapes using formulas.

5.4 Development of Academic Mathematical Language

GUIDANCE	SCORE SUMMARY	RAW SCORE
5.4a	All criteria for guidance met.	1/1
5.4b	All criteria for guidance met.	2/2
5.4c	All criteria for guidance met.	1/1
5.4d	All criteria for guidance met.	2/2
5.4e	All criteria for guidance met.	2/2
—	**TOTAL**	8/8

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

The *Ready Texas Mathematics Teacher Resource Book* allows students to develop academic mathematical language using visuals, manipulatives, or other language development strategies. The materials provide teachers with guidance on creating visual or concrete models as well as using partnered "Think-Share-Compare" routines, "Hands-on" activities, and "Mathematical Discourse" prompts. For example, in Lesson 6, students work through an "Explore It" activity together and discuss how a graph might help them solve the problem. The MPS tip reminds teachers to emphasize that students should use previously learned mathematical vocabulary and precise mathematical language in the discussion.

The grade 8 lesson activities provide opportunities for students to develop their academic mathematical language through visuals and discourse strategies. For example, in Lesson 13, the "Introduction" section requires students to use pattern blocks on graph paper as they discuss and model transformations. Students use academic vocabulary such as *reflection, line of reflection,* and *rotation.* Lesson 6's "Visual Model" section suggests showing students how to use slope triangles to determine the relationship between slope and unit rate. Students discuss what each vertical and horizontal line means in the triangles.

In Lesson 26, students explore scatterplots. The materials introduce students to the idea of a "best-fit line." The materials provide students with a "Hands-on" activity in which they conduct a survey, record data, and discuss how they could use this data to create a scatterplot. The materials ask students to describe whether the data is linear or nonlinear. Students sketch a line to show the trend and determine whether it is a positive or negative association. "Mathematical Discourse" questions throughout each lesson prompt further discussions about visual models of scatterplots. Such prompts include "Explain how the vertical segments may be useful in visualizing residuals" and "Do you think it is possible to have zero residuals?"

5.4b – Materials include embedded educator guidance to scaffold, support, and extend students' use of academic mathematical vocabulary in context when communicating with peers and educators.

The *Ready Texas Mathematics Teacher Resource Book* contains opportunities for students to communicate verbally and in writing through open-ended questions throughout each lesson. "Mathematical Discourse" questions, as well as other questions within the "Step by Step" teacher guidance, allow students to discuss their learning with peers. Open-ended questions in the "TEKS Practice" section enable students to show their thinking in writing. For example, grade 8, Lesson 4 presents students with a performance task that includes three sections, each with open-ended answers. The materials expect students to use academic language to describe relationships. For example, students must explain whether the relationships are functions using academic language.

The grade 8 materials include embedded educator guidance to first scaffold and support, and then extend students' use of academic vocabulary through communication with others across lesson activities. For example, Unit 3, Lesson 15 uses pictures and the real-world example of a fun house to introduce and discuss the meaning of *dilation*. The "Mathematical Discourse" section continues this discussion, asking students the following: "What would happen if you were to shrink the painting to one-third of its height and one-tenth of its width? Would the new image be similar to the original painting?" Later, the "Guided Practice" section prompts teachers to ask questions that involve percentages related to reductions and enlargements.

Some extension activities in the Teacher Toolbox contain center activities to support and extend students' use of academic vocabulary. For instance, Lesson 3's "Student-Led Activity" ("Use Scientific Notation Vocabulary") gives students a word bank and sentence frames to practice the lesson's new vocabulary.

5.4c – Materials include embedded guidance to support student application of appropriate mathematical language and academic vocabulary in discourse.

The grade 8 materials include embedded guidance to help students apply appropriate mathematical language and academic vocabulary in discourse throughout lesson activities. The "Introduction" activities in each lesson offer various structures for academic discourse. For example, in Lesson 6, students must use previously learned concepts and vocabulary as they communicate mathematical ideas, reasoning, and possible implications about a graph's visual model. The "Mathematical Discourse" section guides teachers to ask students the following: "Suppose a classmate said that the unit rate is 1 mile in 5 minutes. Is it a unit rate? Explain."

The "Try It" problems in each lesson's "Guided Instruction" component help students use appropriate mathematical language and academic vocabulary as they work with a partner to solve and evaluate problems. In Lesson 21, the materials guide students to discuss and solve the "Try It" problems with a

partner. Students use mathematical language while describing how to find the distance between two points on a coordinate plane using the Pythagorean theorem. Students then share their ideas with the whole group.

In grade 8, the lesson materials in the *Ready Texas Mathematics Teacher Resource Book* prompt students to explain and justify their answers using precise mathematical vocabulary during oral and written discourse. Lesson 16's "TEKS Practice" section asks students if their results will be true for any dilation. The materials then ask students to justify their answer using mathematical reasoning and academic language.

5.4d – Materials include embedded guidance to facilitate mathematical conversations allowing students to hear, refine, and use math language with peers.

The grade 8 materials include open-ended questions that allow students to connect their mathematical reasoning and language to real-world scenarios. Students then discuss their findings with peers. The materials embed these opportunities in the "Hands-on Activity" and "Real-World Connection" sections, among others. For example, in Lesson 8, the "Hands-on Activity" section asks students to create and compare proportional and non-proportional relationships on a piece of graph paper. In Lesson 14, the "Real-World Connection" section asks students to work with a partner to find sets of congruent figures in the classroom and around the school.

The materials contain open-ended questions and prompts that require students to explain their reasoning, justify their answers, or compare different methods. For example, grade 8, Unit 3, Lesson 15 includes multiple "Think-Share-Compare" activities as students build their understanding of similarity and proportionality. One of these activities asks the following question: "In order for an image to be similar to the original, what must be true about the side lengths?" Another question asks, "How can you tell whether to multiply or divide, and by what number, to produce enlargements and reductions?" The "Talk About It" activity incorporates probing questions about the similarity of two nested triangles on a coordinate graph.

Every section of the *Ready Texas Mathematics Teacher Resource Book* includes guidance to facilitate mathematical discussions. For example, Unit 3, Lesson 16 ("Dilations and Scale Factors") begins by requiring students to explore a visual diagram of a dilation on a graph. The "Guided Practice" section includes multiple "Pair/Share" activities. One activity asks, "How can you check your answer by switching the original figure and the dilation?" Another activity asks, "Do you think a dilation with center (0, 0) moves a polygon from one quadrant to another quadrant?" The "Mathematical Discourse" discussion questions focus on the effects of dilation on the area of a square, rectangle, and circle.

5.4e – Materials include embedded guidance to anticipate a variety of student answers including exemplar responses to questions and tasks, including guidance to support and/or redirect inaccurate student responses.

The materials anticipate various student answers and provide exemplary responses to questions and tasks throughout the lessons. For example, Lesson 13's "TEKS Practice" problem asks students the following: "Rodrick looks at the shapes and says Figure B is a reflection of Figure A. Is he correct? Explain." The materials provide an exemplary response: "Rodrick is incorrect. Possible explanation: Figure B is a rotation of Figure A 90 degrees clockwise about the origin."

The *Ready Texas Mathematics Teacher Resource Book* supports inaccurate student responses and alerts teachers to common misconceptions within answers. For example, the "Solutions" section of Lesson 10's "Try It" component includes an "Error Alert," which explains the following information to the teacher: "Students who wrote problem situations that cannot be modeled by an equation should list common phrases that are associated with equality, such as 'the same as' or 'is equal to,' and work the phrase into their problem situation."

Lesson materials include "Error Alert" and "Misconception Alert" sections in strategic locations for assessing student thinking on problems. The *Ready Texas Mathematics* front matter directs teachers to do the following: "Explain a typical computational error, the wrong answer it might produce, and explanations to help students avoid those errors in the future or notify teachers of errors in student thinking that produce conceptual misunderstanding." For example, grade 8, Unit 3, Lesson 22's "Guided Instruction" section requires students to find and compare the volumes of a cone and a cylinder with equal radius and height. A "Student Misconception Alert" reminds teachers of the following: "Students may not understand that they need to substitute the lengths given in the pictures into the volume formulas they learned on previous pages. Emphasize they will use h = 3 and r = 4 in both formulas."

5.5 Process Standards Connection

GUIDANCE	SCORE SUMMARY	RAW SCORE
5.5a	All criteria for guidance met.	1/1
5.5b	All criteria for guidance met.	2/2
5.5c	All criteria for guidance met.	1/1
—	**TOTAL**	4/4

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

Lessons in the *Ready Texas Mathematics Teacher Resource Book* align with the MPS and include MPS tips. For example, Lesson 24 includes an MPS tip that states the following: "Geometric concepts like nets of 3-D figures require students to analyze spatial relationships in order to connect and communicate mathematical ideas (MPS 8.1.F)."

The beginning of each lesson's overview page lists the MPS that correspond to the lesson. This page also lists the TEKS focus of the lesson. MPS tips throughout the lesson describe how each activity connects to a particular MPS. For example, Lesson 27's "Introduction" section states the following: "Students apply their knowledge of reading dot plots with finding the mean to find the average distance between each data point and the mean." The "Modeled Instruction" section states the following: "When students begin to recognize that the size of the spread determines the value of the MAD, they are showing the ability to analyze the data and see how the spread and MAD are connected."

The "Answering the Demands of the TEKS with Ready Texas Mathematics" section in the *Ready Texas Mathematics* front matter explains the following: "The Mathematical Process Standards (MPS) must support content standards and be integrated into instruction. Educators must teach the content standards through intentional, appropriate use of the Process Standards." The "Mathematics Process Standards in the TEKS" section describes how the materials integrate these standards throughout lessons.

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

The *Ready Texas Mathematics* front matter describes how the materials incorporate the MPS into lessons and instruction to support content standards. The *Ready Texas Mathematics Teacher Resource Book* states that the materials fully integrate the MPS in an age-appropriate way throughout each lesson. The materials also include MPS tips, which provide in-depth guidance for how specific MPS connect to the lesson's content. The materials state the following: "Throughout the Teacher Guide, 'MPS tips' call out special opportunities to reinforce the habits of mind that the Process Standards represent."

MPS tips provide guidance throughout lessons about the connection of a specific MPS to an activity. For example, Unit 2, Lesson 8 lists six MPS with the TEKS at the beginning of the lesson. The lesson also

includes three MPS tips: 1) "When students explain the meaning of the y-intercept in terms of a real-world situation, they are applying mathematics to problems arising in everyday life, society, and the workplace (8.1.A)"; 2) "Whether using data from a table or a graph, students must first test for linearity and then proportionality. This requires analyzing given information, formulating a plan or strategy, and then determining a solution (8.1.B)"; and 3) "When students make a table and a graph to model a verbal description, they are creating and using representations to organize, record, and communicate mathematical ideas (8.1.E)."

Each grade 8 lesson begins with a "TEKS Focus" section, which lists the MPS in the learning pathway. The MPS tips provide more information as needed within the lesson to connect the MPS to what students are learning. For example, Lesson 2's "TEKS Focus" section lists MPS 8.1.A, 8.1.B, 8.1.C, 8.1.D, and 8.1.G. In the "Introduction" section, the MPS tip states the following: "Students communicate mathematical reasoning and their understanding of real numbers (8.1.D) as they explain how they know which player has a higher free throw success rate." The "Part 2: Guided Instruction" section states the following: "By plotting points on a number line to verify their comparisons, students are using a problem-solving strategy that involves evaluating the reasonableness of their solutions (8.1.B)."

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

The *Ready Texas Mathematics Teacher Resource Book* provides an overview of where each lesson includes the MPS. For example, each lesson contains descriptions of the relevant process standards and connects them to the learning objectives through the MPS tips. These tips specify the MPS linked to a particular activity and include educator guidance to encourage and remind students of specific strategies related to the lesson.

In Lesson 5, the "TEKS Focus" section lists MPS 8.1A, 8.1D, 8.1E, and 8.1F. The corresponding MPS tips appear in the "Introduction" and "Guided Instruction" sections. These tips offer overviews of how the lesson incorporates process standards. For example, the materials state the following: "Using graphs and tables to determine whether or not a relationship is proportional helps students communicate mathematical ideas using multiple representations (8.1D)."

Lesson 8's "TEKS Focus" section lists MPS 8.1A, 8.1B, 8.1C, 8.1D, and 8.1G. The MPS tip in the "Introduction" section states the following: "Students apply mathematics to problems arising in everyday life as they model situations with systems of equations and interpret the solutions in context." In the "Guided Instruction" section, the MPS tip gives the following overview of 8.1D: "Students communicate mathematical ideas about real-world problems as they interpret the meanings of solutions to systems of equations."

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.	3/3
6.1c	All criteria for guidance met.	3/3
—	**TOTAL**	9/9

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

Lessons in the *Ready Texas Mathematics Teacher Resource Book* provide opportunities for students to think mathematically, persevere through solving problems, and make sense of mathematics. In each lesson, students engage with open-ended questions that require reasoning and justification, multipart tasks that involve multiple operations and sustained problem-solving, and visual representations that support students' conceptual understanding and connections across mathematical ideas. The "TEKS Practice" section allows students to engage with open-ended questions that require reasoning and justification. For example, in Unit 3, Lesson 16, which covers dilations and scale factors, the "Introduction" section requires students to think mathematically and make sense of math. In the "Explore It" section, students complete a problem about adjusting the size of a photo. One question asks students to compare the coordinates of three vertices. The question asks, "What do you notice about the coordinates?" A "Challenge" activity allows students to persevere through solving problems, requiring students to use rubber bands to create scale drawings.

In Lesson 19's "Introduction" section, students explore, think about, and make sense of how diagrams of right triangles connect to the Pythagorean theorem. Students work in pairs to make sense of a "Think" statement about the legs and hypotenuse of a right triangle and the squares formed on their lengths. Teachers guide students to understand these concepts with the help of "Mathematical Discourse" questions. For example, teachers ask students the following: "Suppose you had to teach this lesson over the phone to a friend. How would you explain how to find the hypotenuse and the legs?" This activity and its mathematical discourse help students think mathematically and persevere through solving problems as they make sense of concepts.

Supplemental activities for each lesson in the Teacher Toolbox extend and enrich students' mathematical sense-making. For example, in Lesson 6: Represent Proportional Relationships, students think mathematically and make sense of representations of proportional relationships in a game environment.

Students try to match a table or graph to their given slope. Students must persevere to complete all their matches on the game board and check the opposing team's work.

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

The *Ready Texas Mathematics Teacher Resource Book* includes guiding prompts to support students in understanding, explaining, and justifying different approaches to solving problems. Every "Modeled Instruction" and "Guided Instruction" section includes embedded "Think-Share-Compare" routine activities, which offer such prompts. The *Ready Texas Mathematics* front matter describes such routines as helping "students build mathematical proficiency within a collaborative structure. Students develop a greater understanding of mathematical models and strategies using individual think time, partner talk, individual writing time, and whole class discourse."

In Lesson 20, students study models that show how to apply the Pythagorean theorem to three-dimensional figures. In the "Modeled Instruction" section, students explore different ways to solve problems in three dimensions. The "Mathematical Discourse" prompts lead students to think through strategies that help deepen their understanding and explain how the Pythagorean theorem can be used.

The materials support students in understanding and explaining that there can be multiple ways to solve problems and complete tasks. For example, in Unit 2, Lesson 11, the "Introduction" section supports students in understanding and explaining various ways to solve equations. The "Explore It" activity requires students to use a pictorial model to write an equation and solve for *x* using substitution. The "Find Out More" activity provides two examples of solving the equation in different ways.

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/or educators.

In addition to the "Think-Share-Compare" routines embedded in teacher instructions, most lessons also feature four "Pair/Share" prompts in the "Guided Practice" section of the *Ready Texas Mathematics Student Instruction Book.* For example, in Unit 2, Lesson 8, after students analyze a graph and create a table of the relationship, a "Pair/Share" question prompts students to discuss the following: "Explain how you could solve the problem using only the equation."

The *Ready Texas Mathematics Teacher Resource Book* supports students in mathematical sense-making through multiple opportunities for students to do, write about, and discuss math with peers and/or educators. For example, in Lesson 6's "Introduction" section, students answer a series of questions with partners or small groups that help them use the proportional relationship graph. During the "Guided Instruction" section, students discuss answers to questions and how to use the constant of variation, or unit rate, to find the answers. Students then write about the differences between the per-page rate of two printers.

The materials provide students with multiple opportunities to discuss mathematical thinking with peers and/or educators. Lessons feature "Mathematical Discourse" sections that include questions helping teachers "lead rich mathematical discussions." These questions "include answers, as well as key topics to listen for in student responses." For example, Unit 3, Lesson 17 includes four sections of "Mathematical Discourse" prompts. One prompts the educator to ask the following question: "During soccer season, Pablo and Caden score a total of 12 goals. Scott scores the same number as Caden. How many goals do Pablo and Scott score altogether? Why?"

6.2 Facilitating Productive Struggle

GUIDANCE	SCORE SUMMARY	RAW SCORE
6.2a	All criteria for guidance met.	8/8
6.2b	All criteria for guidance met.	4/4
—	**TOTAL**	12/12

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

The *Ready Texas Mathematics Teacher Resource Book* supports educators in guiding students to share and reflect on their problem-solving approaches, including explanations, arguments, justifications, and multiple points of entry. For instance, Lesson 22's "Guided Instruction" section provides teachers with prompts that ask students to explain what would happen if they filled a cone with water and poured it into a cylinder with the same base radius and height. These prompts invite students to share their thoughts, ask clarifying questions, or add to their explanations. The "Student Misconception Alert" reminds teachers of the following: "Students may not understand that they need to substitute the lengths given in the pictures into the volume formulas they learned on previous pages. Emphasize they will use h=3 and r=4 in both formulas."

The materials support educators in guiding students to share their problem-solving approaches, including explanations and justifications. For example, Unit 1, Lesson 4's "Guided Practice" section includes a situation that requires students to explain and justify why they chose a fictional student's explanation about a function. Another question requires students to use a given set of numbers to develop an additional set of ordered pairs to form a function. Educator prompts include the following questions: "Can one input number be paired with more than one output number? Why or why not? Would it make sense to use a group of input numbers or output numbers that are all different? Why?"

The "TEKS Practice" problems offer opportunities for students to show their understanding of a concept by providing multiple entry points and sharing their problem-solving strategies, including arguments. For example, in Lesson 15, the "Performance Task" component of the "TEKS Practice" section requires students to solve dilation problems independently. The directions state, "Use what you have learned to complete this task." Students have multiple entry points when they have choices and can leverage their experiences to make sense of mathematics.

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

The *Ready Texas Mathematics Teacher Resource Book* offers guidance and prompts for educators to utilize error analysis tasks. For example, the "Assessment and Remediation" section includes error guidance and

ways to remediate student responses and misconceptions. For instance, Lesson 9 asks students to write and solve an equation representing a given situation. The "Assessment and Remediation" section prompts the teacher to address students differently depending on their answers.

The *Ready Texas Mathematics* front matter describes "Error Alert" and "Misconception Alert" sections, which include "a typical computational error, the wrong answer it might produce, and explanations to help students avoid those errors in the future or notify teachers of errors in student thinking that produce conceptual misunderstanding." Most lessons include at least one type of alert. For example, in Lesson 19, the "Student Misconception Alert" guides the educator to watch for students who cannot relate one of the figures to the other. The materials guide teachers to call on a student who understands how the squares in the figures relate to one another. The materials direct teachers to do the following: "Have them use their own words to explain their understanding to the other students." Lesson 20 contains two error alerts. One contains the following educator guidance: "Students who wrote either 15 or √145 found the diagonal of one of the faces, not PQ."

The materials contain "Solutions" sections for each student practice page. These sections guide educators on exemplary responses and gauge DOK levels for each practice problem. For example, in grade 8, Lesson 26, one of the "TEKS Practice" problems includes an educator prompt that states the following: "Explain to students why the other two answer choices are not correct: C is not correct because there is a pattern, but it is not linear. D is not correct because neither graph represents a linear pattern (DOK 3)." Another question guides the educator about a solution: "Students should recognize that the outlier should be ignored when drawing a best-fit line. Therefore, the trend line on the right-hand graph is more accurate."