

McGraw Hill LLC

English Mathematics, 8
 Texas Math Course 3 (Grade 8)

MATERIAL TYPE	ISBN	FORMAT	ADAPTIVE/STATIC
Full-Subject, Tier-1	9781265072711	Both Print and Digital	Static

Rating Overview

TEKS SCORE	ELPS SCORE	ERROR CORRECTIONS (IMRA Reviewers)	SUITABILITY NONCOMPLIANCE	SUITABILITY EXCELLENCE	PUBLIC FEEDBACK (COUNT)
100%	100%	22	Flags Not in Report	Flags in Report	0

Quality Rubric Section

RUBRIC SECTION	RAW SCORE	PERCENTAGE
1. Intentional Instructional Design	28 out of 28	100%
2. Progress Monitoring	26 out of 26	100%
3. Supports for All Learners	27 out of 27	100%
4. Depth and Coherence of Key Concepts	19 out of 19	100%
5. Balance of Conceptual and Procedural Understanding	40 out of 41	98%
6. Productive Struggle	22 out of 22	100%

Breakdown by Suitability Noncompliance and Excellence Categories

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

SUITABILITY EXCELLENCE FLAGS BY CATEGORY	IMRA REVIEWERS
Category 2: Alignment with Public Education's Constitutional Goal	12
Category 6: Promoting Sexual Risk Avoidance	0

IMRA Quality Report

1. Intentional Instructional Design

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

1.1 Course-Level Design

GUIDANCE	SCORE SUMMARY	RAW SCORE
1.1a	All criteria for guidance met.	4/4
1.1b	All criteria for guidance met.	2/2
1.1c	All criteria for guidance met.	2/2
1.1d	All criteria for guidance met.	2/2
1.1e	All criteria for guidance met.	2/2
—	TOTAL	12/12

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

The materials include a scope and sequence that identifies the Texas Essential Knowledge and Skills (TEKS), English Language Proficiency Standards (ELPS), and concepts addressed in each unit. For example, the "Scope and Sequence" indicates the specific TEKS and ELPS covered within the "Focal Area" of "Proportionality." Each "Focal Area" includes a suggested lesson sequence with concepts, objectives, and suggested pacing.

The materials provide a detailed "Scope and Sequence" outlining the concepts taught in *Texas Math, Course 3 (Grade 8)*. For example, Chapter 5: "Triangles and Pythagorean Theorem," contains five lessons. Lesson 3 addresses TEKS 8.6C and 8.7C, which require students to "use Pythagorean Theorem and its converse to solve problems."

1.1b – Materials include suggested pacing (pacing guide/calendar) to support effective implementation for various instructional calendars (e.g., varying numbers of instructional days–165, 180, 210).

The materials provide a suggested "Pacing Guide" that gives a detailed view of teaching content material over 124-134 days.

The "Pacing Guide" includes a suggested range of days for each chapter and the total range for the year of 124-134 days.

The materials include alternative pacing guides or calendars to support various instructional calendars of 124 and 134 days.

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

The *Course 3* materials include sections that explain how concepts connect throughout the course, such as, "Previous/Now/Next TEKS skills development." For example, in Chapter 8: "Transformations and Congruence," the "Mathematical Background" section in Lessons 1-3 states that "in previous lessons and grades, students graphed points and figures on the coordinate plane. They will use those concepts to perform transformations on the coordinate plane."

"Vertical Alignment" shows that students who previously "used geometry to solve problems" will now "develop transformational geometry concepts," and next will "develop an economic way of thinking and problem solving."

The materials include an explanation for the rationale of unit order in the "Chapter Order Rationale." For example, "Numbers and Operations" states that "this section introduces essential numerical concepts and operations, which are foundational for all other areas of mathematics."

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

The materials provide a lesson internalization protocol that applies to all lessons. The "Texas Math, Grades 6–12 Lesson Internalization Protocol" explains that the protocol focuses on "the overarching purpose of the lesson, the mathematics of the lesson, the flow of the lesson, and how to plan for a rigorous mathematics experience for all students."

The "Texas Math, Grades 6–12 Chapter Internalization Guide" includes protocols for unit internalization. For example, the materials specify "Step 1: Identify the Chapter's Purpose, Objectives, Essential Questions and Pacing," and "Step 2: Identify All Chapter Assessments," as the first two steps to "ensure that teachers understand the chapter's content and pedagogy, align instructions with TEKS standards, and plan for rigorous and engaging learning experiences for all students."

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

The "Texas Math, Grades 6–12 Lesson Internalization Guide for Instructional Leaders" includes resources and guidance for instructional leaders to support teachers with implementing the materials as designed.

For example, "Step 1: Support Teachers in Identifying Lesson Purpose and Objectives" says to "support teachers in identifying and annotating the key mathematical concepts and skills students are expected to understand and master by the end of the lesson." As part of this process, instructional leaders should guide teachers in creating a two-column chart.

The materials include a "Lesson Cycle" for teachers that gives an overview of how to implement the various materials, including guided practice, teacher moves, and quick checks. The "Lesson Cycle" is not designed for instructional leaders.

1.2 Unit-Level Design

GUIDANCE	SCORE SUMMARY	RAW SCORE
1.2a	All criteria for guidance met.	2/2
1.2b	All criteria for guidance met.	2/2
—	TOTAL	4/4

1.2a – Materials include comprehensive unit overviews that provide the background content knowledge and academic vocabulary necessary to effectively teach the concepts in the unit.

The teacher-facing eBook includes a comprehensive unit overview for each chapter. The unit overviews include a "Mathematical Background" section that provides the background content knowledge and academic vocabulary necessary to effectively teach the concepts in the unit. This section includes what students learned in previous lessons, what students will learn in the current lesson, and what students will learn in future lessons. The section also includes vertically aligned TEKS with the listed "Previous," "Now," and "Next" standards.

Each chapter in the eBook provides a section titled, "What Math Language and Strategies Do You Need?" This section gives teachers an overview of the concepts and vocabulary taught in the lesson.

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

The materials include Spanish and English family letters at the start of each unit to support learning at home. Each letter provides a brief unit overview, key vocabulary, and at-home activities. For example, the Chapter 7: "Connect Algebra to Geometry" activity guides students to explore the nets of cereal boxes to determine the surface area. The letter encourages families to help students determine "why formulas may be used in manufacturing boxes."

In Chapter 6: "Equations and Inequalities," the letter explains that students will learn "how to solve one- and two-step equations" and "how to solve multi-step equations with variables on both sides of the equal sign." Some of the key vocabulary words include *null set*, *property*, and *system of equations*.

1.3 Lesson-Level Design

GUIDANCE	SCORE SUMMARY	RAW SCORE
1.3a	All criteria for guidance met.	8/8
1.3b	All criteria for guidance met.	3/3
1.3c	All criteria for guidance met.	1/1
—	TOTAL	12/12

1.3a – Materials include comprehensive, structured, detailed lesson plans that include daily objectives, questions, tasks, materials, and instructional assessments required to meet the content and language standards of the lesson (aligned with the TEKS and the ELPS).

The *Course 3* materials include comprehensive, structured, detailed lesson plans in the teacher-facing eBook that align with the TEKS and ELPS and include objectives, questions, tasks, materials, and instructional assessments to meet the content and language standards of lessons.

The first page of each lesson lists the TEKS, ELPS, and objectives. The materials provide questions throughout the lesson, allowing the teacher to check for students' understanding of content and promote student discourse. For example, in Lesson 7-2: "Volume of Cones," students complete a lesson launch activity with real-world context in small groups to investigate the formula for the volume of a cone. There are questions throughout the activity, such as, "What is the shape of the base of a cylinder?" and prompts that encourage students to discuss and "write formulas for the volume of a cylinder and the volume of a cone in terms of the areas of their bases."

Each lesson includes a daily objective, corresponding TEKS, scaffolding questions with examples, lesson structure with options for differentiation, assessments, independent practice questions, and various tasks. The materials also include self-check quizzes to check for understanding. For example, Lesson 3-2: "Slope" suggests using a graphic organizer for new vocabulary (*slope*) to access prior knowledge and guide instruction, and then asks, "How can you determine the slope of a ride?"

The lesson overviews include a list of materials required for each lesson. For example, the "Lesson Overview" for Lesson 1-1: "Rational Numbers" includes the student materials "eBook, graphing calculator, journal/scratch paper, and pencil."

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

Each lesson in *Course 3* provides teachers with planning resources to support effective instruction. For example, Chapter 3: "Proportional Relationships and Slope" equips teachers with suggested pacing, a

TEKS skills trace, vertical alignment of TEKS for the unit, and an essential question to guide classroom learning as students engage in the content.

The materials include a "Lesson Cycle" document to guide teachers through each lesson component with a suggested timeline. The cycle consists of the following steps: "Present" (5 minutes), "Launch the Lesson" (5 minutes), "Teach the Concept" (20 minutes), "Practice and Apply" (10 minutes), and "Assess" (15 minutes).

The *Course 3* materials provide a lesson overview that includes the necessary teacher and student materials. The "Lesson Overview" includes a list of materials for students, such as "eBook, journal/scratch paper, pencil, and blank number line." The necessary teacher materials are embedded in the "Lesson Overview" pacing section for each lesson component.

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

The *Course 3* materials include guidance on the effective use of lesson materials for extended practice through enrichment activities, listed in the course's teacher-facing eBook under the "Differentiate Instruction" tab. For example, the Lesson 1-4: "Scientific Notation" enrichment activity guidance instructs teachers to have beyond-level students work with a partner to make a scientific notation cross-number puzzle.

The "Differentiate Instruction" section also includes instructions for the teacher to support students identified as approaching-level, on-level, and beyond-level. For example, Lesson 6-1: "Solve Two-Step Equations" states, "The Reteach Worksheet provides additional examples and practice for students who may have difficulty in grasping the math concepts in this lesson," and "The Enrich Worksheet provides students with valuable opportunities for extending this lesson."

The materials offer guidance for extended practice, including differentiated options for the teacher. For example, Lesson 7-1: "Volume of Cylinders" identifies problems 1-4, 5-9 odd, 10, and 11 for approaching-level students; problems 1, 3, 5-8, and 10-14 for on-level students; and problems 5-14 for beyond-level students.

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.	9/9
2.1b	All criteria for guidance met.	2/2
2.1c	All criteria for guidance met.	2/2
2.1d	All criteria for guidance met.	6/6
2.1e	All criteria for guidance met.	2/2
—	TOTAL	21/21

2.1a – Materials include a variety of instructional assessments at the unit and lesson level (including diagnostic, formative, and summative) that vary in types of tasks and questions.

The *Course 3* materials include a variety of instructional assessments at the unit level (including diagnostic, formative, and summative) and lesson level (including diagnostic and formative) that vary in types of tasks and questions. Each chapter provides a variety of diagnostic assessments, such as a "Chapter Diagnostic Test" and a "Chapter Pretest," with varying types of tasks to gauge students' prior knowledge and readiness.

For example, in Chapter 9: "Scatterplots and Data Analysis," the "Chapter Diagnostic Test" asks students to find the average for different data sets, and interpret a histogram in order to describe it. The "Chapter Pretest" asks students to find the mean, median, mode, and range of different data sets; construct a box plot for a given data set; and construct a scatter plot for a given data set, then draw a line that best represents the data.

Assessment and Learning in Knowledge Spaces (ALEKS), *Course 3* allows teachers to create their own "exams, quizzes, or extra practice aligned to standards," that vary in types of tasks and questions. Teachers can select which lessons they would like to include questions from and access question banks to customize their assessments. For example, when creating a quiz on Chapter 5: "Functions," Lesson 5-1, the types of tasks and questions vary and include identifying functions from relations and determining if a graph represents a function by performing the vertical line test.

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

The *Course 3* materials include the definition and intended purpose for the types of instructional assessments included. The "Texas Math, Courses 1-3 (Grades 6-8): Assessment Guidelines" document defines and explains the purpose of each assessment type, including diagnostic, formative, summative, and optional assessments. The document also explains the purpose behind each assessment activity and provides administration guidance on how to use assessment results.

For example, the document defines formative assessments as "ongoing assessments that take place during the instructional process" to help "teachers monitor and adjust instruction as well as provide students with feedback." The document also breaks down the variety of formative assessment activities throughout the course, such as "Exit Tickets," "Self-Check Quizzes," "Are You Ready? Quick Checks," "Mid-Chapter Quizzes," "Mid-Chapter Checks," and "End-of-Chapter Quizzes."

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

The *Course 3* materials include teacher guidance to ensure accurate administration of instructional assessments. The "Assessment Guidelines" document explains the purpose behind each assessment activity, provides administration guidance, and explains how to use assessment results to ensure that assessments provide insight into students' knowledge and skills. For example, "Mid-Chapter Quizzes" are administered halfway through the chapter and allow students to "demonstrate their progress in the first half of the chapter." Teachers can use these results to identify which concepts need reinforcement and to form small groups for targeted instruction.

The "Assessment Guidelines" document also includes administration guidance with suggested time limits, administration windows, and student materials. For example, the "Online Chapter Test" guidance states, "allocate 45-60 minutes."

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

The *Course 3* diagnostic, formative, and summative assessments are aligned to the TEKS and objectives of the course, unit, and lesson. For example, the "Chapter Diagnostic Test" in Chapter 4: "Functions" assesses TEKS 8.1(A), 8.1(C), and 8.1(D). All of the included TEKS meet grade-level standards and contain the prior knowledge and skills necessary for students to be successful in Chapter 4.

The "Texas Math, Course 3: Interactive Edition, Volume 2" eBook states that the objective for Lesson 7-2: "Volume of Cones" is to "solve problems using the volume of cones," and connects to TEKS 8.7(A), "students will solve problems involving the volume of cones." Of the 16 questions in Chapter 7: "Connect

Algebra to Geometry," "Test 1A," 10 questions link to TEKS 8.7(A). For example, Question 2 provides students with a diagram and measurements and asks them to "determine the volume of each solid."

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

The *Course 3* instructional assessments include TEKS-aligned items at varying levels of complexity. For example, "Test 3A" in Chapter 10: "Personal Financial Literacy," aligns with TEKS 8.1(A), 8.1(B), and 8.12(A-G), and includes questions that require basic computation, such as "use an online calculator to calculate the total cost to repay a \$14,000 loan if the interest rate is 8.7% per year and the term of the loan is 3.5 years." The questions progress in complexity and require the student to interpret a table with different account types to determine which option would give the best return on deposit, and to justify their response.

"Test 1A" in Chapter 8: "Transformations and Congruence" aligns with TEKS 8.1(B), 8.10(A), 8.10(B), and 8.10(C), and includes translations, rotations, and reflections that increase in complexity. The test begins with a pictorial model of the graph, then progresses to problems without the graph. Finally, given two shapes, students have to identify the series of transformations to get from the first shape to the second.

2.2 Data Analysis and Progress Monitoring

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

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

The *Course 3* instructional assessments and scoring information provide guidance for interpreting student performance. The "Differentiate Instruction" tab provides "Response to Intervention" guidance and activities broken up into Tier 1, 2, and 3 interventions based on results from each chapter's "Diagnostic Test." For example, Chapter 8: "Transformations and Congruence" designates a Tier 2 intervention for approaching-level students who missed five to seven of Exercises 1–13. Teachers can choose to provide these students with the "Are You Ready? Review" activity or the *Personal Tutor* tool.

The *Course 3* materials include a "Key Concept Check" assessment that provides guidance on which lessons to review when students miss specific questions. For example, in Chapter 4: "Functions," if a student gets Exercise 7 incorrect, the materials advise that they may need help with "Writing Equations and Functions," Lesson 7.

The "Assessment Guidelines," "How to Use the Results" section, provides teachers with information on interpreting student performance. For example, the "Online Chapter Tests" system automatically grades the test and provides immediate feedback to students. The "results provide comprehensive data on student understanding of the entire chapter," and "teachers can analyze the performance patterns to differentiate instruction."

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

The *Course 3* materials provide guidance for using included tasks and activities to respond to student trends in performance on assessments. The "Differentiated Activities" section provides guidance for using "Guided Practice" exercises as a formative assessment of students' understanding of the concepts taught in each lesson, and for the use of differentiated activities to support students based on their understanding of lesson concepts.

Lesson 7-2: "Volume of Cones" includes guidance for using activities. The "Team-Pair-Solo" activity for approaching-level students requires students to complete Exercises 1–2 in a four-person team, Exercises 3–4 in pairs, and Exercises 5–6 independently. The team then comes back together to discuss their

answers. The "Pairs Present" activity for beyond-level students requires students to work in pairs to complete Exercise 7. Students then prepare a brief oral presentation for the class about the connection between the formulas for the volume of a cylinder and a cone.

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 *Course 3* materials include tools for teachers to track student progress and growth, and tools for students to track their own progress and growth. For example, the "Track Your TEKS Progress" section of the student-facing eBook includes a "Student Self-Assessment" chart. Students complete this chart at the beginning and end of each chapter to rate their knowledge and understanding of the TEKS each chapter covers. The options for rating understanding include, "I have no clue," "I have heard of it," and "I know it." The chart allows students to see which of their knowledge and skills have increased at the end of each chapter and throughout the course.

The materials remind teachers to have students return to their "Student Self-Assessment" chart to complete their end-of-chapter ratings. For example, the "Teacher Notes" at the end of Chapter 4: "Functions" remind teachers to have students rate their knowledge of TEKS 8.4B, 8.4C, 8.4F, 8.5A, 8.5B, 8.5G, 8.5H, and 8.5I.

ALEKS Course 3 is an online, data-driven program that allows students and teachers to monitor student growth. This system provides many types of student-friendly data trackers, such as charts, that allow students to see their scores on assessments and practice problems, and visualize their progress. Teachers can generate reports in *ALEKS* to see student progress towards mastery in each area on their personalized pathway. From the "Student View," students can see their progress on their personalized pathway as well as individual topics, what they have mastered, and how many topics remain.

3. Supports for All Learners

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

3.1 Differentiation and Scaffolds

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

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

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

The *Course 3* materials include teacher guidance for differentiated instruction, activities, and paired (scaffolded) lessons for students who have not yet reached proficiency on grade-level content and skills. The "Scaffolding Questions" section includes scaffolded support questions to guide teachers in differentiating instruction for approaching-level students. For example, in Lesson 9-4: "Mean Absolute Deviation," Example 1 shows students how to determine the mean absolute deviation of a data set. The provided scaffolded questions include, "How do you determine the mean?", "What is the mean?", and "What is the data in order from least to greatest?"

The "Differentiated Activities" section includes scaffolded support to guide teachers in differentiating activities for approaching-level students. For example, Lesson 4-2: "Relations," provides a "Think-Pair-Share" activity and guidance for teachers on how to use it to differentiate Exercises 1–3 for students who need additional support. The activity instructs teachers to have pairs research a real-world situation in which relationships were represented by tables or graphs and to think about how those relationships could be represented in another form.

In Lesson 3-2: "Slope," the "Differentiate Instruction" section provides additional materials for teachers to assign to approaching-level students. A "Reteach" worksheet provides additional examples and practice problems, and guides teachers to use it with students "who may have difficulty in grasping the math concepts in the lesson."

3.1b – Materials include pre-teaching or embedded supports for unfamiliar vocabulary and references in text (e.g., figurative language, idioms, academic language). (T/S)

The *Course 3* materials include pre-teaching or embedded supports for unfamiliar vocabulary and references in text (e.g., figurative language, idioms, academic language). The "Vocabulary Activity" section is an embedded support that includes guidance and an example of an instructional routine for teachers to use throughout the chapter to introduce new academic vocabulary terms. The instructional routine includes having students repeat each term aloud after the teacher, defining the term, providing an example, and asking mathematical questions that include the term.

Chapter 2: "Similarity and Dilations" provides an example instructional routine for the term *indirect measurement*. The teacher says *indirect measurement* aloud, and students repeat the term. The teacher defines the term as, "a technique using properties of similar polygons to find distances or lengths that are difficult to measure directly." The materials provide the example, "measuring your height and your shadow's length and comparing it to the length of the shadow of a larger object's height range." Finally, the materials provide the question, "a light post is 11 feet tall and has a shadow that is 10 feet long; at the same time, Sandi's shadow is 5 feet long; how tall is Sandi?"

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

The *Course 3* materials include teacher guidance for differentiated instruction, enrichment, and extension activities for students who have demonstrated proficiency in grade-level content and skills. The "Scaffolded Support" section includes scaffolded tasks and questions, such as higher-order thinking questions, real-world applications, and problems that extend into future learning, to accompany the "Hands-On Activities." For example, in Lesson 1-6a Hands-On Lab: "Roots of Non-Perfect Squares," the activity explains how students can use multiple representations to estimate the square root of a non-perfect number. The activity tasks students with determining the approximate length of one side of a square pattern using a number line. The differentiated task for beyond-level students requires them to use dot paper to draw their own squares of different sizes, trade papers with a peer, cut out the squares, and use a number line to find the approximate length of one side of each square.

The "Differentiate Instruction" section provides enrichment and extension activities for beyond-level students. For example, Lesson 4-3: "Functions" includes an "Enrich Worksheet" that "provides students with valuable opportunities for extending this lesson" on functions. The worksheet, titled "Enrich: Go with the Flow," instructs students to use a function flowchart to plug in each input to determine its output.

3.2 Instructional Methods

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

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

The *Course 3* materials include explicit (direct) prompts and guidance to support the teacher in modeling and explaining the concept(s) to be learned. The "Scaffolding Questions" section includes explicit scaffolded support questions and prompts for teachers to ask. For example, in Lesson 4-3: "Functions," Example 1 shows students how to determine whether a set of ordered pairs represents a function using a mapping diagram. The scaffolded questions for approaching-level students include, "Do the x-values go in the domain or the range?" and "Do the y-values go in the domain or the range?"

The "Think About: Common Error" section provides teachers with common student misconceptions they may encounter throughout instruction, and guidance to help address and correct these misconceptions. For example, Lesson 7-3: "Order of Operations" states, "watch for students who think that you must perform operations in an expression in the order in which they appear." To address this misconception, teachers "may want to suggest to students that when they first read a problem, they underline or circle the multiplication and division to remind them when to perform those operations."

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

The *Course 3* materials include teacher guidance and recommendations for effective lesson delivery and facilitation using a variety of instructional approaches. Each chapter features "Hands-On Labs" organized into multiple sections: "Develop the Concept," "Hands-On Activities," "Analyze and Reflect," "Create," and "Inquiry." For example, in the "Create" section of "Hands-On Lab 3-1b: Graphing Technology: Rate of Change," the materials instruct teachers to give students the prompt, "Without graphing, write an equation for a line that is steeper than $y = \frac{1}{3}x$. Support your answer."

Each lesson begins with a "Launch the Lesson" section that includes teacher moves to support differentiated instruction. For example, in Lesson 5-4: "Use the Pythagorean Theorem," the "Launch the Lesson" section incorporates the "Think-Pair-Solo" instructional strategy to guide students through five real-world questions related to the Pythagorean theorem. The teacher guidance states: "Have students work in pairs. Give them about 20 seconds to think through their response to Exercise 1 individually, then have them share their response with a partner, taking care to make sure they justify their response. Then

have them work together to complete Exercises 2 and 3. Have them work individually to complete Exercise 4."

3.2c – Materials support multiple types of practice (e.g., guided, independent, collaborative) and include guidance for teachers and recommended structures (e.g., whole group, small group, individual) to support effective implementation.

The *Course 3* materials include teacher guidance and recommended structures to support effective implementation. Each lesson begins with a "Launch the Lesson" section that provides recommended classroom structuring, suggested "Teacher Moves," and "Scaffolded Support" to promote student engagement and understanding. For example, in Lesson 6-4: "Write Equations of Functions," the "Launch the Lesson" section offers the following guidance for classroom structure: "You may wish to launch the lesson using a whole group, small group, think-pair-share activity, or independent activity."

Each lesson features a variety of practice formats, including "Guided Practice," "Independent Practice," "Critical and Creative Thinking Problems," and a "Multi-Step Problem Solving" section to support students' progression through content. Teacher guidance is embedded throughout the materials and includes instructional strategies, suggested teacher moves, and guiding questions. For example, in Lesson 8-3: "Rotations," the "Guided Practice" section includes the instructional strategies "Groups-Pairs-Solo" and "Pairs Discussion." The materials recommend using these strategies to support differentiation, stating, "If some of your students are not ready for assignments, use the differentiated activity below."

The "Differentiated Activities" section includes the purpose of the guided practice exercises and guidance for the teacher to implement specific structures while students complete the exercises. For example, in Lesson 3-6: "Equations in $y = mx + b$ Form," the materials instruct teachers to "use these exercises to assess students' understanding of the concepts in this lesson. If some of your students are not ready for assignments, use the differentiated activities below." The materials include guidance for completing the exercises as a small group activity called "Teammates Consult."

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	All criteria for guidance met.	2/2
3.3b	All criteria for guidance met.	1/1
3.3c	All criteria for guidance met.	8/8
3.3d	This guidance is not applicable to the program.	N/A
—	TOTAL	11/11

3.3a – Materials include teacher guidance on providing linguistic accommodations for various levels of language proficiency [as defined by the English Language Proficiency Standards (ELPS)], which are designed to engage students in using increasingly more academic language.

The *Emergent Bilingual (EB) Guidebook* provides linguistic accommodations for various levels of language proficiency (as defined by the ELPS), which are designed to engage students in using increasingly academic language.

For example, the *EB Guidebook* section, "How to Use the ELPS Proficiency Levels," provides a table breaking down ways to support students at each proficiency level. For beginning-level students, teachers should "continue visual support while encouraging verbal responses, use sentence frames and word banks, [and] practice high-frequency vocabulary and phrases . . ."

The "Bridging Language and Math" section of the *EB Guidebook* includes "Best Practices for Empowering Emergent Bilinguals" that suggest "adding cognates and sentence stems" to lessons to "help EBs see the connections between their native language and math terms."

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

The *EB Guidebook* includes implementation guidance to support teachers in effectively using the materials in state-approved bilingual/ESL programs.

For example, the "How to Incorporate ELPS" section includes "Understanding EBs," "Key Principles for Supporting EBs," "Explicit ELPS Integration Strategies," and "Best Practices."

3.3c – Materials include embedded guidance for teachers to support emergent bilingual students in developing academic vocabulary, increasing comprehension, building background knowledge, and making cross-linguistic connections through oral and written discourse.

The *Course 3* materials include embedded guidance for teachers to support emergent bilingual students in developing academic vocabulary, increasing comprehension, and building background knowledge through oral and written discourse. For example, in Lesson 8-5: "Congruence," students write a journal entry about transformations, from a mathematical perspective and in relation to languages. Students compare the similarities and consider the difficulties involved in each kind. Students then discuss and share their journal entries with a partner or with the whole class.

Each chapter features a section, "What Math Language and Strategies Do You Need?" which provides an instructional routine and activity for teachers to implement across all lessons in the chapter. For example, the Chapter 6: "Equations and Inequalities" teacher guidance recommends following a structured routine to help EB students build vocabulary: define the word, provide an example, and ask a related question to deepen understanding. The materials also include a vocabulary review graphic organizer for justifying responses, with guidance suggesting that EB students "read the Writing Math section to learn that to justify an answer means to give reasons why that answer is correct."

The *EB Guidebook* includes scaffolded sentence stems that students can use for both oral and written discourse. The materials provide sentence stems for explanation, and for comparing and constructing. For example, a beginning level student could use the sentence stems, "First, I _____. Then, I _____. Finally, I _____."

3.3d – If designed for dual language immersion (DLI) programs, materials include resources that outline opportunities to address metalinguistic transfer from English to the partner language.

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

4. Depth and Coherence of Key Concepts

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

4.1 Depth of Key Concepts

GUIDANCE	SCORE SUMMARY	RAW SCORE
4.1a	All criteria for guidance met.	2/2
4.1b	All criteria for guidance met.	1/1
—	TOTAL	3/3

4.1a – Practice opportunities over the course of a lesson and/or unit (including instructional assessments) require students to demonstrate depth of understanding aligned to the TEKS.

The *Course 3* materials include practice opportunities over the course of a lesson and/or unit (including instructional assessments) that require students to demonstrate depth of understanding aligned to the TEKS. For example, in Lesson 6-3a Hands-On Lab: "Model Equations with Variables on Each Side," students use virtual manipulative algebra tiles as a concrete model to solve two-step equations with variables on both sides of the equal sign. In Lesson 6-3: "Solve Equations with Variables on Each Side," students extend their knowledge of solving two-step equations with variables on both sides of the equal sign by moving from using concrete models to using symbolic representations to solve algebraically.

Each chapter in *Course 3* provides TEKS-aligned practice opportunities that allow students to demonstrate depth of understanding. For example, the "Vocabulary Test" in Chapter 5: "Triangles and the Pythagorean Theorem" offers students eight targeted vocabulary items designed to build conceptual understanding. The tasks range from basic recall, such as identifying angle-related statements as true or false, to higher-order thinking, where students write definitions for triangle and angle vocabulary terms.

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

The *Course 3* materials include questions and tasks that progressively increase in rigor and complexity, leading to grade-level proficiency in the mathematics TEKS. For example, Lesson 1-4: "Scientific Notation" aligns with TEKS 8.2(C), and students complete basic computations, such as expressing each number in standard decimal or scientific notation. The tasks progress to require students to write two numbers in scientific notation with values between 100 and 1,000, and to write an inequality that shows the relationship between the two numbers.

The materials provide scaffolded questions to support student understanding throughout instruction based on each student's current level (approaching-level, on-level, and beyond-level). For example, when practicing expressing a number in scientific notation in Lesson 1-4: "Scientific Notation," the materials

instruct the teacher to ask an approaching-level student, "between what two numbers should we place the decimal point?" The teacher should ask an on-level student, "how do you know how many places to move the decimal point?" The teacher should ask a beyond-level student, "why do we not count only the zeros when determining the value of the exponent?"

The "Independent Practice" section of each chapter includes a drop-down titled "Levels of Complexity" with a "Complexity Levels by Exercise Sets" chart. This chart states, "The levels of the exercises progress from one to 4-I, with Level 1 indicating the lowest level of complexity. Level 4-I indicates dual-coded exercises." For example, the independent practice in Lesson 4-3: "Functions" includes 18 exercises, with Exercises 1–8 at Level 1 complexity, Exercises 9–13 at Level 3 complexity, and Exercises 14–18 at Level 4-I complexity.

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.	3/3
4.2c	All criteria for guidance met.	4/4
—	TOTAL	8/8

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

The *Course 3* materials demonstrate coherence across units by explicitly connecting patterns, big ideas, and relationships between mathematical concepts. The "TEKS Skills Development" section provides connections between previously learned concepts, current concepts, and upcoming concepts. For example, Chapter 8: "Transformations and Congruence" specifies that students currently develop transformational geometry concepts, previously used geometry to solve problems, and will later develop an economic way of thinking and problem solving.

The "Scope and Sequence" shows the progressions of skills taught in the course. For example, Chapter 3: "Proportional Relationships and Slope" includes lessons on writing linear equations from a table, a graph, and a verbal description. Then, in Chapter 4: "Understanding Proportions," the lessons build on this concept and cover representing linear proportional and nonproportional relationships with tables, graphs, and equations.

4.2b – Materials demonstrate coherence across units by connecting the content and language learned in previous courses/grade levels and what will be learned in future courses/grade levels to the content to be learned in the current course/grade level.

The *Course 3* materials demonstrate coherence across units by connecting the content and language learned in previous courses/grade levels to the content to be learned in the current course/grade level. The "Mathematical Background" section details the skills and concepts presented throughout the chapter's lessons and explains the connection between prior and current course content. For example, in Chapter 1: "Real Numbers," the "Mathematical Background" for Lesson 1-1: "Rational Numbers" states that "in previous grades, students learned about the rational number system and how to express equivalent forms of fractions and decimals," and students will now "continue to increase their fluency in working with rational numbers and learn how to express repeating decimals as fractions."

The "Are You Ready? Quick Review/Check" demonstrates coherence across units by connecting the content from previous courses/grade levels to the content in the current course/grade level. The "Quick Check" in Chapter 5: "Triangles and the Pythagorean Theorem" asks the students to access prior knowledge from grades 6 and 7 on solving equations and graphing points in the coordinate plane.

The "Previous/Now/Next" sections demonstrate coherence across units by connecting the content that students will learn in future courses/grade levels to the content in the current course/grade level. For example, in Chapter 1: "Real Numbers," the "Now" section states, "8.2. Students will represent and use real numbers in a variety of forms." The "Next" section states, "Algebra 1 10. Students will work with equivalent forms of polynomial expressions."

4.2c – Materials demonstrate coherence at the lesson level by connecting students' prior knowledge of concepts and procedures from the current and prior grade level(s) to new mathematical knowledge and skills.

The materials demonstrate coherence at the lesson level by connecting students' prior knowledge of concepts and procedures from the current and prior grade level(s) to new mathematical knowledge and skills. Each lesson in *Course 3* includes a "TEKS Skills Development" section, which shows the connection between prior concepts and procedures taught in the current grade level, and new mathematical knowledge and skills.

Lesson 1-1: "Rational Numbers" states that students will use scientific notation to express numbers (TEKS 8.2C), while they previously represented and used rational numbers in a variety of forms in grade 7 (TEKS 7.2). Lesson 1-5: "Roots" states that students will determine square roots involving perfect squares (TEKS 8.2B), while they previously expressed numbers in scientific notation earlier in the course (TEKS 8.2C).

The "TEKS Skills Development" section includes a "Previous, Now, Next" section. In Chapter 8: "Transformations and Congruence," students previously "used geometry to solve problems." Now, "students will develop transformational geometry concepts." Next, "students will develop an economic way of thinking and problem solving."

4.3 Coherence and Variety of Practice

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

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

The *Course 3* materials provide spaced retrieval opportunities with previously learned skills and concepts across lessons and units. The "Mathematical Background" section breaks down the skills and concepts presented throughout the chapter's lessons and explains the connection between what students learned previously and what they are currently learning. For example, in Chapter 9: "Scatter Plots and Data Analysis," students learn about scatterplots in Lessons 9-1 and 9-2. Students take what they previously learned about graphing a set of data on the coordinate plane and writing equations in slope-intercept form, and apply those concepts to graphing bivariate data and writing equations for data that approximate linear relationships.

The "TEKS Standards Correlation" section lists all grade-level TEKS, skills, concepts, and documents, and specifies the corresponding lessons and page numbers throughout the course. For example, TEKS 8.4B (graph proportional relationships, interpreting the unit rate as the slope of the line that models the relationship), is in both Chapter 3: "Proportional Relationships and Slope" and Chapter 4: "Functions." In Lesson 3-1: "Constant Rate of Change," students learn about the constant rate of change. In Lesson 4-1: "Represent Relationships," students represent the constant rate of change in graphs.

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

The *Course 3* materials provide interleaved practice opportunities with previously learned skills and concepts across learning pathways. The "Mid-Chapter Checks" provide students the opportunity to practice multiple skills and concepts from the lessons in the first half of a chapter. For example, the Chapter 7: "Connect Algebra to Geometry," "Mid-Chapter Check," includes a "Vocabulary Check" that requires students to define *volume* in their own words and describe the relationship between the area of the base of a solid and its volume. This pulls from concepts presented in Lesson 7-1: "Volume of Cylinders," Lesson 7-2: "Volume of Cones," and Lesson 7-3: "Volume of Spheres." The "Mid-Chapter Check" also includes a "Key Concept Check" that requires students to determine whether different volume statements are true for cylinders and cones, and determine the volume of different spheres given the radius or diameter. This pulls from concepts presented in Lessons 7-1 through 7-3.

The materials provide a "Texas State Assessment Practice" in the "Review" section of each chapter that includes interleaved practice opportunities with previously learned skills and concepts. For example, the Chapter 4: "Functions," "Texas State Assessment Practice," includes a mixed review of Chapter 4 skills and concepts (defining functions and completing a linear equation), and Chapter 3 skills and concepts (determining proportional and non-proportional relationships).

5. Balance of Conceptual and Procedural Understanding

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

5.1 Development of Conceptual Understanding

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

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

The *Course 3* questions and tasks require students to interpret, analyze, and evaluate models and representations for mathematical concepts and situations. For example, in Lesson 5-3a Hands-On Lab: "Model Right Triangle Relationships," students use models and representations, such as drawings of triangles and squares on grid paper, to investigate and explain the relationship between the sides of a right triangle. Students interpret three figures of right triangles, each formed by connecting corners of three squares, to determine the area of each square. Students then analyze the relationship between the areas of the three squares bordering each triangle.

The *Course 3* materials include problem-solving models throughout the chapters. In the Lesson 7-4: "Surface Area of Prisms," "Multi-Step Problem Solving" section, students apply a problem-solving model to a real-world context involving a builder placing vinyl covering on a house. Students use their knowledge of surface area and solving rational numbers to create and simplify equations that would fit this situation. In Step 3 of the problem-solving process, the materials provide a partially completed model for students to finish the remaining steps. The task concludes with students justifying and evaluating their solution, as prompted by the question, "How do you know your solution is accurate?"

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

The *Course 3* questions and tasks require students to create models to represent mathematical situations. For example, in Lesson 4-3a Hands-On Lab: "Relations and Functions," the activity explains how students can select tools and techniques to determine if a relation is a function. In the "Investigate" section of the exercise, students create a mapping diagram for each relation to determine whether or not it is a function. The "Create" section then prompts students to refer to the models they drew to answer the question, "How can I select tools and techniques to determine if a relation is a function?"

In Lesson 3-8: "Write Linear Equations," the "Launch the Lesson" activity prompts students to demonstrate their understanding of a real-world scenario by calculating the cost of a certain number of

people going to the zoo. Students complete a series of tasks to model the situation: determine if there is a constant rate of change to identify if the situation is linear, graph the ordered pairs and interpret the slope and y-intercept, and write an equation to represent the relationship in slope-intercept form. To support mathematical thinking and discourse, the teacher then asks, "Why are graphs helpful?"

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

The *Course 3* questions and tasks provide opportunities for students to apply conceptual understanding to new problem situations and contexts. In the "Chapter Performance-Based Task" sections, students apply their understanding of mathematical concepts to real-world situations. For example, the Chapter 8: "Transformations and Congruence," "Chapter Performance Task," requires students to apply their understanding of transformations and congruence. Students analyze similar models of city streets on a map and on a graph to determine the length of one of the streets by setting up a proportion and solving.

In the "Multi-Step Problem Solving" exercises, students use a problem-solving model that includes analyzing, planning, solving, justifying, and evaluating to apply their understanding of mathematical concepts to real-world situations. For example, in Lesson 5-3: "The Pythagorean Theorem," students must determine the straight-line distance from Reggie's home to Yoki's home, using a provided graph that shows the triangular routes Reggie and Yoki took to ride their bikes to meet at the library.

Each lesson in the materials includes a "Got it? Do this problem to find out" section where students apply their conceptual understanding to new problem situations and contexts. For example, the "Got it?" question in Lesson 10-4: "Financial Responsibility" is, "Lara has \$108.90 to buy 11 T-shirts for her community soccer league. When she places the order, Lara decides to buy a dozen T-shirts at the special rate of \$108.00. Is Lara's decision financially responsible? Identify the benefit or cost of her decision." This question follows the launch of the lesson and the introduction of key concepts.

5.2 Development of Fluency

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

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

The *Course 3* materials provide tasks designed to build student automaticity and fluency necessary to complete grade-level tasks. Students use the "Skills Practice" worksheets to practice the skills taught in each lesson and develop automaticity and fluency. For example, in Lesson 4-3: "Functions," the worksheet includes repeated practice determining whether each relation is a function by using multiple representations, such as sets of ordered pairs, mapping diagrams, tables, and graphs.

Each lesson provides targeted opportunities to build fluency through extension activities aligned to lesson content. For example, Lesson 7-5: "Surface Area of Cylinders" provides an extension activity for on-level students. The materials direct teachers to "have students write step-by-step instructions for finding the surface area of a real-world cylinder, such as a soup can. You might wish to have students direct their instructions to a friend or family member. Encourage them to exchange instructions with a partner and test them. Is enough information included? Too much? Could a friend or family member use the instructions to find the cylinder's surface area without any help from the student?"

5.2b – Materials provide opportunities for students to practice the application of efficient, flexible, and accurate mathematical procedures within the lesson and/or throughout a unit.

The *Course 3* materials provide opportunities for students to practice the application of efficient, flexible, and accurate mathematical procedures within the lesson and/or throughout a unit. For example, in the Lesson 6-3a Virtual Manipulative Lab: "Model Equations with Variables on Each Side" exercises, students apply procedures using virtual algebra tiles to solve equations with variables on each side of the equal sign. The materials instruct students to use virtual algebra tiles to model and solve various equations.

Lesson 6-1: "Solve Two-Step Equations" introduces students to multiple methods for solving equations. Method 1 uses algebra tiles, while Method 2 uses symbols. Following each example, lesson prompts provide opportunities for students to choose their preferred method to solve two "Got it?" questions.

5.2c – Materials provide opportunities for students to evaluate procedures, processes, and solutions for efficiency, flexibility, and accuracy within the lesson and throughout a unit.

The *Course 3* materials provide opportunities for students to evaluate procedures, processes, and solutions for efficiency, flexibility, and accuracy within the lesson and throughout a unit. In the "Multi-Step Problem Solving" exercises, students use a problem-solving model that includes analyzing, planning, solving, justifying, and evaluating to apply their understanding of mathematical concepts to real-world situations. In the "Justify and Evaluate" step, students evaluate the procedures, processes, and solutions for accuracy. For example, in Lesson 7-4: "Surface Area of Prisms," students apply their understanding of finding the surface area of prisms by determining the minimum amount a builder can spend on vinyl siding. Students have to determine the total area of the house in order to calculate the cost of vinyl siding needed to cover it. At the end of the problem-solving process, the materials ask, "How do you know your solution is accurate?"

The *Course 3* materials provide opportunities for students to evaluate procedures, processes, and solutions for efficiency, flexibility, and accuracy through teacher guidance and embedded questions within and across lessons and units. For example, in Lesson 4-4: "Proportional and Nonproportional Functions," students graph a linear function about a cell phone plan. During this activity, the teacher guidance suggests posing the question, "How can we determine whether the relationship is proportional using a different method?"

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

The *Course 3* materials contain embedded supports for teachers to guide students toward increasingly efficient approaches. The "Scaffolding Questions" section includes explicit scaffolded support questions and prompts for teachers to ask and present to students at various levels of understanding. For example, in Lesson 3-8: "Write Linear Equations," Example 2 uses point-slope form to write an equation in slope-intercept form. Teachers ask students, "What operation do the parentheses in the point-slope form indicate?" "What is the first step in rewriting the equation in slope-intercept form?" and "How can we check our answer?"

The "Scaffolded Support" sections include guidance for teachers to implement various scaffolded activities for students at various levels of understanding. For example, in Lesson 6-3a Virtual Manipulative Lab: "Model Equations with Variables on Each Side," Activity 2 includes a "Mirror Mirror" activity where approaching-level students work in pairs using virtual algebra tiles to model and solve the equation $3x + 3 = 2x - 3$. Teachers ask students, "How would you model the equation $3x + 3 = 2x - 3$ using algebra tiles?" "What do you need to do next so that the x-tiles are only on one side of the equation?" and "How many zero pairs should be removed?"

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 *Course 3* materials explicitly state how the conceptual and procedural emphasis of the TEKS are addressed. For example, Lesson 8-2: "Reflections" addresses TEKS 8.10A (generalize the properties of orientation and congruence of rotations, reflections, translations, and dilations of two-dimensional shapes on a coordinate plane). The "Key Concept" box shows that students can use models of shapes that have been reflected over the x-axis and y-axis on a coordinate plane to develop a conceptual understanding of the properties of orientation and congruence of reflected figures. Students then apply that understanding to use reflection rules to determine the new points of the reflected image over either axis, and to determine whether orientation and congruence are preserved.

Each chapter opener identifies the TEKS addressed and includes a detailed mathematical background to support teachers in making connections between conceptual understanding and procedural skills. The background for Chapter 7: "Connect Algebra to Geometry," Lessons 4 and 5, notes that as students begin using formulas to calculate volume, "In previous grades, students learned how to find lateral and surface area using nets. Here, they will extend their knowledge of surface area by incorporating formulas to find lateral and surface area."

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

The *Course 3* questions and tasks include the use of concrete models and manipulatives, pictorial representations (figures/drawings), and abstract representations, as required by the TEKS. For example, in Lesson 6-3a Virtual Manipulative Lab: "Model Equations with Variables on Each Side," students first model and solve equations with variables on both sides of the equal sign using virtual algebra tiles as concrete models and manipulatives. Then, students solve these same types of equations using drawings of algebra tiles as pictorial representations. In the following lesson, Lesson 6-3: "Solve Equations with Variables on Each Side," students solve equations with variables on both sides of the equal sign algebraically using abstract representations. They use the properties of equality to write an equivalent equation with the variables on one side of the equal sign, and then use the inverse properties to simplify and solve the equation.

In Lesson 8-1a Hands-On Lab: "Transformations," students model the properties of orientation and congruence of transformations using index cards to make animation frames as concrete models and manipulatives. In the following lesson, Lesson 8-1: "Translations," students model translations using drawings of preimages and transformed images on coordinate planes as pictorial representations. Students also use abstract representations of translations by using letters and symbols to represent the rules for translations of points on a coordinate plane.

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 *Course 3* 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. For example, in Lesson 7-4a Hands-On Lab: "Nets of Prisms," Activity 2, students make a triangular prism by folding a net drawn on a piece of card stock paper and taping adjacent edges together. Then, students investigate what shapes and dimensions make up the prism, eventually determining the formula for the total surface area of triangular prisms. In the "Hands-On Lab Exercises," students find the total surface area of a different triangular prism by adding the lateral surface area and the area of its base. Then, students make the connection between the model and its abstract representation by writing the formula to determine the total surface area of all triangular prisms, and answering the question, "How can I analyze relationships to connect the net of a prism to the formula for its surface area?"

Each chapter features a planning document that outlines tools and manipulatives students can use to build conceptual understanding from concrete to abstract. For example, the "Hands-On Lab 5-a: Nets of Cylinders," "Planning" tab, recommends using the *eSolutions Manual* as students model the net of a cylinder to make connections to the surface area formula. The teacher guidance includes the instructional strategy "Paired Heads Together," in which students work in pairs to analyze and reflect on questions from the lab, seeking help from and offering guidance to their partner as needed.

5.4 Development of Academic Mathematical Language

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

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

The *Course 3* materials provide opportunities for students to develop academic mathematical language using visuals, manipulatives, and other language development strategies. For example, in the Chapter 9: "Scatterplots and Data Analysis," "Vocabulary Check" section, students define *trend line* in their own words and explain when to use a trend line.

In Lesson 7-2a Hands-On Lab: "Model Volume of Cones," students use a cylindrical object with the top removed to construct a net of a cone. Students use the net as a hands-on manipulative to distinguish between radius and height, while exploring the formula for the volume of a cone, and its relation to the formula for the volume of a cylinder. The materials then ask students to "compare the radius of the cylinder with the radius of the cone. What do you notice?"

Each chapter features a "What Math Language and Strategies Do You Need?" section that provides students with opportunities to develop academic mathematical language. For example, in Chapter 2: "Similarity and Dilations," students engage in a "Use a Web" activity to build their academic vocabulary. In this activity, students identify key information related to triangles and explore how the concepts are connected. Teacher guidance prompts students with questions such as, "How can a web help you study math?"

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

The *Course 3* materials include embedded teacher guidance to scaffold and support students' development and use of academic mathematical vocabulary in context when communicating with peers and educators. For example, in Chapter 8: "Transformations and Congruence," teachers instruct students to work in pairs to compare and contrast translations and reflections. The teacher ensures each partner understands the similarities and differences before they share their responses with the class.

The "What Math Language and Strategies Do You Need?" section at the beginning of each chapter provides teacher guidance to form an instructional routine when introducing new vocabulary terms. For example, Chapter 9: "Scatterplots and Data Analysis" provides an example instructional routine for the

term *scatterplot*. The teacher says *scatterplot* aloud, and students repeat the term. The teacher defines the term as, "a graph that shows the relationship between a data set with two variables graphed as ordered pairs on a coordinate plane." The materials provide an example and a question using the term in context.

5.4c – Materials include embedded teacher guidance to support the application of appropriate mathematical language to include vocabulary, syntax, and discourse to include guidance to support mathematical conversations that provide opportunities for students to hear, refine, and use math language with peers and develop their math language toolkit over time as well as guide teachers to support student responses using exemplar responses to questions and tasks.

The *Course 3* materials include embedded teacher guidance to support the application of appropriate mathematical language to include vocabulary and discourse, to include guidance to support mathematical conversations that provide opportunities for students to hear, refine, and use math language with peers, and develop their math language toolkit over time, as well as guide teachers to support student responses using exemplary responses to questions and tasks.

The "Investigate," "Analyze and Reflect," and "Create" sections provide a variety of instructional approaches with teacher guidance and recommendations to support students in the application of mathematical language, including vocabulary and discourse to support mathematical conversations with peers. For example, in Lesson 4-3a Hands-On Lab: "Relations and Functions," the "Create" section activity instructs teachers to have students think of a real-world situation that is not a function, and complete a mapping diagram that represents the situation, including the domain and range. Then, students share their situation and mapping diagram with a partner, to check to make sure the relation is not a function, and justify their response using the mapping diagram and their own words.

The materials include embedded teacher guidance that supports the application of appropriate mathematical language, including syntax, to engage in mathematical conversations in a variety of ways. For example, the *EB Handbook* uses sentence stems for oral and written language.

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	Materials do not include a description for each unit of how the TEKS process standards are connected throughout the unit.	1/2
5.5d	All criteria for guidance met.	1/1
—	TOTAL	5/6

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

The TEKS process standards are integrated appropriately into the *Course 3* materials. For example, in Lesson 9-2: "Use Trend Lines to Make Predictions," students use a problem-solving model to analyze, plan, solve, justify, and evaluate their solution to a scatter plot that represents the cost per pound of potatoes from years 2000 to 2007. Students must use a trend line to determine the best estimate for the cost of a pound of potatoes in the year 2016.

Each chapter features a "21st Century Career" activity where students apply mathematical thinking to real-world contexts. For example, in Chapter 8: "Transformations and Congruence," the "21st Century Career" activity aligns with Process Standard 8.1A as students explore the role of mathematics in the work of a computer animator. The activity extends beyond the basic transformation and congruency statements by incorporating the instructional strategy "Rally Coach," where students work in pairs while completing exercises and provide feedback and praise to one another.

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

The *Course 3* materials include a description of how the TEKS process standards are incorporated and connected throughout the course. The "Teacher Notes" in the "What is the Mathematical Processes Handbook" section explain that the red circles with "MP" in the middle note when students use the TEKS process standards throughout the eBook. The section also explains that the TEKS process standards "weave the other Texas Essential Knowledge and Skills together so that students may become successful problem solvers and use what they learn in math class efficiently and effectively in daily life."

The "Apply the Mathematical Processes to Every Lesson" section instructs students to use the "Which Mathematical Processes Did You Use?" section at the beginning of each lesson to select which processes they used to solve a particular problem.

The materials include activities and exercises that provide students the opportunity to become familiar with using each TEKS process standard. For example, the activity "Focus on Mathematical Process B: Use

a Problem-Solving Model" focuses on TEKS 8.1B, and lets students practice using a problem-solving model.

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

The *Course 3* materials include a description, for each unit, of how the TEKS process standards are incorporated throughout the unit. For example, Chapter 4: "Functions" indicates that it incorporates TEKS 8.1A, 8.1B, 8.1C, 8.2D, 8.1E, 8.1F, and 8.1G as the TEKS process standards.

The "Scope and Sequence," "TEKS Mathematical Process Standards" section, indicates the TEKS process standards incorporated into the lessons in a chapter. There is also a section, "Focus on Mathematical Processes," that indicates which TEKS process standards and TEKS content standards are incorporated into a lesson focused on mathematical processes in the middle of a chapter.

The materials do not include a description, for each unit, of how the TEKS process standards are connected throughout the unit.

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

The *Course 3* materials include an overview of the TEKS process standards incorporated into each lesson. The "Mathematical Process Standards" section includes a table that indicates which TEKS process standards each practice exercise incorporates throughout the lesson. For example, the table indicates that Lesson 7-3: "Volume of Spheres" incorporates TEKS 8.1A into Exercises 13 and 16–19, with an emphasis on applying math to the real world. The lesson incorporates TEKS 8.1B into Exercises 10–12 and 16–20, with an emphasis on using a problem-solving model.

The "Planning Information" section indicates the TEKS process standards in a lesson and connects them to the learning objective and an essential question. For example, Lesson 4-2: "Relations" includes TEKS 8.1A, 8.1B, and 8.1F to meet the objective, "represent relations using ordered pairs, mappings, tables, and graphs." Integrating the TEKS process standards helps students answer the essential question, "How can we model relationships between quantities?"

6. Productive Struggle

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

6.1 Student Self-Efficacy

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

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

The *Course 3* materials provide opportunities for students to think mathematically, persevere through solving problems, and to make sense of mathematics in the "Multi-Step Problem Solving" exercises in each lesson. For example, in Lesson 9-3: "Descriptive Statistics," students use a problem-solving model to determine how much greater the range is than the interquartile range, when given a box plot that represents the number of books students read during the summer.

The materials include guiding questions and prompts to encourage students to think critically about their next steps and persevere through the problem-solving process. The prompts include, "Circle the information you know," "Underline what the problem is asking you to find," "What will you need to do to solve the problem? Write your plan in steps," and "Use your plan to solve the problem. Show your steps." To justify and make sense of their solution, students answer, "How do you know your solution is accurate?"

Each lesson includes a "Critical and Creative Thinking Problems" exercise. For example, in Lesson 4-4: "Linear Functions," students explain why a continuous linear function has an infinite number of solutions; determine if tables, graphs, or equations show all the solutions of a function; and explain their responses. Students also analyze a line on a graph, name the coordinates of four points that satisfy the linear equation shown, and write the function rule in the form of an equation.

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

The *Course 3* materials support students in understanding, explaining, and justifying that there can be multiple ways to represent and solve problems and complete tasks. For example, in Lesson 5-3b Hands-On Lab: "Verify the Pythagorean Theorem," the activities require students to use models and diagrams to verify the Pythagorean Theorem and its converse.

The "Teacher Notes" for the "Hands-On Lab: Exercises," "Analyze and Reflect" section, provides guidance for teachers to have students work in pairs to complete exercises. Each pair determines if sets of numbers represent a Pythagorean Triple that satisfies the Pythagorean Theorem, and explains their reasoning. At the end of the lab, students explain and justify how to select tools and techniques to verify the Pythagorean Theorem and its converse.

The "Critical and Creative Thinking Problems" section supports students in understanding, explaining, and justifying that there can be multiple ways to represent and solve problems and complete tasks. For example, in Lesson 4-4: "Linear Functions," Exercise 8 requires students to explain why a continuous linear function has an infinite number of solutions; determine which representations, including tables, graphs, or equations, show all the solutions of the function; and explain their reasoning.

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

The *Course 3* materials are designed to require students to make sense of mathematics through multiple opportunities for students to do, write about, and discuss math with peers and teachers. For example, in Lesson 6-3a Virtual Manipulative Lab: "Model Equations with Variables on Each Side," students work with a partner to model and solve equations with variables on both sides of the equal sign using virtual manipulative algebra tiles.

The "Teacher Notes" for the "Analyze and Reflect" section in the same lab provides an activity where students work with a partner to solve equations. One partner solves each equation by removing the 1-tiles first, and the other partner solves each equation by removing the x-tiles first. Students discuss and compare their solutions and processes, and then write a paragraph explaining the steps they used to solve the equations, and why both partners had the same solutions even though they solved using different processes.

The "Scaffolded Support" section of the "Hands-On Labs" explains that the "Hands-On Activities" should be whole group activities with the teacher. In Lesson 3-6a Hands-On Lab: "Proportional and Non-Proportional Relationships," "Hands-On Activity 1," students use a given real-world scenario in which the x and y variables vary directly. Students complete a table, graph the ordered pairs on a coordinate plane, write an equation in $y = mx$ form, determine and interpret the slope and y -intercept, determine and explain if the relationship is proportional, and determine and explain if the relationship is a direct variation.

6.2 Facilitating Productive Struggle

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

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

The *Course 3* materials support teachers in guiding students to share and reflect on their problem-solving approaches, including explanations, arguments, and justifications. Each lesson includes a "Multi-Step Problem Solving" page with the steps "Analyze," "Plan," "Solve," and "Justify and Evaluate." For example, in Lesson 5-4: "Use the Pythagorean Theorem," students use a problem-solving model to practice the Pythagorean Theorem to determine the approximate straight-line distance in miles between Olivia's start point and end point.

The "Teacher Moves" section of the same lesson provides guidance for teachers to have students complete the exercise with peers, ensuring that each student understands each stage of the problem-solving process. Teachers should also ensure that students share, discuss, and reflect upon their process and solution as they work through the problem, and once the problem is completed. In the "Plan" and "Solve" stages of the process, students explain the necessary steps to solve the problem, and then solve it. In the "Justify and Evaluate" stage of the process, students reflect and share their arguments and justifications for how their process ensures their solution is accurate.

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

The *Course 3* materials include prompts and guidance to support teachers in providing explanatory feedback based on student responses and anticipated misconceptions. The "Think About: Common Error" section provides teachers with guidance to anticipate common misconceptions that students may have throughout the exercises, and prompts to address those misconceptions through feedback to students.

For example, Lesson 7-3: "Volume of Spheres" explains that a common misconception is "students may forget to divide the volume by 2 when determining the volume of a hemisphere." To address this misconception, the materials prompt teachers to "remind them that hemisphere means 'half of a sphere' and that they can determine the volume of the whole sphere, then cut it in half."

In the same lesson, "Multi-Step Problem Solving," "Teacher Notes," "Analyze Student Errors: Exercise 16," prompts and guides teachers that *B* is the correct answer for Exercise 16. If students chose *A*, they "chose

the volume of one ball." If students chose C , they "chose the volume of all three balls." If students chose D , they "chose the volume of the entire cylinder."