IMRA Review Cycle 2024 Report

Publisher Name	Program Name
Agile Mind, Inc.	*Texas Mathematics*
Subject	**Grade Level**
Mathematics	6

Texas Essential Knowledge and Skills (TEKS) Coverage: **100%**

English Language Proficiency Standards (ELPS) Coverage: **100%**

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

IMRA Reviewers

Flags for Suitability Noncompliance **0**

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

Flags for Suitability Compliance **0**

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

Alleged Factual Errors **0**

Public Feedback

Flags for Suitability Noncompliance **0**

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

Alleged Factual Errors **0**

Public Comments **0**

Quality Review Summary

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

Strengths

- 1.1 Course-Level Design: Materials include a scope and sequence outlining the TEKS, ELPS, concepts, and knowledge taught in the course, with suggested pacing guides for various instructional calendars, explanations for the rationale of unit order and concept connections, guidance for unit and lesson internalization, and resources to support administrators and instructional coaches in implementing the materials as designed.
- 1.2 Unit-Level Design: Materials include comprehensive unit overviews that provide background content knowledge and academic vocabulary necessary for effective teaching, and contain supports for families in both Spanish and English with suggestions for supporting their student's progress.
- 1.3 Lesson-Level Design: Materials include comprehensive, structured lesson plans with daily objectives, questions, tasks, materials, and instructional assessments required to meet the content and language standards. They also provide a lesson overview outlining the suggested timing for each component, a list of necessary teacher and student materials, and guidance on the effective use of lesson materials for extended practice, such as homework, extension, and enrichment.
- 2.1 Instructional Assessments: Materials include a variety of instructional assessments at the unit and lesson levels, including diagnostic, formative, and summative assessments with varied tasks and questions, along with definitions and purposes, teacher guidance for consistent administration, alignment to TEKS and objectives, and standards-aligned items at different levels of complexity.
- 2.2 Data Analysis and Progress Monitoring: Materials include instructional assessments and scoring information that provide guidance for interpreting and responding to student performance, offer guidance on using tasks and activities to address student performance trends, and include tools for students to track their own progress and growth.

- 3.1 Differentiation and Scaffolds: Materials include teacher guidance for differentiated instruction, activities, and scaffolded lessons for students who have not yet reached proficiency, pre-teaching or embedded supports for unfamiliar vocabulary and references in text, and guidance for differentiated instruction, enrichment, and extension activities for students who have demonstrated proficiency in grade-level content and skills.
- 3.2 Instructional Methods: Materials include prompts and guidance to support teachers in modeling, explaining, and directly and explicitly communicating concepts to be learned. They provide teacher guidance and recommendations for effective lesson delivery using various instructional approaches, and support multiple types of practice with guidance on recommended structures, such as whole group, small group, and individual settings, to ensure effective implementation.
- 3.3 Support for Emergent Bilingual Students: Materials provide guidance for teachers in bilingual/ESL programs, support academic vocabulary and comprehension, and include resources for metalinguistic transfer in dual language immersion programs.
- 4.1 Depth of Key Concepts: Materials provide practice opportunities and instructional assessments that require students to demonstrate depth of understanding aligned to the TEKS, with questions and tasks that progressively increase in rigor and complexity, leading to grade-level proficiency in mathematics standards.
- 4.2 Coherence of Key Concepts: Materials demonstrate coherence across courses and grade bands through a logically sequenced scope and sequence, explicitly connecting patterns, big ideas, and relationships between mathematical concepts, linking content and language across grade levels, and connecting students' prior knowledge to new mathematical knowledge and skills.
- 4.3 Spaced and Interleaved Practice: Materials provide spaced retrieval and interleaved practice opportunities with previously learned skills and concepts across lessons and units.
- 5.1 Development of Conceptual Understanding: Materials include questions and tasks that require students to interpret, analyze, and evaluate various models for mathematical concepts, create models to represent mathematical situations, and apply conceptual understanding to new problem situations and contexts.
- 5.2 Development of Fluency: Materials provide tasks designed to build student automaticity and fluency for grade-level tasks, offer opportunities to practice efficient and accurate mathematical procedures, evaluate procedures for efficiency and accuracy, and include embedded supports for teachers to guide students toward more efficient approaches.
- 5.3 Balance of Conceptual Understanding and Procedural Fluency: Materials explicitly state how the conceptual and

procedural emphasis of the TEKS are addressed, include questions and tasks that use concrete models, pictorial representations, and abstract representations, and provide supports for students in connecting and explaining these models to abstract concepts.

- 5.4 Development of Academic Mathematical Language: Materials provide opportunities for students to develop academic mathematical language using visuals, manipulatives, and language strategies, with embedded teacher guidance on scaffolding vocabulary, syntax, and discourse, and supporting mathematical conversations to refine and use math language.
- 5.5 Process Standards Connections: Materials integrate process standards appropriately, providing descriptions of how they are incorporated and connected throughout the course, within each unit, and in each lesson.
- 6.1 Student Self-Efficacy: Materials provide opportunities for students to think mathematically, persevere through problem-solving, and make sense of mathematics, while supporting them in understanding multiple ways to solve problems and requiring them to engage with math through doing, writing, and discussion.
- 6.2 Facilitating Productive Struggle: Materials support teachers in guiding students to share and reflect on their problem-solving approaches, offering prompts and guidance for providing explanatory feedback based on student responses and anticipated misconceptions.

Challenges

- No challenges in this material

Summary

Texas Mathematics is a grade 6 program that is aligned to the Texas Essential Knowledge and Skills (TEKS) and the English Language Proficiency Standards (ELPS). The instructional materials provide a detailed scope and sequence, a year-at-a-glance with pacing guides for various instructional days, a lesson alignment guide connecting each lesson to the appropriate TEKS, and a corequisite support guide connecting to possible intervention lessons. Each topic includes detailed lessons and guidance for teachers and digital activities for students to discover the concepts and practice for students to apply their learning. Topic and lesson vocabulary are linked to the glossary; definitions in English and Spanish are provided, along with visual examples. Tasks are embedded within the lessons to extend and solidify student learning and understanding. Each topic concludes with a topic assessment, which includes a variety of interactive question types, such as multiple choice, drag and drop, and inline choice. The program includes professional support essays for teachers and instructional leaders to help teachers utilize the material to support all students. Additionally, the program includes a family support website with videos to guide families in accessing the resources available to help students learn at home.

Campus and district instructional leaders should consider the following:

- The product includes resources for helping students learn how to track and monitor their growth through the use of Specific, Measurable, Achievable, Relevant, and Time-Bound (SMART) goals and whole-class review of most-missed questions for assessments.
- The product includes assessments designed for each topic, including sample formative and summative assessments and interim assessments covering various topics for each grade level. Teachers can use the questions provided in the product to create their own assessments.

Intentional Instructional Design

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

The materials include a scope and sequence outlining the TEKS, ELPS, concepts, and knowledge taught in the course. Materials include suggested pacing to support effective implementation for various instructional calendars. Materials include an explanation for the rationale of unit order as well as how concepts to be learned connect throughout the course. Materials include guidance and protocols for unit and lesson internalization. Materials include templates for unit and lesson internalization. Materials include resources and guidance to support administrators and instructional coaches with implementing the materials as designed.

Evidence includes, but is not limited to:

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

- The materials in the "Professional Support" Sidebar under the "Course Planning and Pacing" dropdown menu include a comprehensive grade 6 *Scope and Sequence Guide*, detailing the progression of math concepts and knowledge taught throughout the academic year. The guide divides eight units into topics, each including a description of the topic. For example, the document under "Topic 1" outlines, "This topic reinforces the use of operations with whole numbers and moves students to fluency with the division algorithm."
- Each topic integrates the English Language Proficiency Standards (ELPS), corequisite Texas Essential Knowledge and Skills (TEKS), and indicates which TEKS are foundational for future work. For example, it shows that "Topic 1" will incorporate TEKS 6.2 and 6.7 and ELPS 1.A, 2.C, 3.E, 3.F, 3.H, 4.D, 4.F, and 4.G. The course structure includes the concepts and knowledge that students will learn throughout the course. For example, it states, "Students will build fluency with the division algorithm and apply common factors and multiples in various contexts." The material also extends the order of operations to include exponents, and it emphasizes generating equivalent numerical expressions as foundational for understanding algebraic expressions later in the course.

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

- The materials in the grade 6 *Scope and Sequence Guide* state, "These course materials are designed to support 138–146 lessons (1 lesson equals 45 minutes)."
- The materials in the "Professional Support" Sidebar within the "Course Planning and Pacing" dropdown menu include a grade 6 year-at-a-glance document. The material includes three varying timelines for instruction: 138–146 days, 165 days, and 180 days. The materials include suggested lesson pacing to support effective implementation of the TEKS and course requirements. The various timelines allow flexibility in adjusting the time allocated to specific units.
- The pacing guides for each of the various days of instruction include suggested pacing for each unit and each topic within the unit. For example, in the pacing guide for 138–146 days of instruction, there is a range of 18–22 days for "Unit 1" and a range of 6–10 days suggested for "Topic 1." The materials include suggested pacing with the TEKS and ELPS.

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

- The materials under the "Professional Support" Sidebar in the "Course Planning and Pacing" dropdown menu include the *Texas Mathematics 6 Course Rationale*. It states the grade 6 course "was designed to transition students from additive reasoning in elementary school mathematics to multiplicative and proportional reasoning, the foundations of middle mathematics." These explanations detail the sequencing of lessons to establish foundational skills before advancing to more complex ones.
- The "Prepare Instruction" Resource outlines what each unit will cover and how the lessons are connected. For example, it states, "Students are not expected to have mastered this skill by the end of this topic, as they will continue to build on and demonstrate fluency with the standard algorithm in future topics."
- The topic materials begin with "About this topic" to explain the unit as a whole. For example, "The topic *Operations with whole numbers* provides many opportunities for students to solidify their understanding of concepts from earlier grades such as whole-number operations, and to develop their numerical fluency." This resource explains how concepts learned will connect throughout the course and to prior learning.

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

- The material in the "Professional Support" Sidebar includes "Getting Started," which contains the resource "Lesson Planning and Practice." It includes strategies for teachers to internalize the lesson plan and unit plan. For example, it states, "Practice the planning and facilitation

process for a block of instruction from a course that you teach." The material allows teachers to explore and master the content they will teach.

- Each unit is populated in the "Topic Content" Sidebar. The "Prepare Instruction" Resource for each topic includes guidance to help teachers internalize the materials for the whole topic, including language support and support for teaching special populations. For example, in "Language Support," "Topic 1" states, "Utilize pairing strategies such as think-pair-share and echo repeat, pairing English language learners (ELL) students with native speakers of English at times, as well as sometimes pairing students who speak common languages. Encourage ELL students to help you make vocabulary connections in their own language as well...all students should keep a vocabulary notebook. Using pictorial and concrete representations to reinforce the meaning of new terms as you introduce them enhances mathematics vocabulary acquisition." The example, instructional methods that move students gradually and deliberately from a concrete stage to a representational stage before moving to the abstract stage of symbolic representation—often referred to as the CRA teaching sequence—"are particularly important for students with certain learning differences" is included as specific strategies for teachers within the unit to help teach special populations of students.
- Each topic is divided into individual lessons, including a description of the learning objectives and standards. The "Deliver Instruction" Tab under each lesson includes teacher guidance on using all resources effectively, including text, embedded technology, enrichment activities, research-based instructional strategies, and supports to enhance student learning. For example, in "Topic 1, Lesson 1" the "Deliver Instruction" Resource states, "Show page 2 tell students that these images represent mathematical explorations they will encounter in this course and in future math courses. For each image, ask students to think about how the scenario in the image might represent a mathematical problem." The material also lists specific questions for teachers to ask students.

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

- The "Leadership Guide to Success" Resource included in the "Professional Support Overview" Tab provides a checklist, timeline, and key milestones for leaders for successful implementation. It also includes a classroom observation guide to rate a variety of implementation indicators with the teacher's level of use. The classroom observation guide includes four categories with indicators under each. The administrator and/or instructional coach can use the guide to offer feedback to the teacher. The "Structures for Successful Implementation: A Checklist for Leaders" Section states, "The following are some critical elements of a successful implementation. Use this chart to develop plans and monitor progress for each structure or strategy within your school or district." Administrators can utilize the checklist while observing a teacher's classroom to ensure the materials are being implemented as designed.
- The "Professional Support" Sidebar within the "Professional Support Overview" includes information about live lessons, stating, "In addition to the supports in our system, we offer ongoing professional learning opportunities to teachers and leaders to assist you in making best use of our programs." The description for coaches and instructional leaders states,

"These sessions explore how education leaders can make the most of their implementation and equip leaders with tools and guidance to support their teachers."

Intentional Instructional Design

1.2	Unit-Level Design	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.	**2/2**
1.2b	Materials contain supports for families in both Spanish and English for each unit with suggestions on supporting the progress of their student.	**2/2**

The materials include comprehensive unit overviews that provide the background content knowledge and academic vocabulary necessary to effectively teach the concepts in the unit. Materials contain supports for families in both Spanish and English for each unit with suggestions on supporting the progress of their student.

Evidence includes, but is not limited to:

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

- At the start of each topic, the "Prepare Instruction" material offers a detailed overview that includes the essential content knowledge needed to teach the concepts in the unit effectively. The opening sentence for "Grade 6, Topic 1" states, "*Operations with whole numbers* provides many opportunities for students to solidify their understanding of concepts from earlier grades such as whole-number operations, and to develop their numerical fluency...students are not expected to have mastered this skill by the end of this topic, as they will continue to build on and demonstrate fluency with the standard algorithm in future topics."
- The "Prepare Instruction" material includes prerequisite skills that provide the background knowledge for each topic. For example, the following prerequisite skills are listed for "Topic 12:" applying unit conversions for length, applying area calculations for rectangles, applying perimeter calculations for rectangles, having familiarity with square units for area, having familiarity with cubic units for volume, and understanding attributes of 2-dimensional shapes and 3-dimensional shapes.
- The "Language Support" Section in the "Prepare Instruction" material for grade 6 outlines the specific language and academic vocabulary necessary for teachers to use. For example, "Topic 15" states, "All students should become proficient in using the core vocabulary of debit, credit, transfer, check register, financial aid, tuition, and salary." It provides reinforced vocabulary words and collateral, or non-academic, vocabulary as needed. The material explains in "Topic 1," for example, "Some students may need additional support with collateral vocabulary such as *promoting*, *streamers*, *region*, *florist*, and *DJ*."
- A "Vocabulary" Section exists in each "Topic Content" Sidebar, listing the vocabulary words used in the lesson. Each word is linked to the "Glossary," where a definition and a pictorial representation or example are provided. For example, in "Topic 1, Operations with Whole Numbers," when *prime* is clicked on, the platform moves to the definition in the "Glossary"

which states, "A prime number is a number greater than 1 that has exactly two factors, 1 and itself. 2, 7, and 17 are examples of prime numbers."

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

- The "Course Materials" Sidebar includes a "Support for Families" tab. The link provided takes families to the *Support for Students and Families* website. The site includes instructional videos for using the online dashboard. The caption for the "Introduction for Students and Families" video states, "This brief video provides an introduction to the material programs and tools, and how these resources are used to support students' learning." It also provides a video instructing families how to access reports to track student progress. The caption states, "This brief video provides guidance for engaging with Assignments and Quizzes, and using their associated reports to monitor progress."
- The *Quick Start Guide for Texas Families* is available in both English and Spanish and contains support for families to use with the online materials. It states, "This guide will help you navigate key course components and resources available to you and your child...you and your child can access the online materials outside of class on any computer or tablet connected to the Internet." The materials provide directions for locating materials, such as, "Selecting a course directs you into "Course Topics" where you can view the course syllabus." The guide provides step-by-step instructions for families on accessing and assisting with their student's progress.

Intentional Instructional Design

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

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

Evidence includes, but is not limited to:

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

- The *Scope and Sequence Guide* includes how objectives in the lesson are aligned to the Texas Essential Knowledge and Skills (TEKS) and the English Language Proficiency Standards (ELPS). In grade 6, for example, Unit 2 lists TEKS 6.3 and 6.7 and ELPS 1.F, 2.D, 2.F, and 3.G as standards addressed in the lessons.
- In the "Deliver Instruction" Section, the material includes a comprehensive outline of instructional activities needed for each lesson. The lesson plans include objectives, questions, and tasks that balance conceptual understanding, procedural skill fluency, and real-world application. For example, the objectives for "Topic 3, Lesson 1" state "Describe how a ratio shows the relationship between quantities, using ratio language and the following notations: a/b, a to b, and a:b. Interpret, model, and use ratios to show the relative sizes of two quantities."
- Each lesson is given an overall time frame, and each piece of the lesson is given a time frame. Each lesson starts with "Opening and Framing Questions," such as this example in "Unit 1, Lesson 1:" "What are some ways that you use mathematics in your daily life?" The "Lesson Activities" Section has teacher notes, support for English Language Learners (ELL) and other special populations, guiding questions, technology tips, classroom strategies, and/or differentiation applicable to the individual activity. For example, in "Topic 1, Lesson 1,"

"Lesson Activities," questions include, "Maria and Brad record some of the costs as they are shopping for the party. Round each price to the nearest dollar and calculate the estimated price. Are the estimates reasonable?" Students will practice skills aligned with the content and language standards. The lesson is closed with "Further24Questions" such as this example from "Topic 1, Lesson 1," "What is a rounding situation where it makes sense to overestimate? What is a rounding situation where it makes sense to underestimate?" There are "Suggested Assignments" for students. For example, "Topic 1, Lesson 1" includes the suggested assignments "Student Activity Sheet," questions 4a–d and 5a–d, and "Practice, pages 2–6."

- The material includes specific classroom strategies to support language utilization and development in alignment with ELPS standards for each lesson or topic. For example, "Topic 3, Lesson 1" states, "When students are creating their own comparison statements, provide sentence frames such as, 'Mark's distance...because he travels...compared to Jackie's....' Sentence frames like these help students with learning differences organize their thinking."
- The assessments in the grade 6 materials under the "Test Designs" Section are aligned with each lesson's content standards. For example, "Topic 7 Sample Diagnostic" states, "To evaluate the expression, what should be done first?" It also includes an expression and answer choices for students. This assessment outlines the content and knowledge required of students so teachers can gauge student performance.

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

- The S*cope and Sequence Guide* includes suggested lesson pacing to support effective implementation of TEKS and course requirements. For example, the materials state, "These course materials are designed to support 138–146 lessons (1 lesson equals 45 minutes)."
- Each lesson in the grade 6 materials has an overview with a suggested overall time frame and time frames for each piece of the lesson under "Deliver Instruction." For example, in "Topic 1, Lesson 2," five minutes are allotted for opening and framing questions, thirty-five minutes for lesson activities, and five minutes for further questions.

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

- The Scope and Sequence Guide includes suggested lesson pacing to support effective implementation of TEKS and course requirements. For example, the materials state, "These course materials are designed to support 138–146 lessons (1 lesson equals 45 minutes)."
- Each lesson in the grade 6 materials has an overview with a suggested overall time frame and time frames for each piece of the lesson under "Deliver Instruction." For example, in "Topic 1, Lesson 2," five minutes are allotted for opening and framing questions, thirty-five minutes for lesson activities, and five minutes for further questions.

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

- Included in the "Deliver Instruction" materials for each lesson, under "Further Questions," there are questions for teachers to ask that provide opportunities for students to extend their learning. For example, "Topic 1, Lesson 4" states, "Where have you ever seen an exponent used? What do you think an exponent of 1 means? For example, 3^1? [$3^1 = 3$]"
- The "Deliver Instruction" materials at the end of each lesson include suggested assignments. Some lessons include extension activities. For example, in "Topic 1, Lesson 3" the suggested assignments include "Student Activity Sheet," questions 6, 7, and 8a–d, and "Constructed Response 1." The constructed response allows students to work individually and demonstrate and apply their knowledge.
- In the "Course Materials" Sidebar under "Course Topics," the materials include the units for the course and a set of appendices that support foundational knowledge and skills from prior grades. In grade 6, for example, the appendices include *Key Learning from Earlier Grades*, *Solidifying Your Skills with Whole Numbers*, and *Solidifying Your Skills with Fractions and Decimals*. Each appendix includes an overview of the topic, lessons, topic summary, practice, assessment, activity sheets, and advice for instruction. The *Solidify Your Skills with Whole Numbers* appendix includes an educational online activity with interactive experiences to extend and enrich lesson or unit objectives. The material states, "An important skill you need in your math class—and in life—is your ability to add and subtract whole numbers. In the next series of activities, you will give your brain a workout as you apply that skill. There are 36 cards in a stack marked with the numbers 1 through 9. There are 4 of each card. Click on the stack of cards to deal the cards and start the game."

Progress Monitoring

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

The materials include a variety of instructional assessments at the unit and lesson level that vary in types of tasks and questions. Materials include the definition and intended purpose for the types of instructional assessments included. The materials include teacher guidance to ensure consistent and accurate administration of instructional assessments. Materials include diagnostic, formative, and summative assessments aligned to the TEKS and objectives of the course, unit, or lesson. Materials provide instructional assessments that include standards-aligned items at varying levels of complexity.

Evidence includes, but is not limited to:

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

- In *Approach to Assessment*, the materials outline the different types of assessments included within the instructional materials at the unit and lesson level. For example, it states that the material "includes many ways to utilize assessment as a critical tool to inform and drive instruction with classes of students on a daily, weekly, or longer basis. This guide defines, describes, and provides guidance for three main assessment types and the ways they are utilized within the courses and 'Assessment': diagnostic, formative, and summative."
- The "Items and Answers" material under *Assessment* provides varying assessment questions and tasks. The questions and tasks can be sorted by question type, depth of knowledge (DOK), and reading level. Questions can be pulled by topic or by Texas Essential Knowledge and Skills (TEKS). Each question has a standard and/or topic alignment across multiple grade levels as applicable. There are explanations for distractors if they are used in the answer choices. The question includes a solution with an explanation and how the answer was obtained. For example, in Item 04043 for grade 6, the solution explanation states, "If estimated correctly during the year, the taxpayer will owe $0 at the end of the year. Smith's tax bill was the closest

to $0 (|−1375| = 1375). The other taxpayers overpaid or underpaid by more than $1375. Soya's tax bill, a refund of $1388, was the farthest from $0."

- The "Test Designs" material under *Assessment* offers sample-created and teacher-created diagnostic and summative assessments. Teachers can access the alignment document for the assessment by clicking the three dots on the right side, next to the number of pages. The alignment document provides information on the topics addressed in the assessment and the TEKS, student expectations, and the number of questions. The alignment shows the question number, the percentage of the score, item type, cognitive complexity, reading level, topics, and standards or TEKS. For example, "Mathematics 6 Topics 6-7 Sample Summative Assessment (course-based)" shows that the seventeen items on the assessment are each worth 6% of the score, have a cognitive complexity of DOK 1 or DOK 2, are at a reading level ranging from 2.4 to 12, and are aligned to grade 6 TEKS.
- The materials include a variety of instructional assessments at the lesson level, with varying questions and tasks. For example, for grade 6 in "Topic 3, Lesson 6" there are examples of formative diagnostic assessments, such as, "Page 2 Use the page to engage students in creating and interpreting double number lines for a different ratio situation. Using panel 1, introduce the smoothie scenario and have students make their own double number lines. Have rulers available. [Student Activity Sheet (SAS), question 1] Use panels 2-3 to help students check their work and further clarify the process. Have students check with a partner to confirm that their double number lines are correct before attempting to answer the questions in the end captions of each panel. [SAS, questions 2-3] Take time to discuss the question in the panel 3 end caption." The materials include formative checks within lesson activities. For example, under "Topic 3, Lesson 8," there is a ratio table for students to solve the missing pieces and then self-check their answers. The materials include topic assessments, such as "Topic 1, Lesson 10: Topic Quiz" which states, "This lesson is intended for a topic-level assessment." The assessment includes questions in various formats including multiple-choice, drag-and-drop, fill-in-the-blank, multiple-selection, and text entry.

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

- In *Approach to Assessment*, the materials outline the different types of assessments included within the instructional materials at the topic and lesson level. For example, it states, "The materials include many ways to utilize assessment as a critical tool to inform and drive instruction with classes of students on a daily, weekly, or longer basis. This guide defines, describes, and provides guidance for three main assessment types and the ways they are utilized within the courses and ‘Assessment’: diagnostic, formative, and summative."
- The *Approach to Assessment* materials outline the definitions and purposes of each assessment. For diagnostic assessment, it states, "Diagnostic assessments are short assessments of students’ knowledge and skills, given prior to instruction. They are intended to provide evidence of students’ strengths and potential knowledge gaps in skills required to understand upcoming content." For formative assessment, it states, "The purpose of formative assessment is to elicit evidence that helps students and teachers identify strengths, misconceptions, and errors, and monitor progress toward identified success criteria, all to

move student learning forward through modifying instructional decisions and student solution methods." For summative assessments, it states, "Summative assessments are a snapshot of retained learning and skills at the end of a period of time."

- Resources for "Getting Started," including practice and assessments, are in the "Professional Support" Sidebar. A National Council of Teachers of Mathematics (NCTM) research brief entitled *What Does Research Say the Benefits of Formative Assessments Are?* is included. The article explains, "Assessment for learning is any assessment for which the first priority in its design and practice is to serve the purpose of promoting pupils' learning." The article refers to three different types of formative assessments: short-cycle (within and between lessons), medium-cycle (within and between instructional units), and long-cycle (across quarters, semesters, or years). The article suggests that for formative assessments to benefit student learning, they need to consider three processes: establish where they are in their learning, where they are going, and how to get there. The teacher is the facilitator and provider of feedback. The peer and the learner activate students as instructional resources and owners of their learning.
- The *Approach to Assessment* material features a range of assessment tools designed to measure comprehension of mathematical concepts and skills, including interim assessments. The material states that "users have access to long-cycle formative assessment in the form of interim assessment blueprints in the Professional Support area of each course. Content experts created each blueprint, which covers 2–4 topics of content and standards. These long-cycle formative assessments are meant to inform instruction and not to be evaluative."
- The *Approach to Assessment* material provides specific examples through screenshots of the assessments and their utilization within the instructional materials so teachers have clear guidance. The material includes teacher considerations. For example, the material states, "These question prompts embedded in a lesson can be used by the teacher to promote student discourse and formatively assess understanding in the moment. They are supported by Check buttons that reveal a full response modeling correct usage of academic vocabulary and application of the lesson's learning objectives."

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

- In *Approach to Assessment,* the material outlines guidance to ensure consistent and accurate administration of the assessments. For example, it states, "This guide defines, describes, and provides guidance for three main assessment types and the ways they are utilized within the courses and 'Assessment': diagnostic, formative, and summative...teachers should standardize administration across their classes while being careful to ensure students are given the appropriate modifications and scaffolds, as needed." This provides standard and consistent guidance to teachers.
- The grade 6 "Deliver Instruction" Section of each lesson includes teacher guidance to ensure consistent and accurate administration of instructional assessments. For example, in "Topic 12, Lesson 3" there is guidance for "MARS Task: Flag" including questions to probe for deeper student thinking such as, "What do you notice about the areas of the different regions in this

flag? What do you estimate is the percent of the flag taken up by the small rectangle? What do you estimate is the percent of the flag taken up by the dark stripes? Why isn't the percent of the flag covered by dark stripes equal to the percent of the flag covered by white stripes?" There are opening and framing questions for the first five minutes of the 45-minute lesson. Students have thirty-five minutes to complete the task. The students start the task individually and then are allowed to pair up. Throughout the lesson, there are mathematical processes and practice notes for the teacher. The material suggests norms for the expectations of written and verbal explanations. It provides the link to a rubric to accurately and consistently score the activity and provide feedback to students. For example, the rubric states, "The following scoring rubric was developed specifically for this task and can be used to evaluate your students' work."

- For "Constructed Responses" tasks in grade 6, teachers are guided on how to direct students to show their understanding through constructed responses. For example, for "Constructed Response 4" in "Topic 4, Lesson 11," the "Deliver Instruction" Section states, "Have students work individually for 10–12 minutes before having them work together with a partner to compare strategies and answers. After students have had sufficient time to engage individually with the task, ask them to pair up with a classmate and share their strategies and their answers. Remind students that they will need to include their written explanations in their final work product. Also tell students that they should be prepared to share their strategies with the rest of the class." This provides teachers an overview of how to ensure students are consistently experiencing the assessment.
- The "Practice and Assessment" material in the "Professional Support" Sidebar under "Getting Started" provides video clips outlining the framework for formative assessment from NCTM and how the material's comprehensive tools support assessment for learning. The videos include instructions on scheduling assignments, assignment reports, scheduling quizzes, and score and review tools in the materials.

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

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

- The *Assessment* material "Items and Answers" offers a variety of assessment questions that can be sorted by question type, DOK, and reading level. The DOK levels available for sorting encompass four tiers. The items bank includes technology-enhanced items such as inline choice, hot spot, and multi-select, providing instructional assessments that incorporate standards-aligned items across different levels of complexity. For example, in grade 6, by selecting TEKS 6.02.D fifteen questions populate and range from DOK 1 to DOK 3. The items include multiple choice, drag-and-drop, multiple selection, and fill-in-the-blank item types.
- The *Assessment* material "Test Designs" offers sample-created and teacher-created diagnostic and summative assessments. Teachers can access the alignment document for the assessment by clicking the three dots on the right side, next to the number of pages. The alignment document provides information on the topics addressed in the assessment and the TEKS, student expectations, and the number of questions. The table within the alignment shows the question number, the percent of the score, item type, cognitive complexity (DOK), reading levels, topics, and TEKS for each problem in the assessment. For example, in "Mathematics 6 Topics 6-7 Sample Summative Assessment (course-based)," page 2 refers to the second problem in the assessment and includes Item ID 06146, explains that the problem represents 6% of the score, is a drag-and-drop item at a DOK 1 and 6.4 reading level, and is addressed in "Topic 6" with TEKS 6.02.A.

- Within the topic lessons, various assessments provide different levels of complex questions. For example, "Topic 4, Lesson 11" offers students an opportunity to engage in standards-aligned items at varying levels of complexity in the "Constructed Response 4" task. For example, there are questions such as, "a. What percent of the original number of plush toys were remaining in the machine when the arcade closed?" that begin the task and then lead to more complex questions like "c. The game was played 1,280 times that day. What percent of the plays resulted in winning a plush toy? What does your answer tell you about how often someone wins when playing that claw machine at the arcade?"

Progress Monitoring

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

The instructional assessments include standards-aligned items at varying levels of complexity. Materials provide guidance for the use of included tasks and activities to respond to student trends in performance on assessments. Materials include tools for students to track their own progress and growth.

Evidence includes, but is not limited to:

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

- The "Professional Support" Sidebar includes the "Professional Learning" Section with the material "Practice and Assessments." The "Practice and Assessments" learning resource includes guidance for teachers on interpreting and responding to student performance. In the video resource "Reports and Score and Review," the facilitator shares how to interpret the results of student performance and address the data by explaining how to see what questions a student answers correctly or incorrectly, how many attempts the student took on each question, and how to read the overall average by question for the class. After the assessment, teachers can run a report to see the answers students selected for each question.
- The "Professional Support" Sidebar includes "Interim Assessments." Each assessment contains a blueprint that helps the teacher understand each question's aligned standards, outlining the specific skills for each assessment question. "Interim Assessment 1" states, "This blueprint was developed...to help teachers assess their students' progress toward mastery of the content addressed in the topics listed." The blueprint includes each problem's item ID, item type, cognitive complexity, reading level, standards, and course topic.
- *Approach to Assessment* includes information on how to read a "Standards Results" report. For example, it states, "Figure 10. This is an example of a Standards Results report in Assessment. This report can be used to determine performance by standard and connect students' strengths and weaknesses to opportunities to reinforce knowledge and skills in upcoming lessons." The guide includes screenshots from the teacher dashboard. It provides definitions for the types of instructional assessments and when they should be utilized. The material includes teacher considerations. For example, "Teachers utilize the identified strengths to connect to the content of the topic and plan for corequisite support for identified

gaps." The guide shows how to organize data by standards or topics to help teachers interpret student performance.

- The *TX Mathematics 6 Corequisite Support Guide* offers direction on understanding and addressing student performance within an individual lesson. It states, "Teachers should use formative assessments to decide whether or not students need the additional corequisite support. Some ideas for formative assessments are given in the guidance below." For example, "Topic 3, Lesson 9" states, "If necessary, consider using one or both of the corequisite support tasks provided at the end of this document: 'Hide-and-seek in the coordinate plane' and 'The coordinate plane with geoboards.'"

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

- The *Approach to Assessment* material states, "Short and medium-cycle formative assessments are intended to assess students' progress against relevant standards and to make informed instructional decisions while the learning is still occurring when adjustments can make the most difference," for long-cycle formative assessments "teachers and students can identify strengths to utilize in upcoming topics and make a plan for repair where it makes sense," and for diagnostic assessments "teachers utilize the identified strengths to connect to the content of the topic and plan for corequisite support for identified gaps." For example, the material suggests for the teacher to "use the results of the standards-based diagnostic assessment to identify corequisite support needs" and "have students fill out a process paper during the assessment to provide additional evidence to identify strengths and inform needed support."
- In the *TX Mathematics 6 Corequisite Support Guide*, the materials provide guidance and activities for teachers to respond to trends in data. For example, it states, "Teachers should use formative assessments to decide whether or not students need the additional corequisite support." The material provides two corequisite tasks for two topics found in the grade 6 instructional materials. For example, in "Topic 12, Lesson 8," the guide explains, "If you find that activity particularly challenging for students, you may need to spend extra time on the animation on Lesson 8. If you feel more support is necessary, consider using one or both of the corequisite support tasks provided at the end of this document: 'Comparing volumes' and 'Designing prisms.' These tasks give students opportunities to explore volumes of prisms with physical blocks of different sizes, including centimeter cubes." Each support task includes directions and questioning. The questioning helps teachers with probing questions and identifying things to look and listen for during the task. For example, the "Comparing Volumes" task encourages the teacher to listen for students to "use mathematical language to report capacity," "explain the reasonableness of his or her solution," and to look for students choosing "an appropriate block to be an approximate standard."
- In the lessons for each unit, the "Deliver Instruction" and "Lesson Activities" Sections provide guidance for the lesson's activities, tasks, and assessments. For example, "Unit 2, Lesson 6" includes a "Teacher Note" Section that states, "Depending on their prior experiences, some students may have a difficult time with division of fractions. Use examples with whole numbers to show how dividing is related to the number of groups of equal size." The guidance

includes methods for teachers to address trends in student performance on assessments. The materials guide teachers in responding to student performance throughout each lesson activity. For example, in "Topic 3, Lesson 8" teachers are given a "Classroom Strategy" that states, "If students struggle finding the entries in the table, encourage them to create a double number line diagram to help them reason about the quantities. If students are not sure of an entry, encourage them to compare the quantity given to another quantity in the same column and think about how they are related by multiplication or division, then use that information to find the missing quantity." The material includes suggested guiding questions such as, "How are 7 and 35 related?"

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

- In the "Classroom Routines" material under "Assessment Processing Routine," students can reflect on their progress and growth on assessments. For example, it states, "The following process will help you identify the mathematical ideas and skills your learning community understands well and can use effectively. It will also identify those ideas and skills that require additional attention." This processing time allows students to understand their current performance and how they can use their learned knowledge in the future.
- In the "Classroom Routines" material under "SMART Goals," students learn about SMART goals. It states, "Remember that setting specific goals is a strategy that can help you gain motivation and keep it. And your goals aren't set in stone. You can monitor and adjust them when you think it would be effective." The material includes an overview of goal setting, stating, "Play the animation to review the qualities of an effective goal." The animation explains the components of a SMART goal and has students practice identifying and setting their own goals.
- The materials include tools for students to monitor their progress at home. The "Support for Students and Families" Website includes a brief video that "provides guidance for engaging with Assignments and Quizzes, and using their associated reports to monitor progress." The "Quick Start Guide for Families" includes instructions and screenshots for students and parents to access reports that "provide time spent and performance on assignments, quizzes, and tests" the teacher has created.

Supports for All Learners

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

The materials include teacher guidance for differentiated instruction, activities, and/or paired lessons for students who have not yet reached proficiency on grade-level content and skills. Materials include pre-teaching or embedded supports for unfamiliar vocabulary and references in text. Materials include teacher guidance for differentiated instruction, enrichment, and extension activities for students who have demonstrated proficiency in grade-level content and skills.

Evidence includes, but is not limited to:

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

- The "Professional Support" sidebar includes "Essays on Content, Pedagogy, and Practice." The "Differentiated Instruction for Student Success" essay includes guidance on teaching students who have not yet reached proficiency on grade-level content and skills. Differentiation can occur through the content, the process through which students learn the content, the products students use to demonstrate their learning of the content, and the learning environment. For example, it states, "The 'Deliver instruction' provides guidance on the use of a variety of instructional strategies for processing the content." This guidance outlines activity supports within and beyond the lesson for differentiation, such as using manipulatives, visuals, and turn-and-talks with a partner.
- The "Differentiated Instruction for Student Success" essay states, "Another way to differentiate by depth is through corequisite supports for grade-level content." The grade 6 *Corequisite Support Guide* includes supports to provide "'just-in-time' instruction to accelerate necessary learning from prior grades." The materials include corequisite supports for two topics. The supports include suggestions about a formative assessment and two tasks to be completed as needed. Each task includes directions and questioning. For example, for students struggling with "Topic 6, Lesson 9," the guide provides two tasks to help students build a foundational understanding of graphing on the coordinate plane. It explains how to use the lesson animation as a formative assessment to determine if the supporting tasks are needed to support students who are not proficient in the content. The tasks provide teachers with questions to ask students and guidance on what to listen and look for during the task.

- The "Course Materials" sidebar includes "Course Topics" for the entire course. It provides appendices as supplemental topics, including "Key Learning from Earlier Grades," "Solidifying Your Skills with Whole Numbers," and "Solidifying Your Skills with Fractions and Decimals." For example, the "Key Learning from Earlier Grades" appendix states, "The following topics can be used for differentiated practice and review of key skills taught in earlier grades." The appendix focuses on strengthening skills in computations with whole numbers, representations of fractions and decimals, foundations of computations with fractions, and computations with decimals. The "Prepare for Instruction" page includes differentiated student activity sheets and suggested assignments and assessments for teachers to assign based on students' needs.
- The material includes differentiation strategies within lessons to support teachers with their instruction. For example, "Topic 2, Lesson 2"states, "Use pages from this topic for students who need additional practice with multiplying or dividing. Students can work on this in differentiated small groups or individually." This outlines the specific scaffolds to include within the lesson.

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

- The "Professional Support" sidebar includes "Essays on Content, Pedagogy, and Practice." The "Teaching English Language Learners" essay outlines specific strategies to support Emergent bilingual students with unfamiliar vocabulary words and pre-teaching supports. For example, it states that teachers should clearly define the vocabulary within the context of learning and use connections and visual representations. This guidance provides explicit strategies for vocabulary acquisition, understanding, and fostering discourse, including using vocabulary notebooks, echo-repeat and choral chants, word walls, concept maps, anchor charts, sentence frames or stems, and adapted activities. It suggests teachers use multiple representations, real-world scenarios, visualizations, and animations to bridge from vocabulary acquisition to conceptual understanding. The material states, "Language notes available within the lessons provide opportunities to point out connections between words."
- In the "Glossary," the Spanish/English vocabulary words provide the opportunity for academic language learning, for both students and teachers. This resource can be implemented while students learn academic vocabulary. When the Spanish glossary is selected, the material provides the word and its definition in English and Spanish. For example, the entry for the vocabulary word *absolute maximum* states, "The absolute maximum is the largest value the function achieves on its domain. The value M is the absolute maximum of a function f if $f(M) \geq f(x)$ for all x in the domain of f. An absolute maximum is also referred to as a global maximum." The entry includes a graph and problem, explicitly referencing the vocabulary in context.
- The "Prepare Instruction" materials for each topic include pre-teaching and embedded supports for unfamiliar key vocabulary terms within the context of new learning. For example, in "Topic 9," "Language Support" lists the core vocabulary for the lesson and explicitly suggests paying attention to terms that represent the same thing.
- The materials provide the lesson plan for the teacher in the "Deliver Instruction" Section. As part of the lesson activities, the materials include teacher tips, technology tips, notes for

differentiation, and language strategies and support for EL and other special populations. "Topic 12, Lesson 4" states, "This is an opportunity to reinforce geometric language describing shapes, such as parallel, perpendicular, acute, obtuse, and right, as well as measurement language."

- Within the "Lesson Activities" animations, the materials include visuals and language notes to support student acquisition and understanding of vocabulary. For example, the animation in "Topic 6, Lesson 1" includes a character who skates along a number line to demonstrate the definition of integers. "Topic 14, Lesson 1," describes different ways to represent data for a fundraising effort. A "language note" button describes several meanings of the word *measure* in the context of the lesson as well as in other contexts. For example, it states, "The word measure has several meanings. As a verb, you measure the length of the wall. Used as a noun, a law is called a measure, as in, 'On Monday, Congress passed the measure limiting the speed limit to 55 mph.' The rhythm of a poem is sometimes called a measure. In this topic, measure means a value or a number that indicates something about a set of numbers."

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

- The "Professional Support" sidebar includes "Essays on Content, Pedagogy, and Practice." The "Differentiated Instruction for Student Success" essay outlines specific guidance for students who demonstrate proficiency in grade-level content and skills. For example, it states, "Teachers should also differentiate by depth for students ready for more sophisticated content....This type of exploration allows students to deepen their mathematical understanding while remaining in the same domain as classmates." This guidance outlines opportunities for students to engage in activities that deepen their thinking on grade-level content and skills. The material offers instruction on employing various strategies to deliver content effectively. The lessons integrate these supports to facilitate differentiation, including diagrams, worked examples, learning centers, and questioning strategies.
- The "Deliver Instruction" Section for each lesson provides teachers guidance on differentiation and extension activities for students who have shown proficiency in grade-level content and skills. For example, "Topic 12, Lesson 1" explains that after students have completed the problem, the "topic provides an extended opportunity to promote the practice of modeling with mathematics as students investigate." The strategy in "Topic 13, Lesson 7" states that the teacher can assign tasks based on the needs of the students or provide them with the opportunity to choose the task they would like to complete, which "helps them take ownership of their learning and increases their sense of belonging in math."

Supports for All Learners

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

The materials include prompts and guidance to support the teacher in modeling, explaining, and communicating the concepts to be learned explicitly. Materials include teacher guidance and recommendations for effective lesson delivery and facilitation using a variety of instructional approaches. Materials support multiple types of practice and include guidance for teachers and recommended structures to support effective implementation.

Evidence includes, but is not limited to:

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

- The "Professional Support" sidebar includes "Essays on Content, Pedagogy, and Practice." The "Problem Solving and Practice" essay states, "Questioning strategies embedded in lessons and in teacher advice prompt effective mathematical discourse, where students think critically, construct arguments, and justify their thinking."
- The grade 6 materials include prompts and guided instructions to support the teacher in communicating, explaining, and modeling the concepts directly and explicitly for each lesson. The "Prepare Instruction" materials for each topic include the "Advice for Instruction" material, which provides guidance on implementing each lesson activity for the entire topic by including the topic lessons and the student resources needed for each. For example, "Topic 9" explains that the "Student Activity Sheet (SAS) Q5a-e" and the "Deliver Instruction" Section will be used for "Lesson 1." Materials include guidance for teachers to use throughout the topic. For example, in "Topic 9, the "Language Support" Section lists the vocabulary students need proficiency in throughout the topic and guides the teacher by stating, "The topic uses both the term opposites and additive inverses. Make clear to all students that these are equivalent terms."
- The "Deliver Instruction" materials for each lesson provide the teacher with a lesson plan for the 45-minute lesson. The beginning of the plan lists the goals and objectives for the lesson. For example, in "Topic 6, Lesson 1," the goals and objectives state, "Apply and extend previous understandings of numbers to the system of rational numbers. Recognize common contexts that call for the use of signed numbers (such as banking, weather, and altitude) and explain the meaning of zero in a given situation." The lesson provides the teacher with "Opening and Framing Questions" to engage the students in the lesson. For example, "Topic 6, Lesson 1"

states, "Engage students in a brief discussion of the scores you displayed. Ask: If each question is worth 100 points, how could these scores have occurred?"

- In the "Deliver Instruction" Section, the "Lesson Activities" Section is organized by the pages of the digital resources and includes guidance associated with each digital lesson. Each page of the lesson activity provides guidance for teachers and students, including questions for the teacher to ask the students. For example, the guidance in "Topic 6, Lesson 1" states, "If students need scaffolding to translate the expression –(-4), cover up the first negative sign and have them name -4 as the opposite of 4. Then reveal the second sign and have them repeat 'the opposite of the opposite of 4.'" The materials include teacher tips, technology tips, language support, and support for Emergent bilingual students or other special populations. For example, "Topic 12, Lesson 1" provides a "Classroom Strategy" for one page and guides the teacher on what student resources to use. It states, "The formulas presented on this page were introduced in earlier grades. Depending on your students' prior experiences, they may not recall them or how to apply them. Use this page to connect to prior learning by engaging students in these formulas." The material includes question prompts for the teacher to determine student comprehension and recall.
- In the "Deliver Instruction" Section, the "Lesson Activities" Section provides teacher guidance for the lesson animations. For example, "Topic 9, Lesson 1" prompts teachers on when to play the animation and when to stop to ask questions. The guidance states, "Play the animation. Pause the action after Archibald is pulled back part of the way. Ask: How is the money Archibald has in his adventure fund changing? How is the money he has paid back changing?"

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

- The "Problem Solving and Practice" essay states, "In class, students apply math to real-world contexts, develop conjectures, and justify their reasoning through lesson activities supported online and in print." The "Lesson Activities" Section provides guidance for teachers on using animations, simulations, and puzzles to explore and apply concepts. Practice items allow students to apply what they have learned in new and familiar contexts. One graphic in the material is a screen grab with bullet points, such as, "Compare the rates of change from the different students. Ask: Are all of the rates the same? What do you notice about these rates? How does the graph indicate these changes in rate? Have students discuss the meaning of these rates of change. [SAS 4, question 4e]" This example shows how teachers receive guidance for lesson delivery. The screengrab is alongside the student-facing problem, corresponding with teacher guidance.
- The "Deliver Instruction" Section provides the teacher with a lesson plan, including timing suggestions for each component. The teacher starts with "Opening and Framing Questions" for five minutes to engage the students in the lesson. For example, "Topic 6, Lesson 1" states, "List some game show scores on the board, such as those shown here. Engage students in a brief discussion of the scores you displayed. Ask: If each question is worth 100 points, how could these scores have occurred?" The "Lesson Activities" Section, a 35-minute portion of the lesson, includes teacher guidance and recommendations for effective lesson delivery and facilitation through explicit, guided teacher directions for using a variety of approaches, such

as hands-on activities and technology. Each page details what the teacher should be doing, what the students should be doing, and questions for the students. For example, in "Topic 10, Lesson 2," the guidance provides teachers with suggestions on student use of algebra tiles, including narratives and animated panels. It states, "For each panel, have students build their models before showing the action on the page. [SAS, question 1e-g] Before moving to the next set of pages, have students justify their thinking about the differences between two related models. [SAS, question 2]" As needed or applicable, the lesson includes teacher tips, technology tips, language support, and/or support for English learners or other special populations. For example, "Topic 7, Lesson 1" provides the specific instructional strategy of using sentence stems to help students process the language and content. Some examples of sentence stems include, "Expressions and equations are similar because....Expressions and equations are different because.... Equations and inequalities are similar because....Equations and inequalities are different because...."

- The grade 6 materials include recommendations for effective lesson delivery using a variety of instructional approaches. In "Topic 2, Lesson 2," the "Deliver Instruction" Section outlines specific instructional strategies to support teachers. For example, it states, "Students can work on this in differentiated small groups or individually." This outlines the variety of approaches that can be used within the lesson. The "Deliver Instruction" Section provides a variety of lesson activities, including class discussions with provided question stems, partner work, and independent practice pages with a range of question types like short answer. For example, "Topic 12, Lesson 4" states, "Ask: Is the height always inside the parallelogram?....Have students work with a partner to complete the puzzle..." and suggests teachers assign practice for the lesson.
- The materials provide various instructional activities, such as "Constructed Response" "MARS" tasks, along with teacher guidance. In "Topic 7, Lesson 7" the "Constructed Response 1" task includes recommendations for facilitating the content effectively. For example, teachers are given the following guidance, "Use the lesson opener and framing questions to set the stage for this task. Have students work individually for 10-12 minutes before having them work together with a partner to compare strategies and answers." This guidance includes a variety of instructional approaches for building content knowledge.

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 "Problem Solving and Practice" essay states, "In class, students apply math to real-world contexts, develop conjectures, and justify their reasoning through lesson activities supported online and in print." The materials include guidance on exploring and applying concepts through animations, simulations, and puzzles. For example, the "Deliver Instruction" Section in "Topic 13, Lesson 2" provides teacher guidance for whole-group instruction using the technology of animated panels. It states, "Show the animation. Allow students to take turns dragging responses into boxes."
- The materials support multiple types of practice such as whole group instruction, collaborative activities, and independent practice; teacher guidance on structures is provided

to support implementation. The "Deliver instruction" Section for "Topic 6, Lesson 3" includes teacher guidance and recommended structures to support the implementation of small groups. For example, the material states, "Have students work in pairs to place the letters that correspond to the points in their correct positions on the number line." In "Topic 6, Lesson 8," the materials recommend that students work individually before partnering. For example, it states, "After students have had sufficient time to engage individually with the task, ask them to pair up with a classmate and share their strategies and answers." The "Deliver Instruction" Section for "Topic 13, Lesson 2" includes teacher guidance and recommended structures to support whole group instruction. For example, the lesson instructs teachers to utilize animated panels to guide whole-class questioning and discussions of the representations provided.

- The materials provide practice items for students to apply their learning to new and familiar contexts. For example, "Topic 2, Lesson 2" provides guidance on using lessons and activities from the "Appendix: Key Learning from Earlier Grades." The lesson states, "Students can work on this in differentiated small groups or individually. Some of the games are best played in at least pairs." This variety of practice supports teachers' implementation of structures.
- The materials include daily homework and practice, assessment reviews, next-generation item types, hints and feedback, tools for differentiation, automatic grading, and real-time reporting throughout the lessons and activities. In "Topic 7, Lesson 5," the materials outline multiple types of practice to support the effective implementation of content. For example, it prompts teachers to allow students to record and discuss their findings and then sketch and label a matching representation. This guides teachers on the recommended structures and types of student practice.

Supports for All Learners

3.3	Supports for Emergent Bilingual Students	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.	2/2
3.3b	Materials include implementation guidance to support teachers in effectively using the materials in state-approved bilingual/ESL programs.	1/1
3.3c	Materials include embedded guidance for teachers to support emergent bilingual students in developing academic vocabulary, increasing comprehension, building background knowledge, and making cross-linguistic connections through oral and written discourse.	8/8
3.3d	If designed for dual language immersion (DLI) programs, materials include resources that outline opportunities to address metalinguistic transfer from English to the partner language.	Not scored

The materials include teacher guidance on providing linguistic accommodations for various levels of language proficiency [as defined by the English Language Proficiency Standards (ELPS)], which are designed to engage students in using increasingly more academic language. Materials include implementation guidance to support teachers in effectively using the materials in state-approved bilingual/ESL programs. 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.

Evidence includes, but is not limited to:

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

- The "Teaching English Language Learners" essay provides strategies and explains the material's design elements that support English learners (ELs). The essay includes recommendations and suggestions for building academic vocabulary with explicit strategies for vocabulary acquisition, including vocabulary notebooks and word walls. The essay explains how teachers can assist students as they bridge vocabulary acquisition to conceptual understanding by "using multiple representations of relationships—graphical, tabular, concrete, and algebraic—helps students develop deeper understanding." The essay includes insight into fostering student discourse, using formative assessments, and supporting other special learners. Each topic within the essay includes explicit strategies, such as think-write-pair-share, learning goals, exit tickets, and principles from Universal Design for Learning.

- In the "Glossary," the Spanish/English vocabulary words provide students and teachers the opportunity for academic language learning. This resource can be used with students with varying levels of language. For example, the definition for *absolute value* states, first in English, "The absolute value of a real number is the distance between 0 and the number on a number line. As shown on the number line in the image, the absolute value of 3 is 3. This is written 3 = 3. The absolute value of -3 is also 3: -3 = 3." Below the definition, the term includes an example of how it is represented on a number line. When Spanish is selected from the sidebar, the term and definition are provided below the visual in Spanish. This is an explicit support for students across all levels of languages, given it includes visuals.
- The grade 6 materials include teacher guidance on providing linguistic accommodations for various levels of language proficiency designed to engage students in using increasingly more academic language throughout each topic. For example, in the "Prepare Instruction" Section for "Topic 14," the "Language Support" lists the core vocabulary and explains that visuals will be used throughout the topic to connect students to the concepts. It states, "These connections will deepen the understanding of the vocabulary of the topic. The multiple representations within this topic illustrate how essential the variety of learning models is to the depth of student understanding." This guidance includes teacher instruction for various levels of language.
- The "Deliver Instruction" material for each lesson includes the "Lesson Activities" Section, which provides guidance for teachers during each activity. Within the guidance, "Support for ELL/Other Special Populations" suggests strategies discussed in the essay, "Teaching English Language Learners." For example, "Topic 1, Lesson 2" states, "Use the think-pair-share approach, pairing English Language Learners with native English speakers." In "Topic 6, Lesson 4," the suggestion states, "Allow students who struggle with language acquisition...to try to write words to describe the term after hearing their classmates' description. This will help continue to build their mathematical language base." "Topic 7, Lesson 1," for example, utilizes sentence stems such as, "Expressions and equations are similar because.... Expressions and equations are different because...." The material offers teachers guidance on using strategies to help students engage with academic language over time.

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

- The *Mathematics 6 Scope and Sequence, 2024-2025* material integrates the English Language Proficiency Standards (ELPS) into the course structure. For example, "Topic 1" notes that "ELPS: 1.A, 2.C, 3.E, 3.F, 3.H, 4.D, 4.F, 4.G" will be covered. The resource can be used to identify the ELPS integrated into the mathematics content.
- The materials include the "Teaching English Language Learners" essay that "provides specific high-yield teaching strategies and highlights key design elements of the material's system that can be used to support rich learning by ELL students." This material includes suggestions for building academic vocabulary and provides multiple strategies to promote student discourse. For example, it states, "Giving ELL students more ways to experience the language and make connections increases their ability to create and retain meaning (Sousa, 2011)." It also states, "When spoken and written language is supported with explicit strategies, visualizations, and

interactions, ELL students will acquire and be successful with English and mathematics together." This resource outlines the criteria for teachers to implement the materials aligned to language acquisition by providing screenshots and suggestions on reading and interpreting the teacher guidance for each lesson.

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 "Teaching English Language Learners" essay provides strategies and explains the material's design elements that support Emergent bilingual students. This material includes suggestions for building academic vocabulary and multiple explicit strategies to promote student oral and written discourse, including think-aloud and echo-repeat or choral chant for vocabulary acquisition. For example, echo-repeat and choral chant allow students to hear and repeat the words. To build conceptual understanding, the essay includes directions for total physical response, stating, "Students use movement in concert with words to describe a concept or term....For example, acute, right, and obtuse angles can be taught using arm movements to signal the angle measures (Asher, 2009)." The essay includes insight into fostering student discourse through teachers creating opportunities for students "to speak and write about the subject matter in meaningful ways." The guiding questions provided throughout the material prompt teachers to offer opportunities for students to build conceptual understanding. The material includes explanations of the explicit strategies of think-write-pair-share; sentence frames or stems; adapted activities; talk, read, talk, write; and Kagan structures for fostering discourse.
- The grade 6 materials include embedded guidance for teachers to support students' academic language development by making connections and building background knowledge. For example, the "Prepare Instruction" materials include "Language Support" to use throughout the topic. For example, in "Topic 11," the support states, "Use a language support such as a personal picture dictionary to help students associate the pictorial representations of important vocabulary terms with the words."
- The "Deliver Instruction" materials for each lesson include guidance for teachers on supporting emergent bilingual students in developing their vocabulary to increase their comprehension and background knowledge. The "Lesson Activities" include teacher guidance with the "Classroom Strategy" and "Support for ELL/Other Special Populations" notes. For example, "Topic 1, Lesson 2" states, "Support for ELL/other special populations. Use the think-pair-share approach, pairing English Language Learners with native English speakers." In "Topic 6, Lesson 4," the materials include teacher guidance on offering linguistic accommodations suited to varying levels of language proficiency, encouraging students to engage more deeply with academic language over time. For example, the material states, "Support for ELL/other special populations. Allow students who struggle with language acquisition...to write words to describe the term after hearing their classmates' descriptions. This will help continue to build their mathematical language base." The materials prompt teachers to provide students with sentence stems for oral or written discourse. For example, in "Topic 7, Lesson 1" the stems include, "Expressions and equations are similar because ....

Expressions and equations are different because ...." The materials provide embedded guidance for teachers to support emergent bilingual students in making connections and developing academic vocabulary through extended written and oral discourse. For example, in "Topic 14, Lesson 9," the material includes the "MARS task: TV Hours." The materials guide teachers to have students share their thoughts and explanations orally with a partner before writing them down.

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

- In the "Glossary," the Spanish/ English vocabulary words provide an opportunity for language immersion. Students with varying levels of language can use this resource. For example, the definition for *coordinate pair* states, "A coordinate pair is an ordered pair of numbers that names the location of a point in the coordinate plane. A coordinate pair has an x-value and a y-value. In this example, the ordered pair is (5,3). The x-value is 5 and the y-value is 3." Beneath the definition is a visual representation of the example, and the term and definition in Spanish. This resource is an opportunity to address metalinguistic transfer from English to the partner language.
- The "Teaching English Language Learners" essay provides strategies and explains the material's design elements to support EL students. The essay includes recommendations and suggestions for building academic vocabulary with explicit strategies for vocabulary acquisition, including vocabulary notebooks and word walls. The essay explains how teachers can assist students as they bridge vocabulary acquisition to conceptual understanding by using multiple representations to develop deeper understanding. The essay includes insight into fostering student discourse, using formative assessments, and supporting other special learners. Each topic within the essay includes explicit strategies, such as think-write-pair-share, learning goals, exit tickets, and principles from Universal Design for Learning. The material includes suggestions to address the transfer of metalinguistic skills from English to the partner language by pairing EL students with native English speakers.
- The "Deliver Instruction" materials include teacher guidance in "Support for ELL/Other Special Populations" suggestions that outline opportunities to address the transfer of metalinguistic skills from English to the partner languages by addressing vocabulary that when translated has a different definition in the partner language, such as in "Topic 6, Lesson 1," which states, "Be aware that the literal translation of 'whole number' in Spanish is 'numero entero.' However, in Spanish, 'numero entero' represents an integer NOT a whole number.

Depth and Coherence of Key Concepts

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

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

Evidence includes, but is not limited to:

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

- Throughout a topic, students are required to demonstrate a depth of understanding aligned to the Texas Essential Knowledge and Skills (TEKS). For example, topics include an end-of-topic quiz, which provides students the opportunity to demonstrate an understanding of the TEKS covered throughout the topic. For example, in the grade 6 materials, "Topic 2, Lesson 12" contains a quiz that includes a variety of question types, such as multiple choice, drag-and-drop, fill-in-the-blank, multiple selection, and text entry. *Mathematics 6 Lesson Alignments for Texas* specifies the problems in this quiz align with TEKS 6.03.A, 6.03.B, 6.03.E, and 6.07.D. This provides students an opportunity to show comprehension and mastery of the content that corresponds to the TEKS standards.
- In the grade 6 course, the "Prepare Instruction" materials for each topic include a "Topic at a Glance" table listing all of the lessons within the topic. The "Topic at a Glance" table briefly describes the lesson and practice opportunities. For example, in "Topic 1," "Lessons 1–9" include a "Student Activity Sheet (SAS)" which incorporates open-ended questions for students to answer. The questions include a variety of depth, such as computation, multiple methods of solving, and application of the skills in real-world scenarios. The lessons include "Staying Sharp" activities, "Constructed Response" tasks, and additional practice assignments for students to complete. The *Mathematics 6 Lesson Alignments for Texas* material shows the "Topic 1" lessons address TEKS 6.02.A, 6.02.E, 6.07.A, and 6.07.D. For example, "Topic 1, Lesson 9" requires students to complete "Constructed Response 2" to summarize their learning and apply it to new problem-solving situations, allowing students to engage with the entirety of the TEKS addressed in the topic.
- The grade 6 materials include a variety of practice opportunities throughout the lessons, including instructional examples and assignments that vary in complexity so students can demonstrate a depth of understanding aligned to the TEKS. "Topic 1, Lesson 5," includes animation slides that address TEKS 6.02.E and 6.07.A. After completing the animation,

students identify the parts of the expression they should solve with each step. Students use what they learned from the animation and practice to analyze two examples of student work to identify who was correct and what mistake was made. These activities require students to use their mathematical understanding to solve problems, make observations, and form conclusions. The materials include opportunities for students to justify their answers through error analysis and explanations. For example, in "Topic 2, Lesson 11," students complete "Constructed Response 2" by showing mastery of TEKS 6.03.A and 6.03.E through error analysis of example problems of multiplying and dividing rational numbers. In "Topic 5, Lesson 8," students explain and justify their answers in writing for creating equivalent forms of fractions, decimals, and percents on the "SAS" that includes TEKS 6.02.C, 6.02.D, 6.02.E, 6.04.F, 6.04.G, and 6.05.C. This requires students to exhibit an understanding that meets TEKS standards.

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

- The grade 6 materials include "Items and Answers" questions in the "Assessment" Section. These questions progressively increase in rigor and complexity leading to grade-level proficiency. The bank offers a variety of questions that can be sorted by question type, complexity through the four tiers of Depth of Knowledge (DOK), and reading level. Each question shows the topic and standard alignment. The "Items and Answers" bank includes interactive items such as inline choice, hot spot, fill-in-the-blank, drag-and-drop, graphing, multiple choice, and multiple selection. The sample-created and teacher-created instructional assessments incorporate standards-aligned items across different levels of complexity using a variety of questions and types from the bank. Each question provides an outline of the aligned standards. For example, in "Test Designs," the sample-created assessments include "Mathematics 6 Topics 6-7 Sample Summative Assessment." The assessment assesses TEKS 6.02.A, 6.02.B, 6.02.C, 6.02.D, 6.06.A, 6.06.B, 6.06.C, 6.07.B, 6.07.D, and 6.11.A. The cognitive complexity of the questions ranges from DOK 1 to DOK 2, and the questions are presented as multiple choice, multiple selection, drag-and-drop, graphing, and fill-in-the-blank.
- The grade 6 materials include question prompts for teachers and tasks for students that progressively increase in rigor and complexity, through lesson animations and interactive slides, "SAS," and additional practice, ultimately leading to grade-level proficiency on the TEKS. In the "Prepare Instruction" materials for each topic of the grade 6 course, the "Topic at a Glance" table shows all of the lessons within the topic, briefly describing the lesson and its practice opportunities. "Topic 3, Lessons 1–11" include an "SAS" with open-ended questions that students answer with calculations, application to similar problems, and explanations of their reasoning. In the "Deliver Instruction" Section for "Topic 4, Lesson 1," the materials include DOK 1 questions to engage students at the start of the lesson, such as, "What is a ratio? What are some of the strategies and representations you used when working with ratios?" As the lesson progresses, the questions increase in complexity, including, "Why is the unit rate of 1/3 yards per foot the best unit rate to use here?" This progression allows students to practice with on-grade-level content within a lesson. For example, in "Practice" for "Topic 4,

Lesson 10," the tasks start at DOK 2 in multiple choice questions and increase in depth of knowledge through calculation and fill-in-the-blank questions. Students show their learning through an increase in the complexity of models. For example, in "Topic 9, Lesson 2," students must first model adding and subtracting integers with algebra tiles, then show addition and subtraction of integers on number lines in "Lessons 3–5," and then discover patterns in adding and subtracting integers in "Lesson 6." These varying levels of increasing complexity require students to practice content-aligned tasks at grade level during the duration of a topic.

- The grade 6 materials provide "Staying Sharp" activities, "Constructed Response" tasks, and "MARS" tasks that gradually increase in complexity, leading to grade-level proficiency for each topic. For example, in "Topic 3, Lesson 12," "Constructed Response 1" provides students with the opportunity to apply their knowledge to new contexts. The activity requires students to solve and explain their process or represent their answers in a certain way. "Lesson 13" includes the topic quiz with a variety of question types. In "Topic 7, Lesson 10," for example, the "MARS task: Square Spirals" includes a teacher rubric with guidance for grading where questions and tasks become progressively more challenging and intricate, aiming towards proficiency in mathematics standards at grade level. The rubric explains the task begins with questions slightly below the level of difficulty of the grade level to activate prior knowledge and ends with questions designed to stretch students' thinking to connect their learning to new concepts.

Depth and Coherence of Key Concepts

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

The materials demonstrate coherence across courses/grade bands through a logically sequenced and connected scope and sequence. Materials demonstrate coherence across units by explicitly connecting patterns, big ideas, and relationships between mathematical concepts. Materials demonstrate coherence across units by connecting the content and language learned in previous 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. 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.

Evidence includes, but is not limited to:

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

- The *Mathematics 6 Scope and Sequence* presents logically sequenced topics throughout the year, creating a narrative of mathematics spanning grades 6–8 and beyond. The materials outline the concepts students will learn throughout the course and how they connect to previous and future learning. The material divides the grade 6 instructional materials into fifteen topics with 138 to 146 lessons. The material includes a topic description and identifies the grade level Texas Essential Knowledge and Skills (TEKS) for that topic that are either the primary focus for the topic or are foundational for future work. For example, in "Topic 1," students will reinforce their knowledge of operations with whole numbers to generate equivalent numerical expressions with TEKS 6.2.E, 6.7.A, and 6.7.D. The scope and sequence integrate prior concepts and procedures from previous grades and lessons earlier in the course, utilizing new mathematical knowledge and skills and building upon established understandings. For example, the course "begins by building on students' understanding of multiplication and division and of equivalent fractions as a basis for understanding ratios and proportional reasoning." The material extends the knowledge of numbers, works toward fluency of all operations with integers, begins formal work with expressions, equations, and inequalities, extends understanding of geometry, begins formal work with statistics, and

deepens understanding of personal financial literacy. The material includes teacher guidance on when to incorporate corequisite support lessons by listing the corequisite standards from the previous grade and including the tasks from the "Grade 6 Corequisite Support Guide" so students can access and participate in grade-level content. For example, "Topic 3" lists corequisite TEKS 5.8.A, 5.8.B, and 5.8.C, along with the lessons reviewing the coordinate plane from the "Grade 6 Corequisite Support Guide."

- The "Texas Mathematics 6 Course Rationale" includes a course overview explaining how the course helps students formalize and extend their elementary understanding of additive reasoning to make connections with middle and high school concepts of multiplicative and proportional reasoning. The material demonstrates how prior knowledge connects to the development of new content through a conceptual understanding of proportionality, rational number operations, algebra, geometry, and statistics.
- The materials include resources to demonstrate how the concepts across courses demonstrate coherence and are logically sequenced. For example, in the "Professional Support" sidebar, the "Developing Concepts Across Grades" Section outlines how concepts connect to previous learning. It states, "This selection of interactive essays represents the development of key concepts learners will encounter in their journey to mastery of mathematics—from middle school through high school mathematics, culminating in Calculus or Statistics." The essays focus on using functions, volume, rate, and proportionality and explain how students move from concrete to abstract representations of the concepts.
- The materials include appendix topics to reinforce and support the learning for the current course, including "Key Learning from Earlier Grades," "Solidifying Your Skills with Whole Numbers," and "Solidifying Your Skills with Fractions and Decimals." Each appendix topic includes a description of the concepts students will review through strategies and practice activities. For example, the "Appendix: Key Learning from Earlier Grades" includes lessons and problem-solving resources that can be used to differentiate practice and review for computations with whole numbers, representations of fractions and decimals, foundations of computations with fractions, and computations with decimals.

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

- The "Texas Mathematics 6 Course Rationale" includes a course overview explaining students will formalize and extend work from elementary school to make connections across middle and high school, connecting patterns, big ideas, and relationships between mathematical concepts. For example, the material connects prior knowledge and learning to new learning of proportionality, rational number operations, algebra, geometry, and statistics. The course order and concept connections state the "course was designed to transition students from additive reasoning in elementary school mathematics to multiplicative and proportional reasoning, the foundations of middle mathematics." The materials address connections between topics through their descriptions. For example, the material explains that "Topic 1" covers operations with whole numbers, laying the foundation for multiplying and dividing rational numbers in "Topic 2." These operations with rational numbers connect to understanding and representing rates in "Topic 3."

- The "Prepare Instruction" material includes an overview of the current topic and its connection to other topics throughout the course. The "About This Topic" Section demonstrates coherence across each topic and within each lesson by connecting students' prior knowledge of concepts and procedures to new mathematical knowledge and skills. For example, "Topic 9" focuses on algebra tiles and number line models for adding and subtracting integers that lead to the patterns used to develop the standard algorithm. The topic builds on student understanding of integers as rational numbers as discovered in "Topic 6." The materials explain students will extend and apply their skills and understanding of integers to solve equations and inequalities.
- The "Staying Sharp" activities review key concepts from previous units to help students prepare for the current unit. For example, "Topic 3" includes "Staying Sharp 2" which requires students to review the concepts of operations with positive rational numbers from "Topic 2" and build on their current knowledge of writing equivalent ratios from "Topic 3." It includes plotting points in Quadrant I of the coordinate plane to prepare students for additive and multiplicative relationships in "Topic 7." This material shows the connection of patterns, big ideas, and relationships between mathematical concepts throughout the course.

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 "Texas Mathematics 6 Course Rationale" includes a course overview explaining how the course helps students formalize and extend their elementary understanding of additive reasoning to make connections across middle and high school concepts of multiplicative and proportional reasoning. The material demonstrates how prior knowledge connects to the new content through a conceptual understanding of proportionality, rational number operations, algebra, geometry, and statistics. For example, the description for "Topic 1" and "Topic 2" explains students use their knowledge of operations with whole numbers and concrete area models from prior grades to evaluate expressions, a new concept in grade 6. This builds a foundation of algebraic expressions that will be learned later in this course and future courses. The "Connection to the TEKS and ELPS" Section emphasizes using cross-curricular strategies and the "Glossary," common to all courses, to support language acquisition.
- The grade 6 materials demonstrate coherence across topics by connecting the concepts and language learned in previous courses to those in future courses by way of the current course. The "Professional Support" sidebar includes the "Developing Concepts Across Grades" material that outlines how concepts connect from previous learning. It states, "This selection of interactive essays represents the development of key concepts learners will encounter in their journey to mastery of mathematics—from middle school through high school mathematics, culminating in Calculus or Statistics." The essays focus on using functions, volume, rate, and proportionality and explain how students move from concrete to abstract representations of the concepts while noting aligned vocabulary across courses. For example, the interactive animations in the "Rate" essay explain ratio, rate, unit rate, rate of change, and constant rate of change, showing how they relate to each other.

- The materials include resources to demonstrate coherence with content and language across previous, current, and future courses. The "Professional Support" sidebar includes the "Going Beyond this Course" Section which states, "This series of essays is designed to illustrate how certain fundamental knowledge and skills students acquire in this course connect to more advanced concepts in subsequent mathematics courses." The essays address rate of change, area of irregular shapes, and outliers. The "Calculating Outliers" essay explains how students calculate and use a five-number summary to represent and construct boxplots in grade 6 and will extend this concept to compare distributions of parallel boxplots in future courses.
- The "Prepare Instruction" materials for all topics include teacher guidance on creating coherence in the language students have learned or will learn in the current course. For example, in "Topic 1," the "Language Support" Section explains vocabulary words from earlier courses, such as *addend*, *factor*, and *multiple*, which will be reinforced throughout the current topic. The section provides a list of the core vocabulary used in the current topic. The "Glossary" contains all core vocabulary, including definitions and visual representations. This supports coherence in language learning in previous, current, and future courses.

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 grade 6 materials demonstrate a coherent progression throughout lessons. The lessons connect students' prior knowledge of concepts and procedures from the current and prior grade levels to new mathematical knowledge and skills. The "Course Topics" include appendices with lessons that address key topics from the previous grade, including computations with whole numbers and computations with fractions and decimals. In the "Appendix: Key Learning From Earlier Grades," students connect their prior knowledge of concepts and procedures to new mathematical knowledge and skills through lessons on computations with whole numbers, representations of fractions and decimals, foundations of computations with fractions, and computations with decimals. For example, a lesson in "Appendix: Solidifying Your Skills with Whole Numbers" focuses on adding and subtracting whole numbers. It provides animations and practice starting with single-digit addends and progressing to triple-digit addends, asking students to explain the strategy they use. The material provides additional practice in mathematical and real-world contexts. This guidance supports students in connecting what they have learned to what they will learn.
- The "Prepare Instruction" material for each topic provides an overview of the lessons within the topic, demonstrating coherence across each lesson by connecting students' prior knowledge of concepts and procedures from current and previous grade levels to new mathematical knowledge and skills. For example, "Topic 9" lists two prerequisite skills, adding and subtracting whole numbers and plotting points on number lines, which were learned in previous courses. Across each topic, the materials demonstrate coherence from lesson to lesson by explicitly connecting relationships between mathematical concepts. The "Topic at a Glance" Section outlines each lesson with a brief description. For example, "Lesson 1" introduces the addition and subtraction of integers, "Lesson 2" models the addition and

subtraction of integers with algebra tiles, and "Lesson 3" models the addition and subtraction of integers with number lines.

- In "Deliver Instruction" materials for each lesson, guidance prompts teachers to have students consider their prior learning and connect it to the current mathematical knowledge and skills. For example, in "Topic 4, Lesson 1," teachers prompt students to connect their prior work with ratios to understand rates. In "Lesson 2," students use their knowledge of rates from "Lesson 1" to convert measurements. In "Topic 5," students engage with equivalent fractions, decimals, and percents. "Lesson 2" converts fractions to decimals, "Lesson 3" converts decimals to fractions, and "Lesson 4" combines the previous two skills to form equivalent fractions, decimals, and percents. These lessons illustrate coherence across lessons by establishing clear connections between patterns, overarching concepts, and relationships among mathematical ideas. The materials present a structured progression of concepts that develop logically, each lesson building upon the foundation laid by the previous ones.

Depth and Coherence of Key Concepts

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

The materials provide spaced retrieval opportunities with previously learned skills and concepts across lessons and units. Materials provide interleaved practice opportunities with previously learned skills and concepts across lessons and units.

Evidence includes, but is not limited to:

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

- The grade 6 materials provide spaced retrieval opportunities with previously learned skills and concepts across the topics. For example, the "Course Rationale" explains that students must apply their knowledge of equations and inequalities from "Topic 8" to solve geometric problems in "Topic 12."
- The "Prepare Instruction" material explains the current topic and connections to previously learned topics. The "About This Topic" Section provides guidance for teachers to outline and understand previously taught content and how it connects to the current topic and content. For example, "Topic 4" builds on students' understanding of ratios, a skill learned in "Topic 3," to understand rates. Students will build fluency with standard algorithms for division, a skill learned in "Topic 2," as they apply rates. This provides teachers with guidance to see the connection between the content covered across topics. The "Prepare Instruction" material includes a "Topic at a Glance" Section that shows all of the lessons within the topic, provides a brief description of each lesson, and includes practice opportunities to use with the lesson. For example, "Topic 1" is divided into eight lessons on operations with whole numbers. The "Lesson 2" description explains that students will engage in activities to connect models for division to the standard algorithms. "Lesson 3" builds upon the previous lesson by representing division in various ways including fraction notation, with the division symbol, and with the division box. It also includes practice to strengthen student fluency with dividing whole numbers. This material provides teacher guidance on the connection between content covered across lessons.
- The "Deliver Instruction" materials include spaced retrieval opportunities to revisit skills and concepts learned earlier in the topics and lessons. The materials include teacher prompts and guidance for using practice opportunities with students. For example, in "Topic 7, Lesson 12," the "Opening and Framing Questions" prompt teachers to begin by asking students to discuss what they remember about using the distributive property of multiplication over division to help prepare them for using the distributive property with variables. The "Deliver Instruction"

materials provide teachers with student resources that support the current lesson by retrieving previously learned content. The "Staying Sharp" materials include two sections of practice problems; one spirals back to skills and concepts from previous learning and one helps students prepare for upcoming lessons. For example, "Topic 7, Lesson 1" includes "Staying Sharp 1," which reviews skills from "Topic 1," "Topic 5," and "Topic 6" such as simplifying expressions with order of operations, finding a percent of a number, and graphing on a coordinate plane. This "Staying Sharp" activity supports upcoming lessons where students will learn about proportional relationships between two variables.

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

- The grade 6 materials provide interleaved practice opportunities with previously learned skills and concepts across topics and lessons as evidenced by the *Mathematics 6 Scope and Sequence*, which shows related ideas taught in consecutive topics. For example, "Topic 4" explains how students practice and build on their knowledge of ratios, introduced in "Topic 3," to explore the concept of rates by using diagrams, tables, proportions, and coordinate graphs.
- In the "Prepare for Instruction" material for each unit, the "About This Topic" Section describes what students will learn and how interleaved practice opportunities are incorporated to integrate previously learned skills and concepts across lessons and units. For example, "Topic 8" builds on the foundations established in the previous two topics and provides opportunities to apply fluency with positive rational number operations as addressed in "Topic 1" and "Topic 2."
- The grade 6 materials include practice opportunities that require students to select and use multiple strategies, which promotes identifying the most efficient strategy rather than relying on a single strategy for every problem. For example, in "Topic 2, Lesson 6" the students' goals and objectives require them to approximate the value of square roots by using models and coordinate graphs. Students complete two different constructed responses during this lesson. In "Constructed Response 1," students work with a line segment on a graph to create a square and determine information about that square. In "Constructed Response 2," students use their understanding of square roots to determine information about a point, a square, and a side length. In "Topic 9," students model integer operations with algebra tiles, represent integers on number lines, and find patterns. Each topic culminates with the topic quiz where students select strategies they have learned throughout the topic to solve a variety of problems. For example, "Topic 2" presents students with fill-in-the-blank and multiple-choice problems in mathematical and real-world contexts. Students must choose the strategy to solve the operations with rational numbers problems.
- The "Staying Sharp" materials in each topic offer interleaved practice opportunities that integrate previously learned skills and concepts across lessons and units. For example, "Topic 7, Lesson 1" begins with an overview of variables, expressions, and equations. The "Staying Sharp 1" material covers skills and concepts from prior topics, such as a percent of a number from "Topic 5" and graphing ordered pairs from "Topic 6," which prepares students to use those strategies throughout "Topic 7."

Balance of Conceptual and Procedural Understanding

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

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

Evidence includes, but is not limited to:

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

- The materials in grade 6 include questions and tasks that have students engage with a variety of models and representations to interpret, analyze, and evaluate various concepts. In "Topic 4, Lesson 2," the material prompts teachers to provide students with various measurement tools in customary and metric units to answer questions in which they must choose the appropriate tool to solve the problems. The materials provide students with double number lines and proportions as two methods of solving measurement conversion, allowing students to analyze and evaluate the best method for the given situations. In "Topic 8, Lesson 3," students engage with animated panels by interpreting and analyzing a scale shown to demonstrate an equation. Students begin using algebra tiles on a scale to solve one-variable, one-step equations before progressing to algebraic methods for the same equations. The "Student Activity Sheet (SAS)" includes questions that students answer by translating their knowledge from the model to words to explain the process of using inverse operations to solve equations.
- The materials include questions and tasks that require students to evaluate the appropriate use of models and choose models to represent situations. In "Topic 9," students engage with a variety of models and representations, including algebra tiles and number lines, on the animated panels in the lesson activities of "Lesson 2" through "Lesson 5." Students interpret the models to represent addition and subtraction of integers by finding common patterns to lead to the algorithm. As students progress through the topic, they evaluate the most appropriate model to represent and solve the addition and subtraction of integers.
- The materials include questions and tasks that support conceptual learning, leading from representations to mathematical concepts. In the "Topic 1" "Constructed Response 2"

Section, students review two examples of incorrect work for simplifying an expression using order of operations. Students must find, explain, and correct the mistakes made in each piece of work. Students practice simplifying expressions using order of operations on their own. In the "Topic 4" "Constructed Response 2" Section, students review a visual representation for painting a wall and then calculate its square feet. Students use the area and the time taken to paint the wall to determine a unit rate for two situations. This model supports students in making the connection between the representation and the concept. In "Topic 5," students use pictorial models to represent fractions before progressing to more complex questions. The "SAS" for "Topic 5, Lesson 3" includes questions encouraging students to use various models and representations to interpret different concepts, such as in question 7 where a pictorial representation shows the number of pans of lasagna eaten.

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

- The materials require students to generate a variety of models that illustrate their comprehension of mathematical concepts in the "SAS" for the topics and lessons. In "Topic 1," students create their own representations and area models when given multiplication or division expressions. In "Topic 5, Lesson 4," students generate strip diagrams, 10-by-10 grids, and number lines to represent benchmark fractions and percents. In "Topic 7, Lesson 6," students represent linear relationships with tables, graphs, and equations to answer questions about the relationships. In "Topic 8," students use a balance scale to model equations remaining balanced. In one problem, students must represent "3 + 5 = 8" by placing "3 + 5" algebra tiles on one side of the scale and "8" algebra tiles on the other side of the scale. Students use the model to answer the conceptual question, "What must be true for the scale to remain balanced?" In "Topic 10, Lesson 1," the "SAS" requires students to create various models to represent integer operations. The second problem asks students to draw algebra tiles to model the solutions, and the third question asks students to represent solutions on a number line. These examples demonstrate how the tasks and questions in the "SAS" require a variety of models.
- The "Constructed Response" Sections include questions and tasks that support conceptual learning, leading from representations to mathematical concepts. In the "Topic 3" "Constructed Response 1" Section, students create a double-line diagram or ratio table to represent the use of ratios to find an equivalent ratio. In the "Topic 6" "Constructed Response 1" Section, students model the representation of rational numbers on a number line. This model supports students in making the connection between the model and the mathematical situation.

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

- The "SAS" materials in the topics and lessons include questions and tasks for students to apply conceptual understanding to new situations and contexts. In "Topic 1, Lesson 1," students review whole number operations and apply those skills to question 3 where students

use estimation as part of a budget for a party and determine if those estimations are reasonable. In "Topic 7, Lesson 10," students determine a pattern through a given model and write an equation to represent the pattern. Students then apply the equation to solve a problem in the reverse order. In "Topic 9, Lesson 6," students apply their knowledge of integer operations by using algebra tiles and number lines to find patterns that introduce them to the standard algorithm of adding and subtracting integers.

- The "Constructed Response" Sections include questions and tasks that prompt students to apply conceptual understanding to new situations and contexts. In the "Topic 1" "Constructed Response 1" Section, students use their knowledge of operations with whole numbers and estimations to solve problems in a real-world example from a fun park that includes prices and coupons for each activity. Each question requires students to calculate expenses for different activities and different purchases. Students explain and justify their answers for each situation. The "Topic 2, Lesson 11" "Constructed Response 2" Section outlines opportunities for students to justify their reasoning in analyzing the responses to two incorrectly solved division with rational numbers problems. In the "Topic 3" "Constructed Response 1" Section, students engage in an open-ended task by solving proportions by using equivalent ratios, double number lines, and tables. Students choose the representation they want to use and justify their reasoning by explaining the process they used to answer the problem. In the "Constructed Response 3" Section for "Topic 6, Lesson 8," the material incorporates questions and tasks that encourage students to apply their conceptual understanding to novel problem situations and contexts, guiding them to justify their explanations through thoughtful application. For example, question 1 provides students with prompts to create a polygon on a coordinate plane by following the instructions. Students use their knowledge of the coordinate plane to complete the task and justify their answers to the following questions. In the "Topic 8, Lesson 9" "Constructed Response 2" Section, students create a problem-solving scenario that could be modeled by the inequality provided. Students previously wrote equations and inequalities to model descriptions, and now write the description for a given equation or inequality. These activities provide opportunities for students to apply their understanding of what they learn and justify their understanding through explanations.

Balance of Conceptual and Procedural Understanding

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

The materials provide tasks that are designed to build student automaticity and fluency necessary to complete grade-level tasks. Materials provide opportunities for students to practice the application of efficient, flexible, and accurate mathematical procedures within the lesson and/or throughout a unit. Materials provide opportunities for students to evaluate procedures, processes, and solutions for efficiency, flexibility, and accuracy within the lesson and throughout a unit. Materials contain embedded supports for teachers to guide students toward increasingly efficient approaches.

Evidence includes, but is not limited to:

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

- The materials provide structured practice that progressively increases in difficulty to build student automaticity in completing grade-level tasks. In each lesson, students engage in interactive activities and complete the "Student Activity Sheets (SAS)" over the course of the lesson. As students work through the pages of the lesson, the digital platform tells students which questions from the "SAS" align with the online activity. Each activity prompts students to engage in thinking about a concept or answer a question. The activities increase in difficulty as students progress. In the first activity of "Topic 2, Lesson 2," students watch an animation showing the process of multiplying fractions by whole numbers. In the second activity, students complete a drag-and-drop activity to summarize the process of multiplying fractions by whole numbers. In the subsequent activities on the "SAS," students apply what they have learned to recognize patterns and transfer their understanding to new situations. In "Topic 9, Lesson 6," students discover patterns in addition and subtraction of integers through interactive practice and self-check activities. Students use repeated practice activities to build fluency in the operational rules in mathematical situations and apply the rules to real-world situations. These activities provide students with practice to build automaticity in applying concepts in various situations.
- The materials include resources and tasks designed for students to build fluency to complete grade-level tasks. The "Staying Sharp" practice pages include questions separated into two

sections, preparing for upcoming lessons and practicing skills and concepts from previous topics. In "Topic 1" "Staying Sharp 1," the questions review basic whole number calculations for students to practice their automaticity and fluency. In "Topic 2" "Staying Sharp 1" and "Staying Sharp 2," students practice adding and subtracting positive rational numbers and simplifying expressions from the previous topic. In "Topic 4," the "Staying Sharp 2" material provides students with spiral review exercises to practice ratios, simplify fractions, find equivalent fractions, and multiply and divide rational numbers. In "Topic 9" "Staying Sharp 1," students review operating with and ordering rational numbers and practice adding and subtracting integers with multiple entry points of scaffolding, including using models to represent the operations.

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 "Lesson Activities" materials provide opportunities for students to apply efficient, flexible, and accurate mathematical procedures within lessons and topics. The structured interactive activities and accompanying practice in the "SAS" prompt students to reflect on the accuracy and efficiency of their solutions. Materials encourage the practice of flexible mathematical procedures through multiple entry points and varied strategies. Students analyze completed problems to identify errors, correct them to check for accuracy, and choose the most efficient strategy in mathematical procedures. In "Topic 3, Lesson 6," students engage in tasks that allow them to choose different strategies for solving problems. The materials prompt teachers to use the think-pair-share strategy to have students discuss their reasoning for how equivalent ratios are related. In the "Practice" Section for "Topic 9, Lesson 6," students practice adding and subtracting integers using the discovered algorithm in real-world situations. This practice promotes conceptual understanding and refinement of procedural skills by using efficient, flexible, and accurate procedures.
- The "Constructed Response" activities in each topic require students to apply the knowledge they learned throughout the topic efficiently and accurately in real-world scenarios. The "Constructed Response 1" task in "Topic 2" requires students to find the area and perimeter of the garden with rational number measurements. The students sketch the garden with dimensions for the designated amount of space for each vegetable. Students find the cost of fencing a particular vegetable separately from the rest of the garden. Students adjust the layout of the garden to create a new design and compare if the cost of fencing would be the same. The activity provides students with the flexibility to represent and calculate the information in their own way while maintaining the accuracy of the calculations and efficiency in completing the mathematical procedures. In the "Topic 13, Lesson 7" "Constructed Response 3" task, students review different approaches to representing data to ensure efficiency and accuracy in their approach to problem-solving.
- The topic resources include "Staying Sharp" practice activities where students practice applying efficient and adaptable mathematical procedures learned throughout the course. The material includes problems that revisit concepts covered in previous lessons or topics and concepts that prepare students for upcoming lessons. In "Staying Sharp 2" in "Topic 4,"

students solve problems relating to equivalent ratios and operating with rational numbers. Students can choose the most efficient way to solve each problem accurately.

- The materials include a "Topic Quiz" at the end of each topic where students practice the application of efficient, flexible, and accurate mathematical procedures. The material presents questions in multiple forms, including multiple-choice, drag-and-drop, fill-in-the-blank, multiple-selection, and text entry. Students have the flexibility to choose the most efficient method to solve problems accurately. In "Topic 1," the "Topic Quiz" requires students to analyze problems over operations with whole numbers by using estimation, common factors and multiples, and order of operations and choose the most appropriate method to solve the problems. In the "Topic 9" "Topic Quiz," students use their knowledge of adding and subtracting integers, which can include their use of models or algorithms, to solve real-world problems.

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

- The "Deliver Instruction" materials include strategic questions for teachers to use during instruction. The questions prompt students to think critically and consider different representations for various situations. In "Topic 9, Lesson 1" under "Deliver Instruction," teachers ask students to explain the similarities and differences between two representations of adding and subtracting integers. In "Lesson 6," students work in pairs to investigate three different models for adding and subtracting integers and decide which they like best.
- The "MARS Task" activities incorporate questions and tasks that encourage students to apply their conceptual understanding to novel problem situations and contexts, guiding them to justify their explanations through application. In "Topic 7, Lesson 10" "MARS Task: Square Spirals," students determine a rule for a pattern by creating diagrams or tables. The instructions prompt teachers to allow students to use sketches or manipulatives to create the diagram. In question 4, students evaluate if their pattern solution is accurate by working backward to solve the problem.
- The "Constructed Response" activities in each unit incorporate questions and tasks that encourage students to apply and evaluate their conceptual procedures, processes, and solutions to new situations and contexts. In the "Topic 1" "Constructed Response 2" task, students review the use of the order of operations in two examples of student work that each include a mistake. The students determine where the mistake was made and how to correct the work for each example. The teacher guidance encourages teachers to pair students to compare answers and strategies. The "Constructed Response 3" task in "Topic 6, Lesson 8" requires students to explain their understanding of the number system on a coordinate plane. Through their explanations, students evaluate the efficiency, flexibility, and accuracy of the process they used to plot the points correctly.

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

- The "Professional Support" sidebar includes "Getting Started" and "Teaching With" dropdowns for teachers to view essays and practical demonstrations of the resources in action. These resources explain how to effectively use and implement the resources for each topic, guiding students toward more efficient approaches. The "Lesson Planning and Practice" essay provides strategies and resources for supporting students in their problem-solving abilities, including utilizing academic literacy to "build essential vocabulary, connect representations, and communicate their understandings." This step-by-step support provides teachers with the guidance necessary to support students. The professional development materials include guided questions to help teachers internalize and establish connections with the provided resources. The "Moving from Concrete to Abstract" Section includes panels with video examples of teachers using the product to guide students towards efficient approaches and provide reflection questions for teachers. Teachers can use the information to consider how to guide students' thinking from concrete to abstract concepts.
- The "Prepare Instruction" materials at the beginning of each topic contain embedded supports for teachers to guide students toward increasingly efficient approaches. The "About this Topic" Section explains the trajectory within the topic and various approaches that can be used. In "Topic 3," the section explains students will represent ratios with tape and shape diagrams, double number line diagrams, tables, equations, and graphs. The materials include suggested scaffolded instruction in the "Topic at a Glance" Section, which shows how the lessons build on skills learned. In "Topic 4," "Lesson 9," "Lesson 10," and "Lesson 11," students solve proportional relationships using percents by first developing the understanding of percent as a rate per 100, solving problems with percents in a variety of contexts, and applying their knowledge to a final task. This provides time and opportunity for students to develop efficient strategies.
- The "Deliver Instruction" materials provide teacher guidance to facilitate student learning and performance on tasks. The materials include sample questions and prompts designed to stimulate student reasoning and guide them toward more effective problem-solving approaches. In "Topic 2, Lesson 10," the material prompts teachers to help students reflect on their work and strategies. Teachers have opportunities for one-on-one, small group, and whole-class discussions to point out and highlight the more efficient approaches. In "Topic 3, Lesson 12," the teacher prompts students to collaborate in small groups and as a whole class. There is an opportunity for a whole-class debrief for the teacher to highlight any misconceptions and emphasize how the various strategies for working with ratios were applied to this particular problem-solving context.

Balance of Conceptual and Procedural Understanding

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

The materials explicitly state how the conceptual and procedural emphasis of the TEKS are addressed. Questions and tasks include the use of concrete models and manipulatives, pictorial representation (figures/drawings), and abstract representations. Materials include supports for students in connecting, creating, defining, and explaining concrete and representational models to abstract (symbolic/numeric/algorithmic) concepts.

Evidence includes, but is not limited to:

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

- The "Professional Support" sidebar includes "Course Planning and Pacing" documents that provide teachers with additional support to plan and implement instruction with the aligned standards. The "Texas Mathematics 6 Course Rationale" material explains the Grade 6 Texas Essential Knowledge and Skills (TEKS) prioritizes proportionality; expressions, equations, and relationships between quantities; and measurement and data. It explains the course addresses the key content areas identified by the TEKS, focusing on concrete and pictorial models before connecting the models to concepts and contexts. The article states the course "emphasizes a process of engaging in exploration, problem-solving, multiple representations, and making connections." Students have consistent opportunities to practice and apply the concepts in real-world and mathematical problems. The *Mathematics 6 Scope and Sequence* outlines how each topic corresponds with specific TEKS. Each topic includes a description of how the TEKS will be addressed. For example, in "Topic 5," the description explains multiple representations of rational numbers as fractions, decimals, and percents will be the focus and will be addressed by TEKS 6.02.C, 6.02.D, 6.02.E, 6.04.E, 6.04.F, 6.04.G, 6.05.B, and 6.05.C. The "Mathematics 6 Lesson Alignments" material lists lessons with the specific TEKS addressed. For example, in "Topic 9, Lesson 2," the concept of integer addition and subtraction using a modeling procedure is aligned to TEKS 6.03.C and 6.07.D.
- The "Course Materials" sidebar includes the "Course Topics" tab and lists each topic addressed in the course. Each topic has a "Description" explaining the concepts and procedures addressed in the topic and an "Alignments" button that when clicked expands to show the TEKS covered in that topic. In "Topic 9," the "Description" explains students will build on their understanding of integers by using models to build proficiency in addition and

subtraction of integers. The "Alignments" show that the topic addresses TEKS 6.03.C, 6.03.D, and 6.07.D.

- The "Prepare Instruction" material for each topic explains the concepts and procedures of the TEKS and how they are addressed in the topic. In "Topic 1," students extend representations for division (6.02.E) and generate equivalent numerical expressions with order of operations (6.07.A) and with properties of operations (6.07.D). The "Goals and Objectives" Section for "Topic 1" lists what students will be able to do by the end of the topic. These relate explicitly to the TEKS addressed in the topic by having students analyze, compute, solve, write, identify, and apply their knowledge to the concepts.
- The "Deliver Instruction" materials address procedural emphasis through explicit learning objectives focused on key procedural skills. "Topic 5, Lesson 1" prompts teachers to use the lesson materials to preview the lesson's goal, stating, "generate equivalent forms of fractions, decimals, and percents using real-world and mathematical problems." This objective corresponds to TEKS 6.04.G, as shown in the "Lesson Alignments" material. In "Topic 7, Lesson 2," students use models to represent real-world applications of algebraic equations. The materials require students to use symbols to represent an unknown age and translate the situation to an equation. This structure promotes students to develop procedural fluency as outlined by TEKS 6.07.B.

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

- The *Mathematics 6 Scope and Sequence* outlines the variety of models and manipulatives that will be used throughout the course as appropriate for grade 6 students. The material provides teachers with guidance on what type of models, manipulatives, and pictorial representations will be used. In "Topic 3," the description explains students will use diagrams, tables, proportion equations, and coordinate graphs to represent and analyze ratios.
- The grade 6 materials include questions and tasks that use grade-level appropriate concrete models and manipulatives within the activity panels and corresponding tasks in the lessons. In initial lessons in a topic, models are used to establish foundational understanding before leading to abstract representations. In "Topic 8," students begin learning about solving equations and inequalities by using algebra tiles on a scale before progressing to algebraic methods for the same equations. The "Student Activity Sheet (SAS)" for "Topic 8, Lesson 3" includes questions that encourage students to use models first and then algebraic representations of equations to show solving with inverse operations. In "Topic 9," student activities include the use of algebra tiles and number lines to represent adding and subtracting integers. Students build a foundation of the operations through the models and use the models to recognize patterns that lead to the standard algorithm.
- The materials include questions and tasks that use grade-level appropriate pictorial and abstract representations within the activity panels and corresponding tasks in the lessons. In a topic's initial lessons, pictorial representations are used to establish foundational understanding before leading to abstract representations. "Topic 1, Lesson 3" addresses dividing whole numbers. The activity uses pizzas to help students show division with a drawing tool in the interactive animation. The students come up with different ways to represent the

division in the first animation. In the second animation, students use drawing tools on the screen to show their ideas. The final animation gives students another approach to the division, leading students to the abstract representations of division with the division box, division sign, and fraction bar. In "Topic 3," students use pictorial models, such as tape diagrams and pictures of game pieces and coins, to represent ratios in the first lesson. In "Lesson 2," students translate the pictures to tabular representations to help them begin to use ratios in abstract representations, such as proportions.

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

- The "Professional Support" sidebar includes essays for "Teaching With" the material. The "Moving from Concrete to Abstract" essay explains the intentional timing of the lessons throughout the course. The goal is to offer students an experience that allows them to make a connection to abstract definitions and concepts. Lessons begin with a real-world connection and connection to prior learning. Students explore concrete models and representations through hands-on activities and lesson animations. Students work in small groups to discuss their understanding and mathematical strategies with peers and build a foundation in the abstract concepts.
- The "Lesson Activities" materials outline various opportunities for students to articulate their emerging understanding of mathematical concepts and procedures through modeling, discussion, and practice with hands-on and digital animation activities that scaffold the learning of mathematical concepts. "Topic 2, Lesson 3" addresses multiplying fractions. The lesson includes interactive animations representing cutting a cake into pieces, adding frosting, and adding sprinkles to represent multiplying fractions by fractions. Students interact with the animation and make quantitative observations about the results of each step, to connect the representation to an area model used for multiplying fractions. The activity builds on the representations by having students make connections between an expression, an area model, and the product. The lesson ends by providing students with a set of multiplying fraction equations and asking students to find their products and make observations. In "Topic 7, Lesson 2," students use models of algebraic equations to represent real-world applications. The materials introduce students to variables by using pictures to represent an unknown age. Students assign a variable to represent each picture and translate this into a symbolic equation. Students utilize the representational models to lead to a conceptual understanding of the abstract concept of equations. The materials provide students with the opportunity to build automaticity with fluency skills necessary to complete grade-level tasks through multiple scaffolded tasks and practice opportunities within the lesson activities. In "Topic 9, Lesson 2," students use concrete models with algebra tiles to connect to more abstract thinking to answer questions about adding and subtracting integers.
- The "SAS" materials include various supports for students in creating, defining, and explaining concrete and representational models. In "Topic 3, Lesson 5," students engage in connecting representational models to abstract concepts by using shape diagrams, tape diagrams, and double-number line diagrams to make meaning of ratios that are not in the same units. Students are asked to compare the options for understanding ratios. Students discuss the

differences, answer questions, and solve new problems using these models to demonstrate their understanding of proportional relationships. "Topic 5" requires students to make equivalent numbers in the form of fractions, decimals, and percents. In "Lesson 6," students use number lines to help compare and order numbers in different forms. By using the number line location of the values, students translate their understanding into the symbolic and numeric comparison of rational numbers. In "Topic 7, Lesson 6," students generate a range of representations, including tables, graphs, and equations, to illustrate their comprehension of relationships with two variables. In "Topic 9," the "SAS" supports students' understanding of integer operations through various supports, including modeling with algebra tiles, using number lines, and guided questions, that build to students answering short answer response questions asking them to explain their thinking by using the abstract algorithm of adding and subtracting integers.

Balance of Conceptual and Procedural Understanding

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

The materials provide opportunities for students to develop their academic mathematical language using visuals, manipulatives, and other language development strategies. Materials include embedded guidance for the teacher addressing scaffolding and supporting student development and use of academic mathematical vocabulary in context. Materials include embedded guidance for the teacher to support the application of appropriate mathematical language to include vocabulary, syntax, and discourse to include guidance to support mathematical conversations that provide opportunities for students to hear, refine, and use math language with peers and develop their math language toolkit over time as well as guide teachers to support student responses using exemplar responses to questions and tasks.

Evidence includes, but is not limited to:

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

- The "Teaching English Language Learners" essay highlights the importance of providing opportunities for students to develop academic mathematical language using visuals, manipulatives, and other language development strategies. It outlines the importance of introducing Emergent bilingual students to mathematical concepts through diverse methods, such as pictures, kinesthetic movements, manipulatives, listening, speaking, reading, and writing, to cater to different learning styles and enhance comprehension. The course material supports this approach by offering definitions of key vocabulary terms within a new learning context, accompanied by rich visual representations and interactive animations that clarify the associated concepts. By providing these multiple pathways for language development, the essay states that students are not only exposed to academic vocabulary but are also able to understand and apply it within their mathematical learning, deepening their academic literacy and subject matter understanding.
- The "Topic Content" sidebar includes dropdowns to the teacher's instruction for the topic as a whole, the individual lessons, and the vocabulary list for the topic. The materials offer

opportunities for students to develop academic mathematical language through instructional strategies provided to teachers in the "Language Support" Section of the "Prepare Instruction" material at the beginning of each topic. The section includes the core vocabulary for the topic that students become familiar with using and defining throughout the lessons. The section provides guidance by highlighting specific terms or strategies teachers can use with students to help them better understand the academic vocabulary. "Topic 9" prompts teachers to create a classroom culture that encourages students to communicate academically and stresses the importance of listening skills. Each topic in the materials highlights the mathematical vocabulary introduced and practiced with the lessons under the "Vocabulary" Section. The listed words link to the online glossary that provides each word's definition in both English and Spanish, along with an example. In "Topic 9," *zero pair* is listed, and the glossary explains that it "refers to a pair of integers or terms with the same absolute value by opposite signs." A pictorial representation of algebra tiles demonstrating zero pairs is provided beneath the definition.

- The "Deliver Instruction" materials include advice for teachers to support academic language development. In "Topic 3, Lesson 1," advice in the "Lesson Activities" Section includes modeling appropriate use of mathematical language for all students and additional advice to support English learners and other special populations. "Lesson 1" includes sentence stems the teacher can provide for students to help them create their own comparison statements. Additional support provided in this lesson highlights the importance for students to write high-frequency words in their math notebook that they hear throughout the lesson as students describe, compare, and identify objects. In "Topic 6, Lesson 5," the material provides embedded support for teachers to use with unfamiliar vocabulary by projecting or displaying a blank coordinate grid to check for understanding of key vocabulary. Teachers ask students to discuss and explain the vocabulary during the "Opening and Framing Questions" at the beginning of the lesson.
- The "Lesson Activities" Section includes student-facing lesson animations and tasks that include content and language supports. In "Topic 3, Lesson 1," the top of the screen defines *ratio*. The word *ratio* is printed in bold and italics to note that it is an important vocabulary word. The animation below the definition uses game pieces that students can organize to create ratios and accompanying ratio statements. The following slides give concrete examples of ratios and possible ratio statements, then provide students the opportunity to create a pictorial representation using a given ratio. The "Constructed Response" activities embedded within the topics provide students the opportunity to develop their academic mathematical language through specific tasks where they apply new words they have learned in the topic in their writing. In the "Topic 4" "Constructed Response 3" task, students demonstrate their understanding of rates represented on a graph by explaining the different rates at which an object moves based on the steepness of the lines on the graph.

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

- The "Teaching English Language Learners" essay provides guidance for teachers on scaffolding and supports for student development and use of academic mathematical

vocabulary in context. It emphasizes introducing English learners to mathematical concepts before naming them with academic vocabulary, allowing for understanding through experiences and discussions. The course materials aid this process by providing definitions of key terms within the context of new learning, supported by visual representations and interactive animations. The essay highlights practical teaching strategies with descriptions of their use, such as using pictures, kinesthetic movements, manipulatives, and various language activities to support different learning styles. This contextual approach encourages students to not just memorize words but understand and apply them within their mathematical learning. This approach enhances student academic vocabulary building and overall comprehension.

- The "Prepare Instruction" material for each topic includes the "Language Support" Section, which offers guidance for teachers in introducing and promoting student use of academic vocabulary. The materials include the core vocabulary of the topic and provide scaffolding teachers can use to assist students in developing and employing academic vocabulary. In "Topic 6," the guidance encourages the continued use and building of a class word wall to help students internalize the mathematical meaning of the terms. It suggests teachers provide labeled visual displays of number lines and the coordinate plane to support students' mathematical language acquisition and sense-making.
- The "Deliver Instruction" materials include embedded guidance for teachers to support students with scaffolding around the use of academic mathematical vocabulary in context. The lessons include "Classroom Strategies" and "Support for ELL/Other Special Populations" Sections, which recommend turn-and-talks and sentence frames to support student engagement with vocabulary. In "Topic 1, Lesson 1," teacher guidance for the lesson includes the language strategy to connect the vocabulary words *product* and *quotient* to their operation by repeating the same question, the first time with the vocabulary word and the second time with the operation. One of the "Supports for ELL/Other Special Populations" directs teachers to the "Language Note" on the student pages to clarify other definitions or meanings of *product* and *operation* along with the mathematical context of the words. Another support in the lesson is sentence stems during partner work. The sentence stems can be used for written or verbal answers. Since this is the first lesson in the first topic, the final support in the lesson recommends that teachers use debriefing questions for "Exit Tickets" to help students summarize and organize their thoughts. In "Topic 5, Lesson 2," the guidance encourages students to discuss their observations of the word *rational* and its potential meanings. It explains students may recognize root words, like *ratio*, to help them form a definition. In "Topic 12, Lesson 4," guidance suggests teachers reinforce geometric language describing shapes through strategies such as a word wall and modeling.

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

- The "Teaching English Language Learners" essay integrates various instructional strategies and embedded supports for English learners across multiple dimensions of learning. The essay outlines practical teaching strategies aligned with English learners' needs and demonstrates how the course materials support these strategies. The essay highlights the importance of building academic vocabulary by defining terms within the context of learning, specifically by embedding guidance for vocabulary, syntax, and discourse to support mathematical conversations. The strategies include students keeping a vocabulary notebook, participating in think-alouds, using echo-repeat or choral chants, participating in activities with word walls, and using multiple representations. The "Fostering Student Discourse" Section emphasizes that the teacher should provide frequent opportunities for students to speak and write about the content in meaningful ways that encourage them to reason, justify, generalize, and deepen content knowledge. It explains the guiding questions and questioning strategies embedded throughout the lessons support teachers in helping students build conceptual understanding by evaluating evidence and revising their thinking. It includes explicit strategies with instructions teachers can implement in the classroom, including think-write-pair-share, sentence frames or stems, adapted activities, talk-read-talk-write, and Kagan structures.
- The "Deliver Instruction" materials for each lesson include embedded guidance for the teacher to support the application of appropriate mathematical language, facilitating opportunities for students to hear, refine, and use math language with peers, and develop their math language toolkit over time. The lessons include "Classroom Strategies" for teachers, including tasks like turn-and-talks, English learner support strategies, language strategies, and other engagement strategies. In "Topic 2, Lesson 6," the "Support for ELL/Other Special Populations" strategy reminds teachers that connecting the visuals from the lesson to the corresponding values, expressions, and equations helps build conceptual understanding before moving to procedural fluency. In "Topic 5, Lesson 6," the materials prompt teachers to facilitate mathematical discourse by guiding students to engage in conversations that support the development and refinement of mathematical language. It states, "Have students work in pairs and restate the information in their own words. Then have them fit this information into the rule they developed, if it is not there already." The materials include various types of questions for the teacher that open discussion with students through opportunities for whole- and small-group mathematical dialogue in each lesson. In "Topic 9, Lesson 1," teachers are provided with "Opening and Framing Questions," guiding questions to use throughout the lesson activity, and "Further Questions" at the end of the lesson. Examples include: "What does it mean for the temperature to be -35°F?", "Why did Archibald skate to the right to represent his earnings?", "How could you put each of these representations into words?", and "What are some other examples of situations in which you might use negative numbers?"

Teachers can have students respond verbally or in writing to allow practice in peer discourse and refining the use of their mathematical language.

- The student-facing activities in lessons include opportunities to work collaboratively with peers to support their mathematical language development. Each student-facing activity includes a teacher key or rubric to provide teachers with exemplar responses. "Topic 2, Lesson 11" includes the "Constructed Response 2" task, which requires students to apply what they have learned throughout the topic. For this activity, students work in pairs to answer the questions and justify their answers. The students discuss their thoughts with each other and justify their answers in written form. One question asks students to describe errors in examples of incorrectly solved problems. It provides teachers with an example response utilizing academic vocabulary. The "Student Activity Sheet (SAS)" for "Topic 5, Lesson 1" offers a set of discussion questions designed to facilitate open discourse among students while guiding them towards exemplar responses to questions and tasks using their developed mathematical language. These questions encourage students to use precise language, provide evidence to support their answers, and justify mathematical relationships across various contexts. One question requires students to explain the process they used to determine their answer. The teacher key explains that answers will vary but also provides a sample answer to help guide students to exemplar responses.

Balance of Conceptual and Procedural Understanding

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

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

Evidence includes, but is not limited to:

Process standards are integrated appropriately into the materials.

- The "Texas Mathematics 6 Course Rationale" material explains how the course connects the learning to the mathematical process standards outlined in the Texas Essential Knowledge and Skills (TEKS). The mathematical process standards expect students to solve problems in everyday life, apply a problem-solving model, select appropriate tools, communicate ideas and reasoning, create and use representations, analyze relationships, and display, explain, and justify using mathematical language. The "Course Rationale" addresses the key content areas identified by the TEKS focusing on modeling, multiple representations, and problem-solving through engaging students in exploration, analysis, and generalization. The material details the use of visual contexts throughout the instructional materials to help students develop their academic vocabulary. In the "Course Order and Concept Connections" Section, each topic is grouped into units that include a description of how students will interact with the content. "Topic 2," for example, provides a variety of models and appropriate tools for students, allowing for interactive exploration to connect concrete models with algorithms for multiplication and division of rational numbers.
- The *Mathematics 6 Scope and Sequence* material outlines the process standards and their integration throughout the course materials. Students will acquire and demonstrate their mathematical understanding through the use of mathematical processes. The material states, "These processes should become the natural way in which students come to understand and do mathematics." It explains students should pay particular attention to communication, reasoning, and analyzing concepts as they begin to formalize ideas and develop fluency with algorithms.

- The "Deliver Instruction" material lists a "Goals and Objectives" Section for students that corresponds with the mathematical process standards. In "Topic 2, Lesson 1," students use a visual model or equation to represent multiplication and division of fractions and decimals. Students create and use different representations and analyze relationships. The "Opening and Framing Questions" of the lesson prompt teachers to allow students to select appropriate tools that could be used to model fractions. Teacher guidance within the lesson activities recommends encouraging students to share their visual representations, discuss any disagreements, and offer reasons to make a change. This provides students with opportunities to display, explain, and justify using mathematical language. The materials integrate content with the appropriate process standards. In "Topic 4, Lesson 5" students explain their solutions and reasoning through guided questioning. Prompts for teachers guide looking for student reasoning in their explanations. The "Student Activity Sheet (SAS)" in "Topic 7, Lesson 10" incorporates questions and tasks that encourage students to apply their conceptual understanding to novel problem situations and contexts, guiding them to justify their explanations through application.

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

- The "Texas Mathematics 6 Course Rationale" provides an overview and explanation of how the process standards are embedded throughout the course. The process standards outline that students will solve problems in everyday life, apply a problem-solving model, select appropriate tools, communicate ideas and reasoning, create and use representations, analyze relationships, and display, explain, and justify using mathematical language. The material explains students have consistent opportunities to practice and apply their mathematical learning to real-world problems. Students also engage in exploration and problem-solving, use multiple representations, such as verbal, tabular, pictorial, graphical, and algebraic, and make connections between concepts. It explains how visual contexts assist students in developing academic vocabulary through language and classroom strategies guidance for teachers. The "Course Order and Concept Connections" Section groups topics into units that include a description of how students will interact with the content. "Topic 2" describes how students will use a variety of models and appropriate tools for interactive exploration.
- The *Mathematics 6 Scope and Sequence* outlines the process standards and their integration throughout the course materials to acquire and demonstrate mathematical understanding. It explains, "These processes should become the natural way in which students come to understand and do mathematics." The material discusses how the current grade level utilizes the process standards throughout the course, including having students pay particular attention to communication and reasoning of mathematical concepts.
- In the "Course Materials" sidebar, the "About the Course" material describes the course's development of students' ability to use key mathematical processes. The materials explain some processes may be more pertinent or centric to the topic or lesson, depending on the content. Students pay particular attention to communication and reasoning as they begin to formalize ideas from elementary grades, such as working with variables, developing fluency

with algorithms and geometry formulas, analyzing mathematical relationships, and making connections among various representations. Materials promote providing students with opportunities to investigate authentic problems and use mathematics to model real-world situations.

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

- The "Texas Mathematics 6 Course Rationale" provides an overview and explanation of how the process standards are embedded throughout the course. The process standards outline that students will solve problems in everyday life, apply a problem-solving model, select appropriate tools, communicate ideas and reasoning, create and use representations, analyze relationships, and display, explain, and justify using mathematical language. The material explains students have consistent opportunities to practice and apply their mathematical learning to real-world problems. Students also engage in exploration and problem-solving, use multiple representations, such as verbal, tabular, pictorial, graphical, and algebraic, and make connections between concepts. It explains how visual contexts assist students in developing academic vocabulary through language and classroom strategies guidance for teachers. The "Course Order and Concept Connections" Section groups topics into units that include a description of how students will interact with the content. "Topic 2" describes how students will use a variety of models and appropriate tools for interactive exploration. "Topic 3" and "Topic 4" focus on real-world problems.
- The *Mathematics 6 Scope and Sequence* explains students are provided multiple opportunities throughout each topic to apply their mathematical learning to real-world problems by listing the TEKS relevant to the topic. In "Topic 10," the description and TEKS 6.03.C explain students use concrete models to connect to standard algorithms of multiplying and dividing integers.
- The "Prepare Instruction" material for each topic explains the connection of the process standards to the content of the topic. In "Topic 1," students will make connections between the mathematical content to their lives through problem-solving models, analyze relationships between multiple relationships for division, construct viable arguments, and make reasonable estimates with justification to communicate ideas and reasoning with mathematical language. The material includes a list of additional resources, including appropriate tools for students to select and use as needed. For example, "Topic 1" requires two different colors of beans, tiles, or blocks. In "Topic 9," students focus on adding and subtracting integers through multiple representations and models, including number lines and algebra tiles.

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

- The "Deliver Instruction" material for each lesson explains the connection of the process standards to the content of the lesson in the "Goals and Objectives" Section. In "Topic 1, Lesson 1," students will make reasonable estimates of operations with rational numbers with justification, meaning students will have to explain their reasoning with mathematical language. In "Topic 2, Lesson 2," students use a visual model or equation to represent

multiplication and division of fractions and decimals. Students will create and use different representations and analyze relationships, based on the lesson's goals and objectives. The "Opening and Framing Questions" introduce students to the lesson's concepts through real-world or mathematical situations. In "Topic 2, Lesson 2," students select appropriate tools that could be used to model fractions. The lesson activities provide interactive tools for students to choose from. In "Topic 9, Lesson 4," the entire lesson connects to applying mathematics to problems arising in everyday life by using temperatures and thermometers to compare integers.

- The "Deliver Instruction" material includes teacher prompts and guidance for helping students use and apply the process standards in the "Lesson Activities" Section. The materials provide specific strategies, activities, or problems for integrating the process standards into the lesson. The process standards are embedded throughout the lesson materials in discussions and written reflections focused on clear communication of mathematical ideas and multiple ways to solve. In "Topic 2, Lesson 2," the guidance instructs teachers to have students share their visual representations and discuss any disagreements, allowing students to display, explain, and justify using mathematical language. "Topic 4, Lesson 5" prompts students to explain and justify mathematical ideas and arguments using precise mathematical language in written and oral communication. The material emphasizes fostering the practice of critiquing others' reasoning in constructive and respectful ways to promote mathematical processes and practices. In "Topic 6, Lesson 3," students communicate mathematical ideas, reasoning, and their implications using multiple representations to "increase their skills in translating between symbols and words."

Productive Struggle

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

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

Evidence includes, but is not limited to:

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

- The materials provide opportunities for student discussion around the key concepts of the lesson that demonstrate their mathematical thinking and sense-making. In "Topic 2, Lesson 3," students connect the concept of multiplying fractions through area models to the algorithm. Students extend their understanding of multiplying fractions to look for patterns when multiplying by the reciprocal. In "Topic 9, Lesson 6," students work in pairs to discuss the patterns they discovered in finding the sums of integers. Students then study the patterns in subtraction problems to make the connection between subtracting and rewriting the problem as adding the opposite of the second integers.
- The materials include "MARS Tasks" which require students to understand, explain, and justify that there are multiple ways to solve a problem. In the "Topic 7, Lesson 10" "MARS Task," "Square Spirals," students translate algebraic relationships with variable equations from models. Students explain and show how they figured out a problem, allowing them to show their approach to thinking through tasks, persevering through problems, and making meaning of them. In "Topic 12, Lesson 3," students work with a partner to think mathematically and persevere through solving problems involving area and proportional reasoning to complete the "MARS Task," "Flag." Students determine which problem-solving model to use to complete the task. The guidance encourages the teacher to have students share misunderstandings they had when solving and explain how they revised their strategy to solve the problem correctly.
- The "Constructed Response" tasks in the material require students to extend their knowledge of mathematical concepts to real-world scenarios through mathematical problem-solving. "Constructed Response 1" in "Topic 1" connects operations with whole numbers to a real-world application with pricing from a fun park. The pricing comes in the form of tickets with a

set amount for each ticket or a booklet of tickets. Students calculate the cost for each person attending the fun park; everyone has their own agenda for what they plan to purchase and do at the park. Students use estimation and whole-number calculations to answer questions. Students explain their reasoning for the cost for each person. Further questions require students to think mathematically, persevere through problem-solving, make sense of mathematics, and justify their answers by answering questions that have a variety of approaches to determine if there is a purchasing situation that is better for a person than the original decision posed in the scenario. The task in "Topic 7, Lesson 7" requires students to solve problems using qualitative and quantitative predictions and comparisons. Students create tables and graphs to represent data and make predictions by using proportions, providing the space for students to think mathematically, persevere through problems, and make sense of mathematics.

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

- In the "Lesson Activities," materials support students in understanding, explaining, and justifying their ability to solve problems in multiple ways through discussion with peers. In "Topic 1, Lesson 3," students review dividing with whole numbers. At the beginning of the lesson, the teacher poses opening and framing questions to the students, requiring them to reflect on the previous lesson and consider the different models for division. The students participate in a class discussion using the questions posed by the teacher. As they proceed through the lesson, students work with a partner to discuss their methods, strategies, and answers. While monitoring the students, teachers look for interesting strategies and ask students to share with the class as appropriate. In "Topic 7, Lesson 5," guidance prompts teachers to have students sketch and label a square to show the formula for perimeter and how it is related to the figure. It states that there are several ways that a student could solve the problem, such as with a graph or a table that leads to the equation. The materials suggest students discuss the parts of the equation through a think-pair-share activity, requiring students to represent their understanding by explaining and justifying their thinking to their peers.
- The "Deliver Instruction" material for each lesson offers teacher guidance that supports students in explaining various approaches to problem-solving and completing tasks. In "Topic 4, Lesson 2," the material prompts teachers to allow students working in pairs to choose the method they prefer to use to solve the problem, providing the "opportunity to let students explore both methods, but the agency to choose the one they connect with most." In "Topic 4, Lesson 8," the material provides teacher guidance to help students grasp, articulate, and validate the concept that there are various approaches to solving problems and accomplishing tasks. The material prompts teachers to monitor pairs as they share ideas and record their thinking, then choose two or three different approaches to have students share with the class.
- The "Student Activity Sheet (SAS)" contains questions that require students to explain or justify the multiple ways they solve a problem and complete tasks. For example, in "Topic 1, Lesson 2," students analyze, compare, and use different models for division. In the first question on

the "SAS," students must choose a method to solve a word problem. In the next question, students solve the division problem using the three methods from the lesson. The following questions allow students to choose which method to use to solve the problems. Students must explain their method and reasoning for using it. In "Topic 4, Lesson 5," after being taught different representations including double number lines, tables, tape diagrams, and equations to solve problems involving rates, students give their exact plan for solving a given rate problem and tell why they chose that option. The teacher keys in these situations explain that answers may vary based on the method students choose to solve problems, and it provides possible solutions for teachers to compare to students' answers to check for understanding.

- The "Constructed Response" tasks require students to justify their responses and show multiple ways of solving problems and completing tasks. In "Topic 3, Lesson 12" "Constructed Response 1," students reflect independently on the problems. Teachers group students and provide time for each student to share their strategies and answers before assessing correctness with the group. This provides students the opportunity to justify their reasoning with problems. In "Constructed Response 1" for "Topic 5, Lesson 8," students must write their reasoning for calculating, comparing, and ordering batting averages represented in fractions, decimals, and percents. The open-ended questions provide students the opportunity to choose the problem-solving strategy they prefer to answer the questions.

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

- The materials include opportunities for students to make sense of mathematics by doing math with peers and teachers throughout the lesson activities. In "Topic 2, Lesson 11," students complete "Constructed Response 2" to apply what they have learned throughout the topic. Students analyze two examples of dividing with rational numbers, one with decimals and one with fractions. For each example, students describe the error and redo the division correctly. Teacher guidance encourages students to work in pairs to discuss their thoughts and ideas with their peers. The teacher monitors students' progress and asks questions, eliciting responses. In "Topic 2, Lesson 12," students complete problems to show their understanding of multiplying and dividing with positive rational numbers by completing the "Topic Quiz." The quiz includes mathematical and real-world scenarios in which students must choose the appropriate method to answer the multiple choice and text entry question types.
- The "Constructed Response" tasks require students to write about and discuss math with peers and the class to deepen student learning and make sense of mathematical concepts. In "Topic 1, Lesson 9" "Constructed Response 2," students analyze two examples of student work for simplifying expressions using order of operations. For each example, students explain in writing what was done incorrectly in the example and what should have been done to simplify the expression correctly. Teacher guidance encourages students to work in pairs to construct written mathematical arguments and respond orally to other students' ideas. The teacher monitors their responses and has conversations with students based on what they have heard. In "Topic 8, Lesson 9," students complete "Constructed Response 2" using equalities and inequalities. Students write situations to match a given inequality and then explain why or why not given solutions make the inequality true. Teachers require students to

discuss their results first in pairs and then as a whole class, allowing students to make sense of mathematics independently, with peers, and with the class.

- The materials require students to make sense of mathematics through opportunities for classroom discourse where students discuss their mathematical thinking, share different solution strategies, make connections, and engage in collaborative learning with peers. In "Topic 6, Lesson 8," guidance encourages teachers to pair students with classmates to share their strategies and answers. Students debrief their answers with the class using strategies such as putting another student's strategy into their own words. In "Topic 8, Lesson 2," students collaborate with a partner to compare their responses to questions on the "SAS." Students compare their strategies and reasonings with peers, providing time to compare and defend strategies.

Productive Struggle

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

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

Evidence includes, but is not limited to:

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

- The grade 6 materials guide teachers to facilitate student sharing and reflection on their problem-solving approach through explanations. The "Deliver Instruction" material for "Topic 1, Lesson 3" gives the teacher guidance throughout the lesson, including a think-pair-share activity. It explains after students have solved problems, they pair up with a peer and share their answers and strategies for solving. It encourages the teacher to monitor conversations and have students with interesting strategies share them with the class. This activity allows students to share their strategies with peers and reflect on their strategies in comparison. In "Topic 6, Lesson 8," guidance prompts teachers to have students share their strategies and answers in pairs first and then with the whole class. Students include written explanations in their final product.
- The grade 6 materials guide teachers to facilitate student sharing and reflection on their problem-solving approach through arguments. The "Deliver Instruction" material for "Topic 1, Lesson 1" provides teacher guidance throughout the lesson. As part of the lesson, students work in pairs to solve a puzzle to practice rounding, estimating sums and products, and assessing the reasonableness of answers. Teachers guide students to solve problems with rounding using different methods and then compare the strategies and outcomes. Teachers guide students in a class discussion where students must support their argument for a particular strategy. In "Topic 3, Lesson 8," teachers guide the whole class in a discussion to identify several approaches to compare ratios with tables. The guidance encourages teachers to have students make and critique viable arguments with their solutions and justifications by having students restate another student's strategy or compare common features in other's reasoning.
- The grade 6 materials guide teachers to facilitate student sharing and reflection on their problem-solving approach through justifications. In "Topic 4, Lesson 5," the "Deliver Instruction" material supports teachers in guiding students to share and reflect on their

problem-solving approaches through the "Student Activity Sheet (SAS)." Students begin working individually before the teacher groups them in small groups to share their problem-solving strategies. Teachers encourage students to justify their plans and evaluate their peers' plans, providing time for students to reflect on the efficiency of their plans. "Topic 6, Lesson 8" provides teachers with specific questions to support students' justification of the "Constructed Response 3" activity and with strategies to facilitate a class discussion about the strategies students used. It encourages classroom discourse through students sharing their justification for a strategy and requiring other students to restate the strategy. The class discussion provides time and opportunity for students to compare their strategies with their peers and reflect on their justification for their strategy.

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

- The grade 6 materials offer teacher prompts and guidance for providing explanatory feedback addressing student responses. In "Topic 3, Lesson 6," the "Classroom Strategy" Section guides teachers to use think-pair-share to promote discussion about how equivalent ratios are related. The teacher circulates and listens to the responses. The guidance prompts the teacher to ask students to find a ratio on the double number line diagram and notice the patterns created if they fail to see the multiplicative relationship. There are also guiding questions for the teacher to ask if they see the students struggling with independent work. In "Topic 4, Lesson 2," students learn about creating double number lines for conversions. The materials provide specific guidance and prompts, such as, "As you see students struggling, use these questions to provide support while still allowing the students to create the double number lines on their own." This provides teachers the opportunity to offer targeted feedback that helps students understand how double number lines might be used to solve conversion problems.
- The grade 6 materials support teachers by providing prompts and detailed guidance on common misconceptions. In "Topic 5, Lesson 2," teachers are prompted to look for indications of misconceptions about fractions and percents and are given strategies to guide students in clarifying the concepts. The guidance suggests using manipulatives to help students internalize the concept behind the mathematical process through visualization. In "Topic 10, Lesson 5," the materials provide a teacher note about two common misconceptions about exponents, the exponent being a factor and the placement of parentheses with exponents. It explains when the misconceptions should be addressed in relation to the lesson animations and "SAS" questions.