IMRA Review Cycle 2024 Report

Publisher Name	Program Name
OpenStax	*Algebra 1*
Subject	**Course**
Mathematics	Algebra I

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 **11**

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 provides guidance for interpreting and responding to student performance, offer guidance on using tasks and activities to address student performance trends, and include tools for students to track their own progress and growth.

- 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 an 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

OpenStax 9–12 offers a structured approach to instruction, featuring a detailed scope and sequence that outlines key concepts and knowledge across various units. Each unit is accompanied by pacing guides that accommodate different instructional calendars, ensuring effective implementation regardless of the number of instructional days. The program also includes comprehensive unit overviews with essential background knowledge and academic vocabulary to support effective teaching.

Campus and district instructional leaders should consider the following:

- The product is well-aligned to the TEKS, easy to navigate, and organized, allowing teachers to implement it quickly. OpenStax also includes detailed guides to help administrators to support teachers. The curriculum's strengths are in content coverage, accessibility, and instructional support making it a comprehensive resource for educators and students.
- Family Support Materials, available in both Spanish and English, can be shared with families to help foster student engagement and encouragement at home.

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 Texas Essential Knowledge and Skills (TEKS), English Language Proficiency Standards (ELPS), English Language Proficiency Standards (ELPS), concepts, and knowledge taught in the course. Materials include suggested pacing (pacing guide/calendar) to support effective implementation for various instructional calendars (165, 180, and 210). Materials include an explanation for the rationale of unit order and how concepts to be learned connect throughout the course. Materials include guidance, protocols, and unit and lesson internalization templates. 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 "Getting Started: Teachers Start Here" section includes a scope and sequence outlining the TEKS, concepts, and knowledge taught in the course,
- "The ELPS are referenced in the "ELPS Dot Chart" under the Additional Resources of the "Getting Started: Teachers Start Here" section. "

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 appendix includes three pacing guides for 210, 180, and 165 days in the "Implementing This Course" section. The pacing guides provide the number of days allotted for each section of the unit for each calendar."

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

- The "Course Narrative Overview" explains the rationale for starting with equations, inequalities, and systems, building on middle school math content.
- The "Getting Started" section and "Course Narrative" materials detail the unit order, showing how students connect and apply concepts through tables, equations, graphs, and real-world scenarios.

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

- The "Unit 1 Teacher Guide" provides materials for unit internalization, including a video and written overview highlighting the big picture and prerequisite skills needed for accessing the unit content.
- The "Teacher Guides" include protocols for achieving unit-level learning goals with specific lessons and activities, detailed lesson plans, and templates such as the "Three Reads Note Catcher" found in "Unit 1."
- Guidance for both unit and lesson internalization is also provided in the appendix, with overviews for each lesson in the unit.

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

- The appendix includes "Course Coaching Guides" for administrators and instructional coaches, featuring relevant articles like *Hiebert et al. (1996*) on problem-solving in math education.
- Resources in the appendix under "Implementing This Course" offer best practices and routines for instructional coaches to assist in team planning and departmental meetings.
- The appendix contains guides for administrators to help teachers implement the course effectively.

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 students.

Evidence includes, but is not limited to:

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

- The "Unit 4 Teacher Guide" includes concise unit overviews with lesson narratives and their associated TEKS.
- Sample word wall cards are included in the "Card Sort" in "Lesson 1.13" for classroom display, with links to digital vocabulary cards in both English and Spanish.
- Vocabulary supports provided are linked on the lesson pages and the Quizlets apply to the entire unit, including both new and prior vocabulary items. For example, in "Lesson 4.1 Teacher Guide: Describing and Graphing Situations: Lesson Vocabulary," only two vocabulary words are highlighted, but teachers have access to vocabulary supports for all 53 words in the unit. Additionally, the materials explicitly include vocabulary at the lesson level, as seen in "Unit 5 Teacher Guide" which includes defining concepts such as exponential relationships, characterized by a constant quotient over equal intervals, versus linear relationships which feature a constant difference.

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

- Each unit includes "Family Support Materials" in both Spanish and English located in the "Unit Teacher Guides."
- The "Family Support Materials" contain information that "can be shared with students' families to help support student engagement and encouragement at home."
- The materials provide examples, application tasks, reviews, and videos for families to access to support their student's learning. For example, the "Unit 1 Family Support Materials for Linear Equations" includes a real-world example of writing real constraints like "The amount

you spend on a bicycle may be limited by how much you have saved," and an application task that demonstrates saving money for an overnight trip:
"Priya is saving money to go on an overnight school trip.
  - The cost of the trip is $360.
  - She has a job at a convenience store, which pays $9 per hour
  - When she babysits for a family in her neighborhood, she earns $12 per hour."

  The task provides a graph showing the representation of the constraints and a set of questions to help the family discuss and solve the problem.
- The "Family Supports" in "Unit 1" also provides a list of four videos that relate to the "Linear Equations: Building a Model," "Solutions to Linear Equations," "Rewriting Equations," and "Equations and Their Graphs," to assist parents in supporting student learning.

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 including homework, extension, and enrichment.

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.

- Materials include comprehensive, structured, and detailed lesson plans. Each lesson plan begins with a Lesson Overview that includes daily objectives, questions, tasks, and materials: "Lesson 3.1 Teacher Guide: Linear Models"; lesson overview with "Lesson Goals," "Lesson Activities," and "Required Materials."
- Language standards, TEKS, and ELPS are clearly outlined in unit lesson plans. Lesson plans contain resources such as videos and graphic organizers to assist English Language Learners in comprehending content and language requirements. For instance, "Lesson 1.5 Teacher Guide: Equations and Their Graphs," provides vocabulary in both Spanish and English and is complemented by a list of the specific ELPS related to the lesson.

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

- In the "Getting Started: Teachers Start Here" section, materials offer a lesson overview with lesson structure for a 45-minute class period, including a warmup, primary activities, cool down, and practice. The suggested timing for each lesson component is listed at the beginning of each lesson activity in the heading above the narrative overview. For example, in "Teacher

Guide: Graphing Linear Inequalities in Two Variables: Lesson 2.11.2: Using Computation and Reasoning," the suggested times are: 2.11.1 Warm Up (5 Minutes), 2.11.2 Activity (20 minutes), 2.11.3 Activity (15 minutes) and Cool Down (5 Minutes).

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

- Lesson Teacher Guides specify teacher and student materials needed for each lesson. For example," Lesson 4.1" includes a "4.1.2 Activity Graphing Printable" and coordinate grids for teachers to facilitate student learning in lesson delivery.
- The Lesson Teacher Guides also outline the required materials. For instance, in "Lesson 3.5," students must have graphing technology, such as a graphing calculator.
- The "Required Materials" section in each lesson provides a detailed list of necessary materials. For example, Unit 1 Lesson 3's Teacher Guide, specifies "Blackline Master: Whose Data Is This?" and includes a link to the corresponding handout. Additionally, there is a "Required Preparation" section that guides teachers on the necessary preparations for the lesson.

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

- Lesson materials provide structured guidance on homework assignments, allowing teachers flexibility in assigning practice problems tailored to student needs. This is exemplified in "Lesson 1.1.2," where students create mathematical models to represent relationships.
- In the Appendix under "Course Design," the course offers "Accessing Rigor," which includes methods for adjusting the rigor in activities, lessons, and units.
- The Appendix also offers differentiation supports under "Course Design," providing "Are You Ready For More?" activities that offer opportunities for differentiation and challenge. These activities feature extension problems that delve deeper into grade-level math concepts beyond standard practice.
- At the beginning of the course, under "Supporting all Learners," there is a section dedicated to gifted students. The "Gifted Student" section provides ideas for extending course projects and activities to meet their advanced learning needs, such as integrating technology and including research.
- Lessons provide extensive questions and instructional assessments. For example, Unit 3 offers three assessments: "Unit 3 Section A Quiz," "Unit 3 Section B Quiz," and "Unit 3 Quiz," in addition to a project.

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 level and lesson level (including diagnostic, formative, and summative) that vary in types of tasks and questions. Materials include the definition and intended purpose for the types of instructional assessments included. Materials include teacher guidance to ensure consistent and accurate administration of instructional assessments. Diagnostic, formative, and summative assessments are aligned to the TEKS and objectives of the course, unit, or lesson. Instructional assessments 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.

- The materials include diagnostic assessments at the unit level that vary in tasks and questions. For example, in the "Appendix: Progress Monitoring; Overview and Readiness Assessments," each unit starts with a pre-unit diagnostic assessment titled "Unit Overview and Readiness," consisting of three questions addressing prerequisite concepts and skills for the unit.
- The materials include formative and summative assessments that vary in tasks and questions at the lesson level. The "Appendix: Course Design" includes "Cool Down" tasks at the end of primary learning activities or lessons, serving as brief formative assessments to check students' understanding.
- The materials include various types of formative assessments within lessons. In "Unit 1: Teacher Guide; Lesson 1.1: Exploring Expressions and Equations," activities like self-checks, card sorts, and student discourse provide multiple opportunities for formative assessment, allowing teachers to gauge student understanding and progress continuously.
- The materials include diagnostic assessments at the lesson level that vary in tasks and questions. For example, in "Lesson 8.2: When and Why Do We Write Quadratic Equations?"

check-in materials include an assessment with questions based on a particular scenario. The expression 5.25 + 0.85x represents the amount a yogurt shop charges for yogurt with x ounces of toppings. The check-in materials effectively assess prior knowledge, allowing the teacher to refine instruction to meet student needs.

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

- Materials include definitions for the types of instructional assessments in Appendix: "Progress Monitoring; Analyzing and Responding to Data; How to Assess Progress." For instance, materials state: "Each lesson includes a cool-down (analogous to an exit slip or exit ticket) to assess whether students understood the work of that day's lesson. Teachers may use this as a formative assessment to provide feedback or to plan further instruction."
- Materials include the intended purpose for the types of instructional assessments in the Appendix: "Course Design; Lesson Structure and Resources; Cool Down." For example, materials state: "...task is to be given to students at the end of the primary learning activities or the end of the full lesson (after the Practice problems). The "Cool Down" serves as a brief formative assessment to determine whether students understood the lesson. Students' responses to the Cool Down can be used to make adjustments to further instruction."
- The materials include information on the types of assessments and how to assess progress within the Appendix ("Progress Monitoring"). For instance, the "Unit Overview and Readiness" section clarifies these assessments as pre-unit diagnostic tools targeting prerequisite skills (Appendix: "Progress Monitoring").

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

- The "Progress Monitoring" appendix provides detailed guidance on administering various assessments (exit tickets, practice problems, end-of-unit quizzes) with an emphasis on clear wording and targeted problems to ensure students understand their reasoning behind answers (correct and incorrect, e.g., "...assessment problems are targeted...consistent wording...clear correct responses").
- The guidance emphasizes clear and consistent wording, targeted problems, and using student responses to accurately assess understanding (e.g., "...Students should get the correct answer on assessment problems for the right reasons and get incorrect answers for the right reasons...").
- Materials include guidance (e.g., cool-down questions) for consistently using formative assessments to gauge student understanding and inform instruction (Appendix: "Progress Monitoring: How to Assess"). The "Progress Monitoring" appendix provides detailed guidance on administering various assessments (exit tickets, practice problems, end-of-unit quizzes) with an emphasis on clear wording and targeted problems to ensure students understand their reasoning behind answers (correct and incorrect, e.g., "...assessment problems are targeted...consistent wording...clear correct responses").

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

- Diagnostic, formative, and summative assessments comprehensively align with TEKS and course, unit, and lesson objectives as seen in the "Appendix: Course Design," and "Course Design: Unit Sequence and Resources."
- The TEKS process standards are addressed throughout lessons and units, with a focus on real-world application in the culminating Unit Project ("Course Design: Unit Sequence and Resources").
- Diagnostic assessments in the "Unit Overview and Readiness," formative (in-lesson activities), and summative (cool-down activities, quizzes, projects) all demonstrate alignment with TEKS and objectives (e.g., Unit 2, Lesson 2.2 self-check).
- A TEKS blueprint outlines alignment for assessments in each unit ("Course Design: Assessment Types and Resources").

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

- The materials include diagnostic, formative, and summative assessments with items at varying levels of complexity. This includes knowledge-based multiple-choice, open-ended questions requiring students to show work, and higher-order thinking prompts (e.g., lesson 4.1.2). (Appendix: Course Design: Unit 1: Teacher Guide)
- Question complexity aligns with Costa's questioning levels (Gathering, Processing, Applying). (Appendix: "Progress Monitoring")
- The materials provide examples across complexity levels, including Level 1 "Show Understanding" (e.g., "Unit 9: Section A Quiz, Question 1") and Level 3 "Summarize" requiring synthesis (e.g., Project 8 Teacher Guide).
- While complexity variation is shown in formative and summative assessments, information regarding complexity within diagnostic assessments is limited.

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**

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

Evidence includes, but is not limited to:

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

- Instructional assessments include detailed guidance for teachers on addressing below-grade skills within on-grade tasks, as outlined in the "Course Design: Assessment Types and Resources in the Appendix." Strategies such as adding related questions to warm-ups and activity launches help integrate skills in context, enhancing comprehension and application.
- Scoring rubrics are included in the "Course Design: Assessment Types and Resources in the Appendix" They clearly define evaluating student responses to restricted and extended response items. Rubrics categorize responses into tiers, providing specific feedback on completeness, conceptual understanding, and error types, aiding teachers in precise assessment and feedback.
- Instructional tasks are accompanied by expected responses and misconceptions, aiding teachers in adjusting instruction based on student interactions, as seen in the "Appendix: Progress Monitoring" which details both formative and summative assessment opportunities.
- At the beginning of each unit, there is an "Overview and Readiness" assessment, and various feedback mechanisms are integrated, such as "cool-downs" for immediate understanding checks, practice problems for in-class or homework assignments, and end-of-unit quizzes to assess cumulative knowledge, ensuring continuous support and adjustments in teaching strategies.
- The "Progress Monitoring" section in the Appendix includes guidance on interpreting student performance through analysis of common errors in multiple-choice questions and anticipated misconceptions, providing diagnostic insights to refine teaching approaches.
- Each unit anticipates likely student misconceptions, preparing teachers with appropriate responses, as exemplified in "Project 8 Teacher Guide," which equips educators to correct misunderstandings related to mathematical functions effectively.

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

- Each unit begins with a pre-unit diagnostic assessment titled "Unit Overview and Readiness" found in the Appendix: "Progress Monitoring." These assessments consist of three questions focusing on prerequisite concepts and skills, allowing teachers to identify students with specific below-grade needs and adjust the pacing or focus of instruction based on the initial understanding of key upcoming unit ideas.
- The materials instruct teachers to integrate below-grade skills into on-grade tasks without abandoning the curriculum's scope. This guidance, detailed in the Appendix: "Progress Monitoring: Analyzing and Responding to Data," encourages adapting tasks or adding practice opportunities in context to address persistent difficulties, ensuring continual engagement with the core content.
- The "Progress Monitoring" section provides strategies for responding to various student performance trends, detailing actions for when students perform well, underperform, or fail to grasp below-grade-level skills. This includes adjustments such as the integration of targeted skills in upcoming units and modifying tasks to reinforce specific concepts.
- Materials provide guidance for monitoring student responses to tasks and activities through tools like "cool-downs" to assess immediate comprehension. Feedback from these assessments informs instructional adjustments, as outlined in dropdown menus within the "Progress Monitoring" section, helping teachers address misconceptions or areas where students have not understood key concepts.

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

- Materials include tools for students to track their progress using a variety of assessments listed in the "Course Design: Unit Sequence," including Unit Projects, STAAR Reviews, Quizzes, and Unit Wrap-Ups, all featuring a self-assessment tool to evaluate mastery of learning targets.
- Each unit concludes with a "Wrap-Up" that includes a "Student Self-Assessment," enabling students to reflect on their skills and understanding. This feature is highlighted in the "Unit 5 Wrap-Up," which guides students to assess their learning achievements upon completing the unit.
- Materials provide an interactive platform where students can continuously monitor their progress. Features like the "Self-Check" and learning goal check-ins in lessons provide immediate feedback and direct students to additional resources if needed, fostering self-directed learning and growth assessment. For example, the "Unit 8 Student Self-Assessment" begins by asking students if they believe they can "Explain the meaning of a solution to an equation in terms of a situation."

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 (scaffolded) lessons for students who have not yet reached proficiency on grade-level content and skills. Materials include pre-teaching or embedded supports for unfamiliar vocabulary and references in text (e.g., figurative language, idioms, academic language). 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 materials include teacher guidance in the online resources for differentiated instruction for students who have not yet reached proficiency on grade-level content and skills in “Getting Started: Teachers Start Here: Additional Resources: Scope and Sequence,” where adjustments can be made to personalize the scope and sequence and provide alternate pacing suggestions.
- The materials provide guidance in the online resources for differentiated instruction and paired lessons in “Supporting All Learners: English Language Learners: Standards Overview,” which emphasizes multiple levels of scaffolding, dual-language support for vocabulary, and the use of professional judgment to meet students' individual needs.
- The materials include differentiated activities in the online resources for students with disabilities in “Supporting All Learners: Students With Disabilities: Universal Design for Learning,” suggesting culturally relevant materials, varied learning environments, and personalized modes of expression to accommodate diverse learning needs.
- The materials include additional online resources for differentiated activities, such as sticky notes or mini whiteboards to support working memory and specific strategies for eliminating barriers and using assistive technology to support students who have not yet reached proficiency.
- The materials provide guidance on scaffolded lessons in the online resource "Supporting All Learners: Students With Disabilities: Differentiation of Learning: Readiness" which

recommends strategies such as breaking into mini-groups, scaffolding activities, and providing instructional supports to help with memory and important terminology.

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

- The materials include pre-teaching and embedded supports in the online resources for unfamiliar vocabulary including idioms, figurative and academic language in “Supporting All Learners: English Language Learners: Differentiation of Learning,” which emphasizes the importance of multiple levels of scaffolding and provides dual-language support, including a dual-lingual glossary and Quizlet vocabulary cards in both English and Spanish.
- The materials include explicit figurative language and academic vocabulary instruction in the online resources “Supporting All Learners: English Language Learners: Building a Library of Resources: ELPS 1: Learning Strategies,” recommending strategies such as teaching vocabulary through different learning methods, connecting meaning to prior knowledge, and incorporating academic vocabulary definitions into warm-up activities.
- The materials include support for understanding unfamiliar references in the online resources text, as stated in “Supporting All Learners: English Language Learners: Building a Library of Resources: ELPS 1: Learning Strategies,” where students use prior knowledge and experiences, strategic learning techniques, and concept mapping to understand meanings in English.
- The materials include embedded supports for unfamiliar figurative and academic vocabulary in the online resources “Lesson 1.1: Teacher Guide: Exploring Expressions and Equations" and “1.1.0: Lesson Overview,” which advises familiarizing students with key vocabulary, and encourages the use of vocabulary in "Math Talk," by utilizing word walls with sample cards.

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

- The materials include teacher guidance in the online resources for differentiated instruction for proficient students in “Supporting All Learners: Gifted Students: Gifted and Talented Student Overview,” and recommends strategies such as exploring new topics, which fosters creative and critical thinking skills and provides opportunities for inquiry and independent study.
- The materials include teacher guidance in the online resources for enrichment activities in “Supporting All Learners: Gifted Students: Gifted and Talented Standards Overview,” which suggests providing open-ended, rich-inquiry activities, project-based learning, and hands-on research to help advanced students connect to real-world problems to their interests.
- The materials include teacher guidance in the online resources for extension activities in “Unit 1: Linear Equations” and “Lesson 1.1: Exploring Expressions and Equations,” which includes an "Extending Your Thinking" problem that challenges students to compare the cost per square inch of different pizza sizes, promoting deeper mathematical reasoning.

- The materials include guidance in the online resources for differentiated pacing and enrichment for gifted students in “Supporting All Learners: Gifted Students: Gifted and Talented Standards Overview,” and “Content Knowledge,” which suggests allowing students to demonstrate prior knowledge, move quickly through mastered material, and engage in expanded reasoning, investigations, and novel concepts.
- The materials include extension activities in the online resources labeled, "*Are You Ready for More?*" which provide more challenging questions and advanced topics, such as exploring bank account balances with varying exponential functions in Lesson 5.12.2, which requires higher-level thinking beyond the standard curriculum.

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 concept(s) to be learned explicitly (directly). Materials include teacher guidance and recommendations for effective lesson delivery and facilitation using a variety of instructional approaches. Materials support multiple types of practice (e.g., guided, independent, and collaborative) and include guidance for teachers and recommended structures (e.g., whole group, small group, individual) 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 materials include prompts in the online resources to support teachers in modeling concepts directly, such as in *Unit 1 Linear Equations: Lesson 1.3*, which provides a video prompt that guides teachers to model relationships using words and equations by looking at the base and height of different rectangles.
- The materials include guidance in the online resources for explaining concepts directly, as seen in *Research in Practice: Productive Struggle, and Productive Failure*, which prompts teachers to encourage students to refine their thinking by comparing different number lines and posing pointed questions to deepen understanding.
- The materials include prompts to support teachers in the online resources for communicating concepts explicitly, such as in *Research in Practice: Productive Struggle, and Productive Failure,* where teachers are advised to emphasize the difference between open and closed circles during direct instruction, referencing student-generated reasoning from previous lessons.
- The materials include guidance in the online resources for modeling and explaining concepts in the *Teacher Guide* for *Lesson 2.1: Writing and Graphing Systems of Equations*. This prompts teachers to help students understand constraints and values, encouraging precise use of language and reasoning.
- The materials include prompts and guidance in the online resources for teachers to explicitly communicate concepts, as in Lesson 4.2.1, where specific questions and explanations help illustrate the purpose of function notation, ensuring students understand the need for clarity and precision in describing functions.

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

- The materials include guidance in the online resources for effective lesson delivery using multiple instructional approaches, as seen in the *Appendix, Course Design, and Conceptual Understanding,* where students are encouraged to represent mathematical situations in different ways, connecting ideas across topics to develop conceptual understanding.
- The materials include recommendations in the online resources for facilitating adaptive reasoning in the *Appendix: Course Design Adaptive Reasoning,* which emphasizes tasks that require students to explain and justify their solution methods.
- The materials include a variety of instructional approaches in the online resources in the *Appendix, Implementing This Course, and Implementation Guides,* which suggest steps such as completing assessments, reviewing TEKS and ELPS alignments, and creating flowcharts to map out learning progressions.
- The materials include guidance for effective lesson delivery in the online resources in the *Appendix, Course Design, and Conceptual Understanding,* which identifies unique problem situations that require students to analyze and try different problem-solving strategies to build real-world mathematical proficiency.
- The materials include a variety of instructional approaches in the online resources within lessons, such as the "Which One Doesn't Belong?" activity in Lesson 3.4.1, where students work in groups to identify and explain differences, and the "Information Gap" routine in Lesson 4.17.3, which is delivered in a whole-class discussion before student practice.

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

- The materials include multiple types of practice in the online resources, such as guided, independent, and collaborative activities. For example, in *Unit 1: Linear Equations Lesson 1.1,* students create expressions to estimate the cost of a pizza party, which engages them in mathematical modeling through group work, individual research, and class discussions.
- The materials include guidance for teachers to support the effective implementation of online resources. For instance, *Unit 1: Linear Equations Lesson 1.1* provides specific instructions for activity synthesis, such as inviting groups to share their expressions and comparing different approaches during whole-class discussions.
- The materials include recommended structures in the online resources, such as whole group, small group, and individual work, as seen in *Unit 1: Linear Equations Project 1 Teacher Guide,* where the "Notice and Wonder" activity involves individual thinking, partner discussions, and whole class sharing to support effective implementation.
- The materials include guidance for effective implementation in the online resources in the "Getting Started" section, which outlines the structure of each lesson, including warm-ups,

primary activities, cool-downs, and practice pages, providing a clear framework for various instructional approaches.

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 materials include teacher guidance in the online resources on providing linguistic accommodations for various levels of language proficiency in the "Supporting All Learners" section, which states, "Throughout this Algebra 1 curriculum, we provide resources and strategies to support your (English Language Learners) ELL students," and aligns language domains directly to the ELPS standards.
- The materials include specific strategies in the online resources for teaching vocabulary in the "Building a Library of Resources" section, such as "Explicitly teach unit and lesson-level vocabulary through different learning strategies connecting meaning to prior knowledge" (ELPS 1A, 1C, 1E.)
- The materials include a core sampling of teaching strategies in the online resources aligned to the ELPS in the *Unit 1 Teacher Guide*, offering support for English language learners in the

math classroom, with each lesson aligned to at least three different ELPS domains, and all five ELPS domains represented across the unit.
- The materials include guidance for addressing specific ELPS standards in the online resources in the *Lesson 1.1 Teacher Guide,* such as ELPS 1(E), ELPS 2(F), ELPS 2(I), and ELPS 5(B), providing targeted support for English language learners.
- The materials include specific examples of linguistic accommodations in the online resources in the *Teacher Guide for Lesson 1.2.0* which suggests using Quizlet links in both English and Spanish to support newcomers or students at the beginning level of language proficiency, anchoring understanding before bridging to English.

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

- The materials include embedded ELPS and strategies in the online resources in the *Supporting All Learners, English Language Learners (ELL), Aligning to the ELPS, and Unit Level Alignment* sections, such as in Lesson 1.1 which supports multiple learning strategies, listening and writing aligned to ELPS 1(E), 2(F), 3(B), 3(D), and 4(E).
- The materials include guidance on integrating ELPS strategies in the online resources throughout lessons. For example, Lesson 1.2 is aligned with learning strategies, including listening, speaking, and reading, providing a framework for teachers to support English language learners effectively in the math classroom.
- The materials include specific references in the online resources to the ELPS and examples of differentiation for language ability on the "English Language Learners (ELL)" page. This guidance aligns lessons to the ELPS, specifying applicable ELPS for various lessons and linking to TEA's documents about the ELPS.
- The materials include instructional strategies in the online resources labeled "Support for English Language Learners" within lessons. These strategies stem from design principles aligned to language domains (reading, writing, speaking, listening, conversing, and representing in math) and help maintain student engagement in mathematical communication while supporting the language demands of specific activities.

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 materials include embedded ELPS and strategies in the online resources in the *Supporting All Learners, English Language Learners (ELL), Aligning to the ELPS, and Unit Level Alignment* sections, such as in Lesson 1.1 which supports multiple learning strategies, listening and writing aligned to ELPS 1(E), 2(F), 3(B), 3(D), and 4(E).
- The materials include guidance on integrating ELPS strategies in the online resources throughout lessons. For example, Lesson 1.2 is aligned with learning strategies, including listening, speaking, and reading, providing a framework for teachers to support English language learners effectively in the math classroom.

- The materials include specific references in the online resources to the ELPS and examples of differentiation for language ability on the "English Language Learners (ELL)" page. This guidance aligns lessons to the ELPS, specifying applicable ELPS for various lessons and linking to TEA's documents about the ELPS.
- The materials include instructional strategies in the online resources labeled "Support for English Language Learners" within lessons. These strategies stem from design principles aligned to language domains (reading, writing, speaking, listening, conversing, and representing in math) and help maintain student engagement in mathematical communication while supporting the language demands of specific activities.

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 materials include embedded guidance in the online resources to support emergent bilingual students in developing academic vocabulary using "Mathematics Vocabulary Word Wall Cards" and Quizlet links in both English and Spanish. For example, *Lesson 1.1: Teacher Guide: Exploring Expressions and Equations*, states: "Encourage students to use key vocabulary words in 'Math Talk' and their written and oral explanations."
- The materials include guidance for increasing comprehension and building background knowledge in the online resources in the *Unit 1 Teacher Guide: Supporting English Language Proficiency Standards (ELPS)*, stating, "Each lesson offers ELPS aligned to at least three different domains and across the entire unit, all five ELPS domains are represented and aligned. You can pull these strategies for learning, listening, speaking, reading, and writing for any of the lessons."
- The materials include routines for developing academic vocabulary and making cross-linguistic connections through written discourse in the online resources. For instance, the *Supporting All Learners, English Language Learners (ELL), Aligning to the ELPS, and Lesson Level Alignment* explains that each lesson provides a list of ELPS and opportunities to scaffold learning for different language domains.
- The materials include multiple strategies to support emergent bilingual students in oral discourse in the online resources. The "ELPS 3: Speaking" section references strategies such as vocabulary pronunciation, high-frequency vocabulary lists, oral assessments, oral presentations, sentence stems, group discussions, and accountable conversations, which are embedded throughout the materials and can be referenced with the ELPS dot chart.

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

- The online materials were not reviewed for resources that outline opportunities to address metalinguistic transfer from English to the partner language in dual language immersion (DLI) programs.

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**

Practice opportunities over the course of lessons 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.

- The digital materials include practice opportunities over the course of a lesson that require students to demonstrate depth of understanding aligned to the TEKS, such as in *Unit 1: Linear Equations: Lesson 1.1: Exploring Expressions and Equations*. The "Warm-Up Activity" in *1.1.1: Understanding Value* asks students to discuss and describe equations in words, promoting a deeper understanding of linear relationships.
- The digital materials include a variety of practice opportunities over the course of a unit that requires students to demonstrate a depth of understanding aligned with the TEKS. For example, in Lesson 2.1.2, students are given a word problem to write an equation, aligning with TEK A.2(I). This practice is reinforced through subsequent lessons and assessments, including the *Unit 2: Section A Quiz* and *Unit 2 STAAR Review*, ensuring students repeatedly engage with the TEKS-aligned content.
- The materials include instructional assessments in the online resources that require students to demonstrate depth of understanding aligned to the TEKS, as seen in *Unit 1: Section A Quiz*. This assessment presents real-world problems, like calculating the total cost of pizzas, which aligns with the TEKS standard A2(C) of writing linear equations in two variables given various representations.
- The materials include consistent practice opportunities throughout lessons in the online resources that require students to explain their reasoning and demonstrate understanding, as seen in *Lesson 2.3: Solving Systems by Substitution*. This lesson includes multiple activities where students must explain their solutions, engage in formative assessments, and complete a "Cool Down Activity" to reinforce their learning.

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

- The digital materials include questions that progressively increase in rigor and complexity. For instance, in *Unit 1: Linear Equations: Lesson 1.1: Exploring Expressions and Equations*, the "Warm-Up Activity" starts with basic understanding and gradually requires students to describe equations and create new ones, demonstrating increasing complexity.
- The materials include tasks in the online resources that progressively increase in rigor and complexity, as outlined in the *Course Design* subsection "Lesson Structure and Resources." For example, activities transition from engaging students with curiosity-sparking questions to applying abstract academic vocabulary and reasoning about their responses, culminating in unit quizzes and projects that assess the full rigor of the TEKS.
- The materials include activities in the online resources that are designed to increase in complexity throughout the lesson. In *Unit 4: Functions, Lesson 4.9: Interpreting and Creating Graphs*, the "Interpreting Graphs Without Units" activity begins with analyzing realistic and unrealistic graphs and extends to complex reasoning about the distance an ant travels over time, requiring deeper understanding and application.
- The materials include a structured progression in tasks that build rigor and complexity in the online resources, such as in *Lesson 4.11: Graphing a Function Using Transformations*. The "Warm-Up Activity" starts with graphing simple linear equations and progresses to using graphing tools for more complex functions and transformations, ultimately requiring students to explain and analyze their results.

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 digital materials include a logically sequenced scope and sequence demonstrating coherence across the course. For example, “Getting Started: Teachers Start Here: Additional Resources: Course Narrative Overview: Scope and Sequence” outlines the progression from writing and solving linear equations to more complex topics such as linear inequalities and systems.
- The materials include detailed explanations in the online resources of how students' learning builds across grade bands from middle school mathematics to high school concepts. The *Course Narrative Overview* emphasizes the continuity and coherence in students' mathematical journey, ensuring a smooth transition and a deeper understanding of mathematical relationships and functions.
- The materials include a coherent structure in the online resources across the course that builds on prior knowledge. The *Course Narrative Overview* in "Getting Started" explains how students begin with linear equations and inequalities (Units 1-2) and then expand their understanding by applying operations to polynomial expressions in later units.
- The materials include a scope and sequence in the online resources that logically connect different mathematical concepts. The *Course Narrative Overview* describes how students

progress from linear to exponential to quadratic functions, exploring patterns generated by addition, subtraction, multiplication, division, and both increasing and decreasing models over time.

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

- The online course materials demonstrate coherence across units by explicitly connecting big ideas and relationships between mathematical concepts. For example, in the *Unit 1 Teacher Guide*, states, "The unit closes with students writing and solving direct variations. This expands their understanding of linear equations and makes a connection to their understanding of proportional reasoning from middle school."
- The online course materials demonstrate coherence across units by explicitly connecting patterns between mathematical concepts. In the *Appendix, Course Design, Unit Sequence, and Resources*, it states, "Across the nine units of this course, students' progress from linear to exponential to quadratic functions, by exploring what makes the functions different."
- The online course materials demonstrate coherence across units by explaining the progression of mathematical concepts. In the *Course Narrative Overview*, it states, "Students begin the year by exploring linear equations, inequalities, and systems of linear equations and inequalities (Units 1-2). This builds on the content they learned in middle school mathematics."
- The online course materials demonstrate coherence across by progressively building on students' prior knowledge. For example, the *Unit 2 Teacher Guide and Unit 2 Narrative*, states, "In the previous unit, students began working with linear equations and their graphs. In this unit, they extend those ideas and skills to solve systems of linear equations, linear inequalities, and systems of linear inequalities."

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 digital materials demonstrate coherence across units by connecting the content learned in previous grade levels to the content to be learned in the current course. For example, the *Unit 1 Teacher Guide and Unit 1 Narrative* states, "In middle school, students began building an understanding of how variables, expressions, equations, and inequalities could be used to represent quantities and relationships. Students also made connections among different kinds of representations—algebraic, verbal, tabular, and graphical. In this unit, students further develop their capacity to create, manipulate, interpret, and connect these representations and to use them for modeling."
- The digital materials demonstrate coherence by connecting content from previous grade levels to Algebra 1. The *Unit 1 Teacher Guide* states, "In middle school, students began building an understanding of how variables, expressions, equations, and inequalities could be used to represent quantities and relationships…In this unit, students further develop their

capacity to create, manipulate, interpret, and connect these representations and to use them for modeling."

- The digital materials demonstrate coherence by connecting the language from previous grade levels to the current course. The *Teachers Start Here, Additional Resources* section explains, "Students begin the year by exploring linear equations, inequalities, and systems of linear equations and inequalities (Units 1 - 2). They then take these insights to a unit on two-variable statistics (Unit 3), where they extend their prior knowledge of scatter plots to determine lines of best fit."
- The digital materials demonstrate coherence across units by connecting what will be learned in future courses to the content to be learned in the current course. Each unit includes a vertical alignment video. For example, in the *Unit 8 Teacher Guide, Unit 8 Overview and Readiness, Unit Resources, and Vertical Alignment for Unit 8*, it states, "Watch this video walkthrough of using the vertical alignment to better understand your student's readiness for learning new content in each unit of RAISE."
- The digital materials include diagnostic assessments called *Overview and Readiness Questions* that connect previous content with current materials. As noted, "The *Overview and Readiness* section within each unit contains a three-item assessment aligned to prerequisite skills students should have mastered in prior grade levels or previous units."
- The digital materials demonstrate coherence by using common language that connects previous content, as seen in sections like "Pre-Algebra Resources from OpenStax." For example, in Unit 2, the resources provide alignment for solving equations and the distributive property from pre-algebra.

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 online course materials provide guidance that bridges students' prior knowledge of variables, expressions, equations, and inequalities from middle school to Algebra 1. For instance, the *Unit 1 Teacher Guide* notes state: "In middle school, students began understanding how variables, expressions, equations, and inequalities can represent quantities and relationships."
- The online course materials offer instructional strategies that build on students' previous knowledge of scatter plots and lines of best fit. The *Unit 3 Teacher Guide* states, "In earlier math courses, students informally constructed scatter plots and lines of best fit and noticed linear patterns. In this unit, students build on this previous knowledge by assessing how well a linear model matches the data using residuals and the correlation coefficient for best-fit lines (found using technology)."
- The online course materials contain vertical alignment resources that help teachers understand how the content in Algebra 1 connects to prior and future learning. For example, *Unit 1: Linear Equations and Unit 1 Teacher Guide*, states, "Understanding this progression of learning across the curriculum continuum provides teachers and administrators the ability to better support mathematical conceptual and skill-based development."

- The online materials include strategies to support language development for English Language Learners (ELL) by connecting reading, writing, speaking, listening, conversing, and representing in math. In *Getting Started, English Language Learners (ELL), and Navigating Resources,* it states, "The gray boxes guide teachers to recognize and support students' language development in the context of mathematical sense-making."

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 digital materials provide spaced retrieval opportunities with previously learned skills across units and lessons. For example, in *Unit 4: Lesson 4.12 Teacher Guide*, the "Lesson Overview: Lesson Narrative" encourages students to use key vocabulary words in "Math Talk" and their written and oral explanations, reinforcing their understanding.
- The digital materials include spaced retrieval of concepts across lessons and units. In Unit 6, before investigating quadratic functions, students review and expand their understanding of polynomial expressions, simplifying expressions containing exponents and applying these skills to multiplying and dividing polynomials.
- The digital materials offer spaced retrieval in *Unit 6: Project 6*, where students use polynomials to model dimensions and areas of rectangles. Activities include completing tables with missing measures and applying polynomial skills to find dimensions, requiring division or factoring of polynomials.
- The digital materials provide spaced retrieval opportunities in the *Unit 1 Teacher Guide*, where "Unit Overview Videos" offer a big-picture look at the content and prerequisite skills needed for the unit. These videos explain the spiraled skills and concepts, demonstrating how they build upon each other.
- The online student and teacher versions include "Unit x STAAR Review" for every unit, offering spaced retrieval with previously learned skills and concepts. For example, the "Unit 9 STAAR Review" covers simplifying radicals, solving quadratic equations, real-world exponential function applications, and writing linear functions from a table.

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

- The online materials provide interleaved practice opportunities with previously learned skills and concepts across units. For example, the *Unit 1 Teacher Guide* states, "Students then

investigate different ways to express the same relationship or constraint—by analyzing and writing equivalent equations…explaining why these moves keep each subsequent equation true and maintain the solutions of the original equation."

- The online materials provide interleaved practice in the *Unit 5 Teacher Guide*, where students revisit concepts from previous units, such as linear functions and properties of exponents. They apply this understanding to learn about exponential relationships, characterized by a constant quotient over equal intervals, and compare them to linear relationships.
- The online materials offer interleaved practice opportunities within lessons. In the *Lesson 8.1 Teacher Guide*, it states, "In a previous unit, students studied quadratic functions. This unit picks up on where that unit left off," providing problems that include different types of interleaved practice.
- The online materials guide interleaved practice in the "Getting Started: Teachers Start Here: Additional Resources: Course Narrative Overview.*"* For instance, students' progress from linear to exponential to quadratic functions, exploring what makes these functions different and encountering various representations such as tables, equations, graphs, and verbal descriptions.
- The online materials include interleaved practice opportunities in the *Course Narrative Overview and Scope and Sequence*, where related ideas are taught closely for example, "Equations and Direct Variation" is taught near "Writing and Graphing Systems of Linear Equations," further reinforcing connections across units.

Balance of Conceptual and Procedural Understanding

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

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 digital materials include questions and tasks that require students to interpret a variety of models for mathematical concepts and situations. For example, in "Unit 4: Lesson 4.16: Teacher Guide: Introducing Arithmetic Sequences," students compare and contrast arithmetic and geometric sequences, determine the rate of change, and interpret tables and graphs to identify sequence types.
- The digital materials include questions that require students to analyze a variety of models for mathematical concepts and situations. For instance, in "Unit 9: Lesson 9.7: Teacher Guide: Applying the Quadratic Formula," students analyze and critique solutions to quadratic equations using the quadratic formula and evaluate variable expressions, focusing on common errors in calculations.
- The digital resources include questions that require students to interpret representations for mathematical concepts and situations. For example, in "Unit 8: Lesson 8.1: Teacher Guide: Finding Unknown Inputs," students interpret the relationship between variables in a framed picture scenario using a given equation to find unknown inputs.
- The digital materials include tasks that require students to analyze and evaluate a variety of representations for mathematical concepts and situations. For example, in "Unit 7: Lesson 7.16: Teacher Guide: Graphing from the Vertex Form," students graph functions in vertex form, determine the vertex as minimum or maximum, and analyze the graph's direction.

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

- The materials include questions and tasks that require students to create a variety of models to represent mathematical situations. For example, in "Lesson 5.13: Reasoning about Exponential Graphs, Part 2," students are tasked with creating exponential functions from graphs and determining function values, such as finding f(5) for given equations. The tasks involve using the "^" symbol to enter exponents and explaining their answers for functions like g(x).
- The materials include activities in "Unit 8: Lesson 8.6: Rewriting Quadratic Expressions in Factored Form, Part 1," where students rewrite quadratic expressions in standard form using diagrams. In the activity "Using Diagrams to Understand Equivalent Expressions," students engage in activities that include using diagrams to rewrite quadratic expressions. In "Lesson 8.6.2," students use diagrams to convert (x+2)(x+7) into standard form and find equivalent factored forms for expressions like x^2 - 11x + 24.
- The online materials incorporate tasks that require students to create a variety of models to represent mathematical situations. For example, in "Unit 2, Lesson 2.1: Writing and Graphing Systems of Equations," students write equations, graph them, complete tables, and justify their reasoning. In the next part of the lesson, "Lesson Activity 2.1.3," students interpret real-world problems and explain their solutions.

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

- The materials include questions that provide opportunities for students to apply conceptual understanding to new problem situations. For example, in "Unit 8: Lesson 8.7: Rewriting Quadratic Expressions in Factored Form, Part 2," Students extend their understanding of transforming quadratic expressions. In the student activity, they use their observations from earlier lessons to explore expressions that can be rewritten as products of a sum and a difference, completing tables and considering diagrams if needed.
- The digital materials include tasks that allow students to explore exponential growth in new contexts in Lesson 5.3: "Patterns of Growth." Students engage in a warm-up that involves creating a pictorial representation of exponential growth. They explore growth patterns in subsequent activities, using spreadsheet technology to understand exponential functions, compare and contrast patterns visually, and apply their conceptual understanding to new situations involving exponential functions.
- The materials include tasks that provide opportunities for students to apply conceptual understanding in new contexts in Lesson 6.2: "Multiplying Polynomials." Students start by multiplying monomials, reviewing the properties of exponents and the Distributive Property. The lesson narrative explains how students then practice multiplying binomials using multiple methods. They apply their conceptual knowledge of polynomial functions to multiply polynomials, recognizing special situations to efficiently use patterns and understand the advantages and disadvantages of different methods.

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 tasks designed to build student fluency necessary to complete grade-level tasks in the digital curriculum. For example, in Unit 1: Lesson 1.7: Explaining Steps for Rewriting Equations, students practice skills by choosing equivalent equations, such as identifying which equation is equivalent to $3x + 6 = 4x + 7$. This practice activity helps build fluency in recognizing and manipulating algebraic expressions.
- The materials include a structured approach to building student fluency through warm-ups, activities, self-check questions, and cool-downs. For instance, in Lesson 2.6: Solving Systems by Elimination, Part 3, students practice solving systems of equations, receive immediate feedback, and have multiple opportunities to build fluency through practice problems and self-check questions. If students answer incorrectly, they are directed to review the steps and try another problem, reinforcing fluency through repetitive practice and immediate feedback.
- The materials provide tasks designed to build the student automaticity necessary to complete grade-level tasks. For example, in the "Lesson 5.2 Teacher Guide: Rational Exponents: 5.2.1: Perfect Squares Revisited Warm Up," students review perfect squares and square roots and begin to elicit the idea of higher powers and the nth root. Additionally, in the "Lesson 5.2 Teacher Guide: Rational Exponents: 5.2.2: The nth Root: Student Activity," students explore the parts of a radical as well as radicals with indexes above 2. Students complete a table when $n = -2$ and n is raised to various powers.

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

- The materials provide opportunities for students to practice the application of efficient mathematical procedures within lessons and throughout the unit. For example, in "Unit 1: Teacher Guide: Unit 1 Narrative," students analyze and write equivalent equations, exploring moves that transform one equation into an equivalent equation and explaining why these moves maintain the solutions of the original equation. Additionally, in "Unit 1: Overview and Readiness: Solve Linear Equations: Mini-Lesson Review," students learn to transform equations into equivalent forms to solve for specific variables or to make relationships easier to identify. This mini-lesson provides a clear strategy for isolating variables, checking solutions, and simplifying equations using the distributive property and combining like terms, promoting both efficiency and accuracy.
- The digital curriculum includes tasks designed to build student proficiency in applying flexible and accurate mathematical procedures. For instance, in "Lesson 8.2: Teacher Guide: When and Why Do We Write Quadratic Equations?" students revisit quadratic functions, analyze and interpret equations, and write equations to represent different constraints. This activity encourages students to solve quadratic equations using different strategies depending on their form, promoting flexibility and accuracy in their approach.
- The materials emphasize the development of procedural fluency by integrating efficient, flexible, and accurate mathematical practices. For example, in the online materials in "Lesson 6.3: Polynomial Division" students review exponent properties and learn methods to divide polynomials, aiming to gain fluency and identify patterns. The materials state, "You will master a method to determine the remainder…and gain fluency in dividing polynomials as functions," and "look for some patterns…" as a basis for what is called synthetic division.

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

- The digital materials provide opportunities for students to evaluate procedures, processes, and solutions for efficiency within lessons. For example, in "Unit 1: Overview and Readiness: Solve Linear Equations: Mini-Lesson Review," students use a general strategy to isolate variables and check their solutions, promoting efficient problem-solving methods. The materials state, "Simplify each side of the equation…use the distributive property…check the solution."
- The digital materials provide opportunities for students to evaluate procedures, processes, and solutions for flexibility within lessons. For example, in "Unit 5: Lesson 5.1: Properties of Exponents," students explore the zero exponent property and negative exponents, using different strategies to simplify expressions and understand their applications, promoting flexibility in their mathematical approaches.
- The digital materials emphasize evaluating solutions for accuracy within the lessons and across units. For example, in "Unit 8: Overview and Readiness," students verify x-intercepts

and verify their solutions by substituting values into the original equations to check for accuracy. Another example is in "Unit 9: Unit 9 Overview and Readiness: Simplifying Radicals: Mini-Lesson Review: Simplifying a Square Root," where students identify perfect square factors and apply the product rule, reinforcing accurate procedural application.

- The materials provide opportunities for students to evaluate and apply efficient procedures through various problem-solving activities across units. For instance, in "Unit 2: Lesson 2.9: Solutions to Inequalities," students explore different approaches to solving inequalities by reasoning about quantities and relationships in context, guessing and checking values, and solving related equations. This flexibility in problem-solving is reinforced throughout the lessons and units, helping students develop accurate and efficient mathematical strategies.

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

- The digital materials contain embedded supports for teachers to guide students toward increasingly efficient approaches. For example, in the teacher-facing "Unit 9: Teacher Guide: Unit 9 Overview and Readiness," an embedded unit overview video provides a big-picture look at the unit's content and prerequisite skills. Additionally, the "Simplifying Radicals Mini-Lesson Review" includes step-by-step solutions accessible through an embedded digital 'Solution' button, which guides students through simplifying square roots.
- The digital materials contain embedded supports for teachers to guide students in exploring and applying mathematical concepts efficiently. For example, in the "Unit 4 Inquiry Project: Defining Functions," students use simulations to visualize and interact with functions. This activity encourages students to share their findings with the class, discuss responses with a partner, and summarize the impact of operations on algebraic functions, graphs, and outputs, developing an efficient understanding of functions.
- The digital materials contain embedded supports for teachers to guide students' development of efficient problem-solving strategies. For instance, in "Lesson 4.1: Describing and Graphing Situations," The *Teacher Guide* includes prompts for activating students' prior knowledge about functions from middle school, encouraging them to reason graphically and understand independent and dependent variables through contextual examples. This structured approach helps students develop efficient ways to analyze and describe relationships between quantities.
- The digital materials include detailed embedded teacher guides to support efficient instructional practices. For example, in "Lesson 6.3.3: Dividing Polynomials Using Synthetic Division," the *Teacher Guide* emphasizes the efficiency of synthetic division for dividing polynomials by binomials, providing clear instructions and reinforcing the applicability of this method to improve students' procedural fluency.

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 digital materials explicitly state how the conceptual emphasis of the TEKS is addressed. For instance, the "Course Design: Unit Sequence and Resources: Unit Sequence: Aligning Standards and Instruction," states, "The content in this course completely covers every student expectation within the Texas Essential Knowledge and Skills [TEKS]. This coverage includes both the process standards and the content standards. All process standards are addressed within each lesson and unit," and provides a link to a table containing Unit/lesson and TEKS correlations.
- The digital materials explicitly state how the procedural emphasis of the TEKS is addressed. For example, the "Course Design: Unit Sequence and Resources: Unit Sequence: Aligning Standards and Instruction," explains, "Procedural Fluency: The focus of this mathematical proficiency strand extends beyond basic computation and estimation to include mental strategies and applying procedures flexibly, accurately, and efficiently."
- The digital materials explicitly state how both the conceptual and procedural emphasis of the TEKS is addressed. For instance, the "Course Design: Unit Sequence and Resources: Unit Sequence: Aligning Standards and Instruction," explains, "This course seeks to support student development of conceptual understanding because students need to understand the 'why' behind the 'how' in mathematics. Concepts build on experience with concrete contexts."
- The digital materials explicitly state how the conceptual emphasis of the TEKS is addressed in specific lessons. For example, in "Lesson 1.8 Teacher Guide: Choosing the Correct Variable to Solve For," the Lesson Narrative explains how students reason and manipulate equations to solve for a variable, addressing TEKS A.2C and A.12E.
- The materials explicitly state how the procedural emphasis of the TEKS is addressed in specific lessons. For example, in "Lesson 2.3 Teacher Guide: Solving Systems by Substitution," the Lesson

Narrative explains how students transition to solving systems algebraically by substitution, addressing TEKS A.2(I), and developing procedural fluency by recognizing efficient substitution methods.

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

- The digital materials include questions that use concrete models and manipulatives. For example, in "Lesson 8.8: Rewriting Quadratic Expressions in Factored Form," students use a diagram to solve the expanded product of the difference of two squares, aiding in visualizing and solving the problem.
- The digital materials include tasks that use pictorial representations. For instance, in "Lesson 8.1: Finding Unknown Inputs," students use a rectangular piece of "framing material" to frame a picture, creating a uniform width frame and reinforcing the concept of quadratic equations through a hands-on activity.
- The digital materials include tasks that incorporate abstract representations. For example, in "Lesson 1.14: Writing Equations of Parallel and Perpendicular Lines," students use coordinate grids, straight edges, and colored pencils to graph lines and explore the equations of parallel and perpendicular lines, facilitating a deeper understanding of these geometric concepts.
- The digital materials include questions that use technology-based models. For instance, in "Lesson 8.12: Using Technology to Find the Quadratic Regression," students use the Desmos graphing tool to generate tables from data sets, helping them recognize patterns and fit quadratic functions to the data.
- The digital materials include tasks that blend concrete, pictorial, and abstract representations. For example, in "Lesson 1.14: Writing Equations of Parallel and Perpendicular Lines," students graph lines on paper coordinate grids using different colors to distinguish between equations, enhancing their understanding of the relationships between different lines through multiple representations.

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

- The digital materials include opportunities for connecting concrete models to abstract concepts. For example, in "Unit 6: Lesson 6.1: Add and Subtract Polynomials," students begin by evaluating terms with the same variables and exponents, then progress to evaluating polynomial functions, and finally add and subtract polynomials. The "Cool Down" activity has students draw a tic-tac-toe board using polynomial functions, connecting concrete activities to abstract concepts.
- The digital materials include supports for connecting representational models to abstract concepts. In "Unit 7: Lesson 7.11: Graphing from the Factored Form," students are provided with a graph of a function and tasked with finding the values of points on a graphed parabola, explaining their reasoning. They then create tables of values for given functions and use an

embedded graphing tool to visualize and analyze their results, bridging the gap between representational models and abstract concepts.

- The digital materials include supports for students in connecting representational models to abstract concepts. For example, in "Unit 8 Overview and Readiness," the unit begins with a real-world scenario involving a water fountain and children playing catch. This scenario helps students understand quadratic equations by connecting everyday situations to mathematical concepts. The activity further engages students by asking them to write expressions and equations to represent dimensions and areas, bridging the gap between concrete models and abstract expressions.
- The materials facilitate the transition from representational models to abstract concepts. For example, in "Lesson 2.13: Solving Problems with Inequalities in Two Variables," students complete a card sort activity where they match situations, inequalities, solutions, and graphs. This activity supports students in connecting and exploring different representations of the same inequality, reinforcing their understanding of abstract concepts.

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 digital materials provide opportunities for students to develop their academic mathematical language using visuals. For example, in Unit 7 Lesson 7.10, students coordinate (orally and in writing) a quadratic expression given in factored form with the intercepts of its graph and interpret the meaning of x-intercepts and y-intercepts on a graph of a quadratic function that represents a context. Additionally, "Graphs of Functions in Standard and Factored Forms, 7.10.2: Quadratic Forms and Their Graphs Activity," includes a visual of a man throwing a ball in the air. Students analyze the graph and explain how the numbers in the factored form of a quadratic expression relate to the intercepts of its graph.
- The digital materials provide opportunities for students to develop their academic mathematical language using manipulatives. For instance, in Unit 8: Lesson 8.8: *Rewriting Quadratic Expressions in Factored Form Part 3*, students use a diagram to solve the expanded product of the difference of two squares. This activity helps students develop their academic language related to quadratic expressions, linear terms, and the difference of squares.

- The digital materials provide opportunities for students to develop their academic mathematical language using technology. For example, in Lesson 8.12: Using Technology to Find the Quadratic Regression, the "Warm Up Activity" includes an embedded activity using the Desmos graphing tool. Students enter data and examine the data for a pattern that might fit any quadratic function they recognize, developing language with terms such as "curve of best fit" and "quadratic regression."
- The digital materials provide opportunities for students to develop their academic mathematical language using other language development strategies. For example, in Unit 8: Project 8 Teacher Guide: *Modeling Rocket Flight*, the "Learning Goals" include explaining why quadratic equations can have no solutions and recognizing that the number of solutions to a quadratic equation can be revealed when the equation is written as an expression in factored form equal to zero. Students use visual aids such as graphs to define specific functions given their zeros and a point.
- The digital materials emphasize student explanations to develop academic mathematical language. For example, Unit 7 Lesson 7.10: Learning Targets (Student Facing)," requires students to explain the meaning of intercepts on a graph of a quadratic function in terms of the situation it represents and to explain how the numbers in the factored form of a quadratic expression relate to the intercepts of its graph. This task integrates oral and written explanations to reinforce language development.

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

- The digital materials include embedded guidance for the teacher in Unit 2: "Unit 2 Teacher Guide: Unit 2 Family Support Materials: Linear Inequalities and Systems." These materials guide teachers on how students will write and graph two equations representing different parts of the same problem situation. This guidance prompts students to think about pairs of values that simultaneously meet multiple constraints, helping them understand the phrase "a solution to both equations."
- The digital materials include review video lesson summaries for "Unit 2 *Teacher Guide*, Unit 2 "Family Support Materials," and "Linear Inequalities and Systems." These videos highlight key concepts and vocabulary learned across lessons in the unit. Each video is based on the written "Lesson Summaries" found at the end of lessons in the curriculum and aims to support students in reviewing and checking their understanding of important concepts and vocabulary. The videos also encourage students to predict what comes next or think up other examples of vocabulary terms.
- The digital materials guide teachers to familiarize students with the vocabulary words they will encounter throughout the lesson in "Unit 2: Lesson 2.1 Teacher Guide: *Writing and Graphing Systems of Equations*, 2.1.0: Lesson Overview." Students are encouraged to look for words, notice their use and meanings, and use key vocabulary words in "math talk" and their written and oral explanations.
- The digital materials guide teachers to utilize a word wall in "Unit 2: Lesson 2.1 Teacher Guide: *Writing and Graphing Systems of Equations*." Sample word cards are provided, including terms

such as real numbers, absolute value, and order of operations. This strategy helps scaffold and support student development and the use of academic mathematical vocabulary.

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 digital materials include embedded guidance for the teacher to support the application of appropriate mathematical language to support mathematical conversations that provide opportunities for students to hear math language with peers. For example, in "Lesson 2.1 Teacher Guide: Writing and Graphing Systems of Equations," in the" Warm Up," materials explain how the math talk refreshes students' knowledge about constraints and the values that meet them. Students are prompted to determine if four given combinations of raisins and walnuts meet a certain cost constraint, preparing them to write and solve systems of linear equations later. Teachers are encouraged to ask students to be precise in their word choice and use of language, and in the "Activity Synthesis," students are asked to share their strategies and restate their reasoning in different ways.
- The digital materials include embedded guidance for the teacher to support the application of appropriate mathematical language to develop students' math language toolkits over time. For instance, in "Lesson 2.2 Teacher Guide: *Writing Systems of Equations*," teachers are directed to familiarize students with vocabulary words, encourage their use in "math talk," and utilize a word wall with sample cards that include definitions, visuals, and examples. A link to a Quizlet in Spanish and English is also provided, and guidance aligns with the ELPS for distinguishing sounds and recognizing elements of the English sound system.
- The digital materials include embedded guidance for the teacher to support the application of appropriate mathematical language to include vocabulary. For example, in "Lesson 7.1 Teacher Guide: *Patterns of Change*," learning goals state that students will describe a relationship that increases and then decreases when represented by a graph. Teachers are directed to familiarize students with vocabulary words, encourage their use in "math talk," and utilize a word wall. Teachers receive guidance on contrasting the term quadratic with linear and exponential patterns and refining language about quadratic forms to be more precise in thinking about graphs of quadratic functions.
- The digital materials include embedded guidance for the teacher to support student responses using exemplar responses to questions. For example, in "Unit 7: Lesson 7.12 Teacher Guide: *Graphing the Standard Form, Part 1*," teachers are directed to select students to share how they matched equations and graphs, encouraging the use of terms like "coefficient" and "constant term." The connections between equations and graphs are highlighted to show different ways to predict graph appearances from equations and vice versa.

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**

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 digital materials integrate process standards into the curriculum appropriately. For example, in the "Teacher Guide, Additional Resources, and Scope and Sequence," the process standards (A.1A, A.1B, A.1C, A.1D, A.1E, A.1F, A.1G) are embedded throughout every unit. In Unit 1, students write and solve linear equations and inequalities, determine the slope of a line, and represent linear equations in various forms. This integration helps students engage with the content through multiple representations and real-world applications.
- The digital process standards are highlighted and applied within each lesson and unit. For instance, the "Course Design" section states, "All process standards are addressed within each lesson and unit." Specific process standards are identified in the TEKS table to highlight prominent ways students can learn and demonstrate their understanding. The "Teacher Guides" provide guidance on using these standards during instruction, ensuring that process standards are consistently integrated throughout the curriculum.
- The digital materials include opportunities for students to demonstrate their mastery of process standards through real-world tasks. For instance, in the "Unit 4 Inquiry Project: Defining Functions," process standards such as ALG1.1(B) and ALG1.1(E) are included. Students use a problem-solving model to analyze information, formulate strategies, and justify solutions. They create and use representations to organize, record, and communicate mathematical ideas, demonstrating their understanding and application of process standards in practical scenarios.

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

- The digital materials include a description of how process standards are incorporated throughout the course. For instance, in the teacher-facing "Teachers Start Here, Additional Resources, and Scope and Sequence," the process standards (A.1A, A.1B, A.1C, A.1D, A.1E, A.1F, A.1G) are embedded in every unit. Additionally, in "Unit 1: Linear Equations," students write and solve linear equations and inequalities, determine the slope of a line, and represent linear equations in various forms. These process standards are highlighted in the TEKS list in the teacher guide, ensuring that they are consistently integrated into the lessons.
- The digital materials describe how process standards are connected throughout the course. For example, the "Getting Started: Teachers Start Here: Additional Resources: Course Narrative," explains how students' progress from linear to exponential to quadratic functions. The narrative highlights the exploration of arithmetic and geometric sequences and how these concepts are embedded in the curriculum. Additionally, in Unit 1 Lesson 1.1, the lesson overview describes how students experiment with expressions and equations to model situations, focusing on identifying relevant quantities, making assumptions, creating models, and evaluating them.
- The digital materials provide a comprehensive description of how process standards are addressed within each lesson and unit. In the "Course Design, Unit Sequence, and Resources," it states, "All process standards are addressed within each lesson and unit," with specific process standards highlighted in the TEKS table. The "Teacher Guides" include guidance on using these standards during instruction, and the culminating "Unit Projects" offer opportunities for students to demonstrate mastery through real-world tasks, engage in problem-solving processes, and communicate their thinking using multiple representations.

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

- The digital materials include a description for each unit of how process standards are incorporated and connected throughout the unit. For example, in the "Unit 6 Teacher Guide," the "Unit 6 Overview and Readiness" section features an overview video that provides a big picture look at the unit content and the prerequisite skills students need. Additionally, the "Unit 6 Inquiry Project Teacher Guide: Area Model Multiplication" covers the process standard ALG1.1(C), helping students select appropriate tools and techniques to solve problems.
- The digital curriculum materials provide a comprehensive narrative of how process standards are integrated within each unit. In the "Getting Started: Teachers Start Here: Additional Resources: Course Narrative Overview," the course progression is detailed, showing how students move from linear equations and inequalities to two-variable statistics, functions, exponential functions, and quadratic functions. This progression helps students build on their prior knowledge and connect mathematical concepts across units.
- Each unit in the online *Teacher's Edition* includes a "Teacher Guide" with the relevant process standards. For example, the "Unit 1 Teacher Guide: Overview and Readiness" section lists the TEKS necessary for the unit and includes a video showing how the topics are connected

throughout the lessons. This ensures that teachers understand how process standards are incorporated and connected, providing a clear roadmap for instruction.

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

- The materials include an overview of the process standards incorporated into each lesson. For example, in "Lesson 1.1: Teacher Guide: Exploring Expressions and Equations," the "Lesson Overview" section lists the TEKS covered, including A.1A, which states, "apply mathematics to problems arising in everyday life, society, and the workplace." The activity prompts students to create expressions to estimate costs for a pizza party, engaging them in mathematical modeling and real-world problem-solving.
- In the digital curriculum, each lesson provides a detailed overview of the process standards. For instance, in "Lesson 1.3: Writing Equations to Model Relationships, Part 2," the "Lesson Overview" and "Narrative" sections describe how students develop their ability to identify, describe, and model relationships with mathematics. The lesson covers process standards A.1A and A.1C, encouraging students to generalize relationships between quantities by studying tables of values and looking for patterns.
- The online *Teacher's Edition* includes a "Lesson Overview" for each lesson, addressing the process standards needed. For example, in Lesson 1.1, the overview states that the TEKS covered is (A.1A) "apply mathematics to problems arising in everyday life, society, and the workplace," and provides an explanation of the coverage with the note, "Math process coverage: Lesson provides content that supports this TEKS." This ensures that teachers are aware of the process standards being addressed and can guide students accordingly.

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 digital materials provide opportunities for students to think mathematically by encouraging them to reason abstractly and quantitatively. For example, in "Unit 1, Lesson 1.1: Teacher Guide: Exploring Expressions and Equations," the teacher-facing materials indicate that students are encouraged to think about relevant quantities, determine whether they are fixed or variable, and understand how they relate to one another. Students engage in making assumptions and estimates, use numbers and letters to represent these quantities, and explore the concept of constraints. The lesson vocabulary section directs teachers to familiarize students with key terms and encourages their use in both written and oral explanations.
- The materials support students in persevering through solving problems by including tasks that require sustained effort and multiple strategies. For example, in "Unit 5, Lesson 5.3: Teacher Guide: Patterns of Growth," students engage in the activity "5.3.2: Exploring Different Growth Patterns," where they explore exponential growth patterns. The materials emphasize perseverance as students perform repeated calculations or generalize the process through expressions or equations. The inclusion of spreadsheet technology allows students to choose appropriate tools strategically, further supporting their problem-solving skills.
- The digital materials help students make sense of mathematics by providing clear explanations and activities that connect abstract concepts to real-world applications. For example, in "Unit 1, Lesson 1.1: Teacher Guide: Exploring Expressions and Equations: 1.1.2: Creating Expressions to Estimate Cost, Part 1," students use operation symbols to translate English phrases into algebraic expressions. This skill is built upon throughout the course, where students apply their understanding of algebra to solve practical problems. Additionally,

in "Unit 2, Lesson 2.2 Teacher Guide: Writing Systems of Equations," the warm-up activity prompts students to discuss the significance of the intersection point in a graph, helping them articulate their observations and refine their mathematical language.

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

- The digital curriculum materials support students in understanding that there can be multiple ways to solve problems. For example, in "Unit 1: Lesson 1.1: Teacher Guide: Exploring Expressions and Equations" in "Lesson 1.1.6: Lesson Synthesis," teachers are guided to help students see multiple ways of solving problems by asking questions such as, "In planning a pizza party, what were some ways we gathered information to estimate the cost?" This encourages students to consider different methods and assumptions in problem-solving.
- The digital curriculum materials support students in explaining that there can be multiple ways to solve problems. For instance, in "Unit 1: Lesson 1.3 Teacher Guide: Writing Equations to Model Relationships, Part 2" in "Lesson 1.3.3: Identifying and Representing Relationships," teachers are encouraged to offer multiple ways of solving in the Activity Synthesis. Students may solve using equations, tables, or graphs, and the teacher highlights that writing equations is an efficient way to communicate constraints in a situation.
- The digital curriculum materials support students in justifying that there can be multiple ways to solve problems and complete tasks. For example, in "Unit 4: Lesson 4.5 Teacher Guide: Using Function Notation to Describe Rules, Part 2" in "Lesson 4.5.2: Using the Vertical Line Test," students perform the vertical line test to determine if a graphed function passes the test and explain how this identifies the graph as a function or not. This task requires students to justify their answers, demonstrating their understanding of multiple problem-solving methods.

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

- The digital materials are designed to require students to make sense of mathematics through doing math with peers and teachers. For example, in "Unit 7: Lesson 7.4 Teacher Guide: Comparing Quadratic and Exponential Functions," students compare exponential expressions by analyzing their structure and discussing their strategies with partners. They also work in groups to compare patterns and make observations, using tools like spreadsheets or graphing technology to practice strategic tool selection.
- The digital materials are designed to require students to make sense of mathematics through writing about math with peers and teachers. For instance, in "Unit 1: Lesson 1.3 Teacher Guide: Writing Equations to Model Relationships, Part 2," students work in pairs to find relationships between variables in a table and share their strategies. They also model real-world problems with linear equations by writing sentences, creating tables, and translating these into equations. Additionally, in "Unit 2: Lesson 2.5 Teacher Guide: Solving Systems by Elimination, Part 2," students explain in writing why adding or subtracting two equations results in a new equation that shares the same solution.

- The digital materials are designed to require students to make sense of mathematics through discussing math with peers and teachers. For example, in "Unit 1: Lesson 1.1: Teacher Guide: Exploring Expressions and Equations," students discuss the constraints of a pizza party in groups and share their responses in a whole-class discussion. Additionally, in "Lesson 1.2 Teacher Guide: Writing Equations to Model Relationships," students solve problems individually, share their strategies in a whole-class discussion, and engage in structured discourse using sentence frames to support their explanations.

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 digital curriculum materials support teachers in guiding students to share their problem-solving approaches, including explanations. For example, in "Unit 6: Lesson 6.2 Teacher Guide: Multiplying Polynomials," students are introduced to different methods for multiplying binomials. They then explain their preferred method and discuss the steps involved with their partners.
- The digital materials support teachers in guiding students to share their problem-solving approaches, including arguments. For instance, in "Unit 1: Lesson 1.7 Teacher Guide: Explaining Steps for Rewriting Equations," students share their strategies for solving equations, restate others' reasoning, and build on each other's arguments, with teachers using structured questions to facilitate this process.
- The digital materials support teachers in guiding students to share their problem-solving approaches, including justifications. For example, in "Lesson 7.1 Teacher Guide: Patterns of Change," students find the length and width of a rectangle that produces the largest possible area, justify their answers, and explain their reasoning, with teachers asking follow-up questions to deepen their understanding.

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

- The digital materials offer prompts and guidance to assist teachers in providing explanatory feedback based on student responses. For instance, in "Unit 7: Lesson 7.5 Teacher Guide: Building Quadratic Functions to Describe Situations, Part 1," the teacher is prompted to facilitate peer discussions with questions like, "Why do you think the object will have fallen that distance in 0.5 seconds?" and "How do you think the values in the first table are

changing?" This encourages students to articulate their reasoning and compare their expressions, with teachers capturing their language and connecting it to the graphs.

- The digital materials offer guidance and prompts to assist teachers in providing explanatory feedback based on anticipated misconceptions. For example, in "Lesson 7.5 Teacher Guide: Building Quadratic Functions to Describe Situations, Part 1," the teacher is advised that students may question why the distances are positive when the rock is falling. The materials suggest emphasizing that the values measure how far the rock fell, not the direction, addressing potential confusion from earlier grade representations of negative numbers.
- The digital materials provide prompts and guidance to assist teachers in offering explanatory feedback based on anticipated misconceptions. In "Lesson 2.10 Teacher Guide: Writing and Solving Inequalities in One Variable," the "Anticipated Misconceptions" section suggests strategies for addressing common errors, such as helping students reason through the value of x by first considering specific quantities of gasoline and checking if their initial inequality makes sense.