Publisher Name	Program Name
Kiddom	*Texas Math: Algebra 1 Powered by Kiddom*
Subject	**Course**
Mathematics	Algebra I

Texas Essential Knowledge and Skills (TEKS) Coverage: **33.93%**

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

Quality Review Overall Score: **209 / 227**

Quality Review Summary

Rubric Section	Quality Rating
1. Intentional Instructional Design	**53 / 53**
2. Progress Monitoring	**25 / 28**
3. Support for All Learners	**27 / 32**
4. Depth and Coherence of Concepts	**23 / 23**
5. Balance of Conceptual and Procedural Understanding	**56 / 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.

- 2.2 Data Analysis and Progress Monitoring: Materials include instructional assessments and scoring information that provide guidance for interpreting and responding to student performance, offer guidance on using tasks and activities to address student performance trends, and include tools for students to track their own progress and growth.
- 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.
- 5.5 Process Standards Connections: Materials integrate process standards appropriately, nor do they provide descriptions of how they are incorporated and connected throughout the course, within each unit, or 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

- 2.1 Instructional Assessments: Materials do not include teacher guidance to ensure consistent administration of instructional assessments. Diagnostic and summative assessments are not aligned to the TEKS.
- 3.1 Differentiation and Scaffolds: Materials include teacher guidance for differentiated instruction for students who have demonstrated proficiency in grade-level content and skills
- 3.2 Instructional Methods: Materials do not include prompts or guidance to support teachers in modeling the concepts to be learned explicitly.
- 3.3 Support for Emergent Bilingual Students: Materials do not include teacher guidance on providing linguistic accommodations for various levels of language proficiency. Implementation guidance to support teachers in effectively using the materials in state-approved bilingual/ESL programs is not provided.
- 5.3 Balance of Conceptual Understanding and Procedural Fluency: Materials do not explicitly state how the conceptual and procedural emphasis of the TEKS are addressed, do not include questions and tasks that use concrete models and manipulatives for questions and tasks, and do not support students in defining concrete to abstract concepts.
- 5.4 Development of Academic Mathematical Language: Materials do not provide opportunities for students to develop academic mathematical vocabulary in context using manipulatives.

Summary

Texas Math powered by Kiddom is a 9–12 mathematics program with a problem-based curriculum. The Algebra 1 curriculum provides comprehensive units that include a variety of instructional routines, activities, and instructional supports where teachers and students are actively involved in the teaching and learning mathematics. Additionally, the program includes resources for formative and summative assessments, extension activities, and family support material for each unit.

Campus and district instructional leaders should consider the following:

- While lessons in the product feature a standard design that includes a warm-up, activities, and cool-down to engage students' prior knowledge and connect to real-world contexts, in many places, the lessons are not robust enough to meet TEKS standards and do not intentionally guide teachers to connect the mathematics process standards with content standards. Materials include lessons/units beyond Algebra 1 content and are missing lessons/units to cover Algebra 1 TEKS fully.
- The program includes materials that support emergent bilingual students and students with disabilities. However, the instructional guidance does not cover support for all learners, such as those with deficiencies in prior knowledge. While materials include a variety of questions for

teachers to assess student learning, there needs to be more questioning that would guide teachers to scaffold activities for learners who may have gaps in their prior knowledge. Novice teachers may require additional support and guidance to assist learners in moving from a concrete to a more abstract understanding of mathematics.

Intentional Instructional Design

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

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

Evidence includes, but is not limited to:

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

- The materials include a "Scope and Sequence" subsection located in the "Course Guide" tab of the "Course Overview" section. Additionally, in the "IMRA Rubric Submission Tool Math 9–12, there is a document called, "Copy of Scope and Sequence Texas" that outlines the TEKS and ELPs taught in the course.
- Materials include a year-long scope and sequence within the "Course Guide" under the "Course Overview" in the online teacher materials for the Algebra 1 course. The scope and sequence page includes a pacing guide and a dependency diagram illustrating the alignment between Algebra 1, geometry, and Algebra 2 course units.
- The pacing guide in the scope and sequence outlines the suggested order for teaching the seven units of Algebra 1 and the recommended number of days for each unit. The "Course Narrative" explicitly describes the knowledge taught in each unit. The narrative starts with a brief overview of the course and its structure, followed by an example of a student reference chart, and concludes with a unit-by-unit walkthrough of the Algebra 1 course.

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

- The materials include a suggested pacing calendar found in the supplementary Texas Scope and Sequence. The pacing calendar is designed for 137 days of initial instruction and provides teachers with an optional additional 18 days for extension, review, assess, and reteach days. With the addition of these days, the suggested pacing is 155 days. The scope and sequences also outline that each lesson is allotted 60 minutes.
- The instructional materials also include an Adaptation Guide that provides suggestions for lessons to add or lessons to remove or modify. This guide also includes a modified plan for each unit as well as a category list for lessons ranked by priority — high priority, medium priority, and low priority.

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

- The "Narrative" section found under the "Course Guide" provides an explanation for the rationale of unit order. For example, the narrative states "Students begin the course with one-variable statistics, building on ideas from middle school." to help teachers understand the reasoning for starting the course with this unit.
- Materials include an explanation for how concepts to be learned connect throughout the course. For example, the narrative states "Prior to this unit, students have studied what it means for a relationship to be a function, used function notation, and investigated linear and exponential functions. In this unit, they begin by looking at some patterns that grow quadratically." In addition, at the start of each unit, the unit narrative establishes connections to prior knowledge and outlines the topics to be covered within the unit.

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

- Materials include an adaptation guide at the beginning of each unit. The adaptation guide includes essential prior concepts that need review for this unit, a brief description of how to approach teaching this unit, a modified plan for the unit if needed, and a list of standards categorized into high-priority, medium-priority, and low-priority.
- Each unit features a section-level planning guide designed to assist teachers with "I can..." statements, as well as activity and assessment suggestions, categorized under the headings: explore, play and discuss, deep dive, synthesize and apply, ongoing practice, and anytime resources.

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

- On the Support page of the Kiddom website, there are 19 articles available for administrators and instructional coaches that provide information and resources to help navigate Kiddom for their school or district. Categories for resources and guidance include Teaching With Kiddom, Features, Customizing Kiddom, Grading & Reporting, Kiddom Integrations, Students and Families, and Troubleshooting. For example, the article titled "What are Admin Assignment View Reports?" provides administrators with guidance on the student achievement report. Specifically, Assignment View reports "equip school and district leaders, like you, with tools and data to make better instructional decisions and resource allocation decisions."
- Materials include resources to support administrators and instructional coaches with implementing the materials as designed. The "Teacher Guide," located in the Course Overview, provides resources for administrators and instructional coaches to support the implementation of the materials. The "Typical IM Lesson" subsection explains the four phases of a typical lesson: warm-up, instructional activities, lesson synthesis, and cool-down. The How to Use These Materials subsection further breaks down the three phases of a typical activity: launch, student work time, and activity synthesis.
- The materials include resources to support administrators and instructional coaches, such as video training. The materials state, "As part of Kiddom's NEW Admin Insights Reporting Package, we now offer Usage Reports! These reports allow district and school leaders to gain insight into Kiddom activation and usage across schools. This video link provides materials that include resources and guidance to support administrators and instructional coaches in implementing the materials as designed."

Intentional Instructional Design

1.2	Unit-Level Design	4/4
1.2a	Materials include comprehensive unit overviews that provide the background content knowledge and academic vocabulary necessary to effectively teach the concepts in the unit.	**2/2**
1.2b	Materials contain supports for families in both Spanish and English for each unit with suggestions on supporting the progress of their student.	**2/2**

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

Evidence includes, but is not limited to:

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

- Within each Unit Overview is a Unit Narrative that provides the background content knowledge and academic vocabulary necessary to effectively teach the concepts in the unit. For example, in Unit 6: Introduction to Quadratic Functions, the narrative states, "Prior to this unit, students have studied what it means for a relationship to be a function, used function notation, and investigated linear and exponential functions. In this unit, they begin by looking at some patterns that grow quadratically. They contrast this growth with linear and exponential growth. They further observe that eventually these quadratic patterns grow more quickly than linear patterns but more slowly than exponential patterns." In Unit 7: Quadratic Functions, the narrative references academic vocabulary from a previous unit (*standard form, factored form, vertex form)* and how these forms of quadratic functions will be used in the current unit. Additionally, the narrative mentions that students will encounter *perfect squares* and "learn that we can put equations into this helpful format by *completing the square*."
- The materials provide access to a set of academic terms within the resources. At the beginning of the course and throughout the units, the materials contain Glossary Terms. This includes a slide deck providing "a complete grade-level list including word, definition, and picture for all vocabulary words introduced in the IM Math curriculum." However, academic vocabulary is not clearly provided in the unit overviews.

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

- Each unit overview includes family support materials in English and Spanish. These materials can be accessed online or in PDF form and include lesson videos. The materials provide a

description of problem-based curriculum, support for learners, and ideas to encourage learners to be successful.

- The materials contain resources to support families with information to assist their students in learning in English and in Spanish. Family Support Materials in each unit provide an overview of student learning objectives and suggestions for ways caregivers can support the unit learning at home. Additionally, caregivers can access their student's progress.

Intentional Instructional Design

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

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

Evidence includes, but is not limited to:

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

- The materials include comprehensive lesson plans that encompass daily objectives, questions, tasks, materials, and instructional assessments necessary to meet the content and language standards of the lesson. Unit overviews include a unit narrative, lesson planning tools, activities, and lesson links. A "Section Level Planning Guide" link is included with each unit to outline lesson objectives, activity suggestions, assessment suggestions, ongoing practice, and anytime resources. Assessment suggestions include questions like "Journal Entry: What is function notation and why does it exist? What is a question you have about function notation?"
- The "Unit at a Glance" PDF provides structured lesson plans. It includes learning goals, targets, preparations, materials, student tasks, questions, instructional routines, and recommendations for responding to student thinking.
- Each lesson link contains detailed lesson plans. These plans include instructional routines, an activity narrative, a launch activity, and suggestions to advance student thinking and synthesize the learning. Each part of the lesson provides specific information about the content and language of the lesson, step-by-step instructions for teacher actions, and questions for teachers to ask along with possible student responses.

- Lesson plans include comprehensive lists of materials, a structured approach for teaching the lesson, instructional routines, activities, and formative assessment questions. They feature a bulleted list outlining the phases of the lesson, each with specified time frames, guiding questions, and required materials. Additionally, lesson plans detail objectives, questions, tasks, and materials aimed at developing procedural skill fluency and application. They include subsections with tasks and activities, providing explicit instructions for teacher facilitation. Each lesson concludes with a Cool-down and Cumulative Practice Set serving as instructional assessments.

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

- The materials include a "Course Overview" outlining the suggested timing for each lesson component. The "Teacher Guide," located in the Course Overview, suggests timing for three of its four lesson components: (1) Warm-up (5–10 minutes), (2) Lesson Synthesis (5–10 minutes), and (3) Cool-down (approximately 5 minutes). Within each unit, the materials include lesson-specific guidance for the fourth component, (4) Student Activities, with the Teacher Guide stating that "Each lesson plan is designed to fit within a class period that is at least 45 minutes long."
- Lessons include suggested timing for lesson components. For example, in Unit 2, Lesson 1, the materials suggest 5 minutes for the warm-up, 20 minutes for the first activity, 10 minutes for the second activity, and 5 minutes for the cool-down. The Teacher Guide suggests 5–10 minutes for the lesson synthesis component.

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

- The lesson overview at the beginning of each lesson includes required materials as necessary for teachers and students. For example, in "Unit 4, Lesson 10" the required materials are "graphing technology" and "pre-printed cards, cut from copies of the blackline master." In this same lesson overview, a description for teacher preparation states "Graphing technology is required for the optional activity What Could Be the Trouble? Acquire devices that can run Desmos (recommended) or other graphing technology. It is ideal if each student has their own device (Desmos is available under Math Tools.)."
- In the student-facing platform, students access required lesson materials once the teacher has assigned the lesson.

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

- Materials provide guidance for teachers to evaluate student responses and opportunities to extend and enrich student learning with optional activities for the lesson. Lesson components include practice questions that connect to the student activity. The "Section Level Planning

Guide" included in the unit overview provides resources for ongoing and additional practice. "Are You Ready for More?" sections are given following select lesson activities and are positioned after formative assessment questions, such as in "Unit 2, Lesson 17, Component 17.3."

- In the "How to Use These Materials" section of the "Teacher Guide" it states "Select classroom activities include an opportunity for differentiation for students ready for more of a challenge. We think of them as the 'mathematical dessert' to follow the 'mathematical entrée' of a classroom activity."

Progress Monitoring

2.1	Instructional Assessments	21/24
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.	**1/2**
2.1d	Diagnostic, formative, and summative assessments are aligned to the TEKS and objectives of the course, unit, or lesson.	**4/6**
2.1e	Instructional assessments include standards-aligned items at varying levels of complexity.	**2/2**

The materials include a variety of instructional assessments at the unit and lesson level (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 accurate administration of instructional assessments. Materials do not include teacher guidance for consistent administration of instructional assessments. Diagnostic, formative, and summative assessments are aligned to the objectives of the unit or lesson. Formative assessments are aligned to the TEKS of the course. Diagnostic and summative assessments are not aligned to the TEKS of the course. 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.

- Materials include various instructional assessments at the unit level, including diagnostic, formative, and summative assessments, with varying tasks and questions. The "Assessment" section of the "Teacher Guide" states "Each unit begins with a diagnostic assessment ('Check Your Readiness') of concepts and skills that are prerequisite to the unit as well as a few items that assess what students already know of the key contexts and concepts that will be addressed by the unit." In "Unit 6," the "Check Your Readiness" assessment has both tasks (numbers four, five, six, and eight) and questions (numbers one, two, three, and seven.) The "Teacher Guide" also states, "Each unit includes an end-of-unit written assessment that is intended for students to complete individually to assess what they have learned at the conclusion of the unit. Longer units also include a mid-unit assessment."
- Materials include various instructional assessments at the lesson level, including diagnostic, formative, and summative assessments, with varying tasks and questions. Formative questions are found at the end of each lesson in the "Lesson Synthesis" section. Formative

tasks are included in different student-facing sections of the lesson. The "Assessment" section of the "Teacher Guide" states "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 use this as a formative assessment to provide feedback or to plan further instruction."

- At the end of each unit is the end-of-unit-assessment which has a specific length and breadth intended to gauge student's understanding of key concepts of a unit. Under "Assessments, Learning Goals and Targets," it states that problem types include multiple-choice, multiple responses, short answer, restricted constructed response, and extended response, with vary levels of depth and complexity.

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

- Materials include the definition of the types of instructional assessments. The "Assessment" section of the "Teacher Guide" defines diagnostic, formative, and summative assessments found within the units and lessons of the Algebra 1 course. For example, the section states, "At the start of each unit is a pre-unit diagnostic assessment that is titled Check Your Readiness. These assessments vary in length. Most of the problems address prerequisite concepts and skills for the unit."
- Materials include the intended purpose for the types of instructional assessments. The "Assessment" section of the "Teacher Guide" outlines the intended purpose of diagnostic, formative, and summative assessments found within the units and lessons of the Algebra 1 course. For example, describing summative assessments, the section states, "These assessments have a specific length and breadth, with problem types that are intended to gauge students' understanding of the key concepts of the unit while also preparing students for new-generation standardized exams."

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

- Materials include teacher guidance to ensure accurate administration of instructional assessments. Each unit begins with a diagnostic assessment covering prerequisite knowledge and previewing upcoming concepts. This is followed by instructional tasks and practice questions that offer opportunities to address misconceptions through multiple lessons. The unit concludes with an end-of-unit assessment to gauge overall learning. Each assessment provides guidance and rubrics to evaluate student responses.
- The materials lack clear guidance on how to consistently administer assessments. They do not give teachers guidance on timing or conditions for the various instructional assessments to ensure fairness and equal opportunity for all students.

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

- Diagnostic and summative assessments are aligned to the unit objectives. For example, the diagnostic assessment at the beginning of Unit 6 states, "In this unit, students build on their previous knowledge of functions. Most assessment items are associated with standards on functions from grade 8." Diagnostic assessments at the beginning of the unit assess prerequisite knowledge so teachers know how to proceed through unit objectives. Summative assessments are then given at the end of the unit to assess how students have progressed through the learning objectives.
- Formative assessments are aligned to the lesson objectives. The "Unit at a Glance" PDF provides alignment of cool-downs (formative assessments) to lesson and unit objectives. Objectives in the online materials do not align to the Algebra I TEKS.
- The product folder includes a shared Google sheet that outlines how formative assessments are aligned with the TEKS of the Algebra 1 course. Diagnostic assessments are partially aligned to the TEKS for units six and seven only. TEKS alignment is not included in summative assessments.

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

- Instructional assessments include standards-aligned items at varying levels of complexity. For example, the end-of-unit assessments primarily consist of multiple-choice items allowing students to demonstrate mastery of unit objectives in a structured format. Additionally, these assessments include constructed response items to articulate their knowledge and reasoning in a more detailed and open-ended format. In addition to items aligned with Algebra 1 standards, materials include assessment items with statistics and geometry content. Formative assessments within the lessons provide additional levels of complexity by encouraging students to communicate their ideas clearly and justify their reasoning. For example, in "Unit 6, Lesson 7, Component 7.2," the "Student-Facing Task" and "Are You Ready for More" sections present tasks and questions that require students to compare and contrast, analyze, and make predictions.
- Instructional assessments include standards-aligned items with more than two levels of complexity. For example, the Unit 6 "Mid Unit Assessment" has items at the recall level (numbers 1, 2, 3, and 4a), items at the skill or concept level (numbers 4b, 4c, 5, 7a, and 7b), and items at the strategic thinking level (numbers 5, 7c, and 7d.)

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 and scoring information provide guidance for interpreting and responding to student performance. A rubric is provided for constructed responses in mid-unit and end-of-unit assessments. For example, in "Unit 2, End of Unit Assessment" question 7a, the rubric describes student responses in tiers. A tier one response indicates "work is complete and correct," a tier two response indicates "good conceptual understanding and mastery, with either minor errors or correct work lacking sufficient explanation or justification," a tier three response indicates "significant errors in work, demonstrating a lack of conceptual understanding or mastery," and tier four indicates that student work "includes major errors or omissions that demonstrate a lack of conceptual understanding and mastery."
- The teacher class dashboard in the online demo class reports offers further guidance to teachers on interpreting student performance. These reports assist teachers in monitoring student progress over time, tracking student growth by mastery level, and analyzing class and individual performance on specific standards.

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

- The materials provide guidance on how to use the tasks and activities provided to address students' performance on assessments. For example, the diagnostic assessment in "Unit 7" includes guidance for evaluating responses, helping teachers understand what steps to take next for most questions. Additionally, in "Unit 7, Lesson 11, Cool-Down," there is a section for "responding to student thinking" that directs teachers to lessons they should review with students and lessons that can further support learning in that lesson.

- The "Assessment" section in the "Teacher Guide" offers intervention recommendations for diagnostic assessments and cool-downs. This section states, "What if the feedback from a cool-down suggests students haven't understood a key concept?" A list of four strategies is given to address this question. For example, one strategy is "Give each student brief, written feedback on their cool-down that asks a question that nudges them to re-examine their work. Ask students to revise and resubmit."

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

- Materials include tools for students to track their own progress and growth via their data dashboard. According to the "Student Help: What Do My Reports Mean?" document, "On the top of the reports page, you can see your Class Grade Average. This is your overall grade for the class. Next, you can see your Class Standard Mastery. You can think of Standards like goals that are monitored in class."
- The student dashboard allows students to check their grades on individual assignments and see any teacher feedback. According to the "Student Help: How Do I Check My Grades and Teacher Feedback?" document, "From the Timeline, you can click on the relevant assignment to view your final grade and/or any feedback from your teacher."

Supports for All Learners

3.1	Differentiation and Scaffolds	7/8
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.	**2/3**

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 enrichment and extension activities for students who have demonstrated proficiency in grade-level content and skills. Materials do not include teacher guidance for differentiated instruction 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.

- Materials include teacher guidance for differentiated instruction for students who have not yet reached proficiency. In the online resources for teachers, lessons provide an "Advancing Student Thinking" section that outlines common misconceptions and how teachers can respond. In "Unit 5, Lesson 1, Component 1.3" states, "Due to the exponential nature of the problem, the scale for the vertical axis makes it difficult to accurately estimate vertical coordinates of points from the graph." Teachers are guided to remind students they can calculate the exact value of the coordinate.
- In the online resources for teachers, materials provide teacher guidance to differentiate instruction and activities for specific groups of students, including English language learners and students with disabilities.

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

- Materials include pre-teaching supports for unfamiliar references in the lessons. For example, in the "Launch" section of "Component 5.3" in Unit 5 of the online resources, teachers are given guidance to explain the relationship between glucose and the presence of the insulin

hormone in the body. This guidance helps the teacher to facilitate the activity and discussions related to the lesson.
- There are embedded supports for unfamiliar vocabulary in the online resources. For example, the presentation in Unit 5, Lesson 4 provides a glossary definition of the word *growth factor* along with a visual representation in an equation.

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

- Materials include teacher guidance for differentiated enrichment activities for students who have demonstrated proficiency in grade-level content and skills. Each unit in the online resources for teachers includes an enrichment activity to engage learners with more depth and complexity related to the course standards. For example, Unit 5, Lesson 17 asks students to apply their knowledge to critically examine our country's national debt.
- Materials include guidance for differentiated extension activities for students who have demonstrated proficiency in grade-level content and skills. An "Are You Ready for More" section is included in each lesson of the online resources for teachers to allow students to deepen their understanding by applying the content in a real-world context.
- There are enrichment and extension activities and optional lessons in materials. The Section Level Planning Guide provides an overview of student learning objectives, multiple suggestions for activities, and a chart that outlines the levels of learning. The levels are identified as Explore, Play, and Discuss, Deep Dive, Synthesize and Apply, and Ongoing Practice. There are lessons and activities aligned to each level.
- Materials do not include teacher guidance for differentiated instruction for students who have demonstrated proficiency in grade-level content and skills.

Supports for All Learners

3.2	Instructional Methods	11/13
3.2a	Materials include prompts and guidance to support the teacher in modeling, explaining, and communicating the concept(s) to be learned explicitly (directly).	**4/6**
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 explaining and communicating the concept(s) to be learned explicitly (directly.) Materials do not include prompts and guidance to support the teacher in modeling the 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, 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).

- Materials include prompts and guidance to support the teacher in explaining the concepts to be learned explicitly. In the online resources for teachers, the activity synthesis of "Component 6.3" in Unit 5 helps teachers guide students to analyze key attributes of exponential graphs to match them with a given description. Question prompts such as "Can we use vertical intercepts to make a match?" or "What can we tell about the growth factor in each situation?" are included for the teacher to facilitate students in explaining the concepts of the lesson.
- Materials include prompts and guidance to support the teacher in communicating the concepts to be learned directly. For example, "Component 11.2" in Unit 7, found in the online resources for teachers, prompts and guides teachers to utilize color and annotations to communicate how to recognize patterns with the concept of the perfect square trinomial and its factored form. Teachers are also guided to scribe student thinking as they "share their conclusions about the relationship between the terms in different forms of perfect squares."
- Materials do not include prompts and guidance to support the teacher in modeling the concepts to be learned directly. In the materials, the activity synthesis of "Component 1.2" in Unit 5 instructs teachers to model the concept for students to help them visualize the abstract concept of exponential growth; however, there are no specific prompts or guidance to effectively support teachers in modeling this concept. Additionally, in the "Supports for Students with Disabilities" section in "Component 6.2" of Unit 5 in the online resources, teachers are guided to display and build an anchor chart for exponential functions with color

coding to highlight key values and variables, but there is no specific prompt to assist teachers in creating the anchor chart. Also, this guidance is not explicitly designed to facilitate active participation from all learners, and it could be confusing for teachers with less experience in the classroom.

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

- Materials include prompts and guidance to support the teacher in explaining the concepts to be learned explicitly. In the online resources for teachers, the activity synthesis of "Component 6.3" in Unit 5 helps teachers guide students to analyze key attributes of exponential graphs to match them with a given description. Question prompts such as "Can we use vertical intercepts to make a match?" or "What can we tell about the growth factor in each situation?" are included for the teacher to facilitate students in explaining the concepts of the lesson.
- Materials include prompts and guidance to support the teacher in communicating the concepts to be learned directly. For example, "Component 11.2" in Unit 7, found in the online resources for teachers, prompts and guides teachers to utilize color and annotations to communicate how to recognize patterns with the concept of the perfect square trinomial and its factored form. Teachers are also guided to scribe student thinking as they "share their conclusions about the relationship between the terms in different forms of perfect squares."
- Materials do not include prompts and guidance to support the teacher in modeling the concepts to be learned directly. In the online resources, the activity synthesis of "Component 1.2" in Unit 5 instructs teachers to model the concept for students to help them visualize the abstract concept of exponential growth; however, there are no specific prompts or guidance to effectively support teachers in modeling this concept. Additionally, in the "Supports for Students with Disabilities" section in "Component 6.2" of Unit 5 in the online resources, teachers are guided to display and build an anchor chart for exponential functions with color coding to highlight key values and variables, but there is no specific prompt to assist teachers in creating the anchor chart. Also, this guidance is not explicitly designed to facilitate active participation from all learners, and it could be confusing for teachers with less experience in the classroom.

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

- Materials include prompts and guidance to support the teacher in explaining the concepts to be learned explicitly. In the online resources for teachers, the activity synthesis of "Component 6.3" in Unit 5 helps teachers guide students to analyze key attributes of exponential graphs to match them with a given description. Question prompts such as "Can we use vertical intercepts to make a match?" or "What can we tell about the growth factor in

each situation?" are included for the teacher to facilitate students in explaining the concepts of the lesson.

- Materials include prompts and guidance to support the teacher in communicating the concepts to be learned directly. For example, "Component 11.2" in Unit 7, found in the online resources for teachers, prompts and guides teachers to utilize color and annotations to communicate how to recognize patterns with the concept of the perfect square trinomial and its factored form. Teachers are also guided to scribe student thinking as they "share their conclusions about the relationship between the terms in different forms of perfect squares."
- Materials do not include prompts and guidance to support the teacher in modeling the concepts to be learned directly. In the online resources, the activity synthesis of "Component 1.2" in Unit 5 instructs teachers to model the concept for students to help them visualize the abstract concept of exponential growth; however, there are no specific prompts or guidance to effectively support teachers in modeling this concept. Additionally, in the "Supports for Students with Disabilities" section in "Component 6.2" of Unit 5 in the online resources, teachers are guided to display and build an anchor chart for exponential functions with color coding to highlight key values and variables, but there is no specific prompt to assist teachers in creating the anchor chart. Also, this guidance is not explicitly designed to facilitate active participation from all learners, and it could be confusing for teachers with less experience in the classroom.

Supports for All Learners

3.3	Supports for Emergent Bilingual Students	9/11
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.	**1/2**
3.3b	Materials include implementation guidance to support teachers in effectively using the materials in state-approved bilingual/ESL programs.	**0/1**
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 one level of language proficiency [as defined by the English Language Proficiency Standards (ELPS)], which are designed to engage students in using increasingly more academic language. Materials do not include 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 and increasing comprehension through oral and written discourse. Materials do not include embedded guidance for teachers to support emergent bilingual students in building background knowledge or 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.

- Materials include teacher guidance on providing linguistic accommodations for one level of language proficiency, which are designed to engage students in using increasingly more academic language. In the online teacher resources, each lesson in the course has a "Supports for English Language Learners" section, which offers guidance on linguistic accommodations for one proficiency level. For example, Unit 6, Lesson 3 provides a strategy for students to do preparation work with mathematical language for the activity, so they are able to refer back to this pre-work throughout the activity when working with a partner or during whole-class discussions.
- Materials do not include teacher guidance on providing linguistic accommodations for more than one level of language proficiency. The "Supporting Diverse Learners" section of the online "Teacher Guide" states, "Access supports for English learners are designed to provide

students with access to the academic language demands for all students learning mathematics, specifically the demands of reading, writing, listening, speaking, conversing, and representing." Although materials include support for different skills that students can use to engage with mathematical language, there is no guidance for teachers to use these different skills with various levels of language proficiency.

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

- Materials provide teacher guidance to support at least one level of Emergent bilingual students with strategies that align with the ELPS, but materials do not include implementation guidance to support teachers in effectively using them in state-approved bilingual/ESL programs. Materials include a "one size fits all" approach instead of supporting teachers to implement strategies for all levels of language proficiency.
- The "Supporting Diverse Learners" section of the online "Teacher Guide" offers guidance and strategies for language development and access tailored to Emergent bilingual students. However, this guidance does not include specific instructions or evidence of how to incorporate resources from 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.

- Materials include embedded guidance for teachers to support emergent bilingual students in developing academic vocabulary and increasing comprehension through oral discourse. For example, in the online teacher resource, "Component 6.2" of Unit 5 guides teachers to help Emergent bilingual students by recording important words and phrases as they discuss depreciation with a partner. Recorded words and phrases are displayed so bilingual students have a reference for their discussions with a partner or as a whole group. This strategy provides bilingual students an opportunity to communicate or justify their reasoning, which builds mathematical vocabulary and increases comprehension through oral discourse. Additionally, lessons throughout the online teacher resource provide sentence stems for teachers to help emergent bilingual students who may struggle with oral discourse.
- Materials include embedded guidance for teachers to support emergent bilingual students in developing academic vocabulary and increasing comprehension through written discourse. For example, in the online teacher resource, "Component 9.3" of Unit 5 guides teachers to give students an incorrect response and have students identify the error, analyze the reasoning, and make corrections with a partner. Students are then asked to share their analysis and corrected responses with the whole group. This strategy provides bilingual students an opportunity to analyze and justify mathematical arguments, which builds mathematical vocabulary and increases comprehension through written discourse.
- The Key Structures In This Course section provides opportunities for students to develop background knowledge through embedded guidance for teachers to support emergent

bilingual students through journal writing. The materials include writing prompts such as, "When students are asked to write about ways in which the math they learned in class that day was connected to something they knew from an earlier unit or grade, they are explicitly connecting their prior and new understandings."

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 "Supporting Diverse Learners" section of the online "Teacher Guide" offers guidance and strategies for language development and access tailored to Emergent bilingual students. This provides a framework of understanding to guide teachers in supporting bilingual students.
- In the online teacher resources, each lesson includes a "Supports for English Language Learners" section, which offers guidance on linguistic accommodations for one proficiency level. For example, Unit 6, Lesson 3 provides a strategy for students to do preparation work with mathematical language so they can refer to this pre-work throughout the activity when working with a partner or during whole-class discussions.
- The materials include support for EB students in engaging in academic discourse. For example, the online teacher resource, Component 6.2 of Unit 5, guides teachers to help Emergent bilingual students by recording important words and phrases as they discuss the vocabulary word "depreciation" with a partner.

Depth and Coherence of Key Concepts

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

The practice opportunities over the course of a lesson and/or unit (including instructional assessments) require students to demonstrate depth of understanding aligned to the TEKS. Questions and tasks progressively increase in rigor and complexity, leading to grade-level proficiency in the mathematics standards.

Evidence includes, but is not limited to:

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

- Materials include practice opportunities over the course of the unit for students to demonstrate learning at the depth of understanding aligned to the TEKS. Each lesson in the online teacher and student materials consists of a warm-up, activities with a practice set, a cool-down, and a cumulative set of practice problems. Each of these provides students with practice opportunities where students explain and justify their reasoning to demonstrate their depth of understanding. For example, the cool-down for Lesson 18 in Unit 7 gives a solution to the equation and asks students to "identify as many errors as you can and briefly explain each error." At the conclusion of each unit is a cumulative assessment that includes varying levels of questions, as well as both multiple choice, multiple response, short answer, and constructed response questions.
- Materials include activities through the online teacher and student resources that provide opportunities to work with real-world problems. For example, Lesson 1 of Unit 6 tasks students with building the largest garden with a set number of materials. Students must use their knowledge of quadratic functions and their patterns of behavior to reason through the activity. Students then represent their ideas with diagrams and share their conclusions to constructed response questions. This activity combines mathematics process TEKS with Algebra 1 TEKS to give students the opportunity to further their understanding of the content.

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

- Materials include tasks that progressively increase in rigor and complexity, leading to proficiency in Algebra 1 standards. In the online teacher resource, Lesson 18 of Unit 7 begins with a warm-up where students demonstrate understanding by evaluating variable

expressions. "Component 18.2" then asks students to apply their knowledge of the quadratic formula by solving at least two quadratic equations. The lesson goes on to have students analyze worked solutions of four quadratic equations to reveal some of the common errors made in the solutions.

- Materials include different levels of questions across lessons and units. Each lesson in the online teacher resource has a set of cumulative practice problems with varying levels of difficulty. Each unit has a summative assessment to conclude the unit. The "Teacher Guide" in the online teacher resource states, "These assessments have a specific length and breadth, with problem types that are intended to gauge students' understanding of the key concepts of the unit while also preparing students for new-generation standardized exams. Problem types include multiple-choice, multiple-response, short answer, restricted constructed response, and extended response. Problems vary in difficulty and depth of knowledge."

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.

- Materials provide a logically sequenced scope and sequence. The "Product Folder" contains Google sheets that outline the scope and sequence for mathematics courses from Kindergarten through Algebra 2. Topics in the Algebra 1 course are introduced in a logical order. For example, materials on the Google sheet introduce variables, expressions, and equations and gradually move toward more specific topics, such as linear equations, inequalities, and systems of equations.
- Materials demonstrate coherence across courses through a logically connected scope and sequence found in the "Course Guide" in the online teacher resource. The scope and sequence page features a diagram that illustrates how the units from grade 6 through Algebra 2 are interlinked, showing how students experience a seamless progression in their mathematical education.

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

- Materials demonstrate coherence across units by explicitly connecting patterns between mathematical concepts. In the narrative at the beginning of Unit 5 in the online teacher resource, it states, "Students learn that exponential relationships are characterized by a constant quotient over equal intervals, and compare it to linear relationships which are characterized by a constant difference over equal intervals." This highlights a connection between linear and exponential functions, where the constant quotient is a constant rate by addition in linear functions and a constant rate by multiplication in exponential functions.
- Materials include connections of big ideas within the course and from previous grade levels. In the narrative at the beginning of Unit 2 in the online teacher resource, it 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." As students develop their skills in connecting representations, they can then use these presentations to model mathematical concepts.
- Materials include coherence across units by explicitly connecting relationships between mathematical concepts. These relationships are highlighted through recurring themes, such as the relationship between algebraic and graphical representations of functions. In the narrative at the beginning of Unit 5 in the online teacher resource, it states, "contexts are presented verbally and with tables and graphs. They [students] construct equations and use them to model situations and solve problems." This gives students an opportunity to explore properties and characteristics of exponential relationships.

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 across units by connecting the content and language learned in middle school mathematics courses to the content to be learned in Algebra 1. In the online teacher resource, the Unit 8 narrative states, "In grade 8, students informally constructed scatter plots and lines of fit, noticed linear patterns, and observed associations in categorical data using two-way tables. In this unit, students build on this previous knowledge by assessing how well a linear model matches the data using residuals as well as the correlation coefficient for best-fit lines." Additionally, in the "Design Principles" section of the "Teacher Guide" in the online teacher resource, it states, "There are three kinds of alignments to standards in these materials: building on, addressing, and building towards." This demonstrates attention to alignment along with the diagrams in the scope and sequence that illustrate how units from grade 6 to Algebra 2 are interlinked.
- Materials demonstrate coherence across units by connecting what will be learned in future courses, such as geometry and Algebra 2, to the content to be learned in Algebra 1. The Unit 6 narrative in the online teacher resource speaks of students investigating the vertex form of the

quadratic function and how changes in vertex form affect the graph of the function. The narrative states, "They also begin to relate the different parameters in the vertex form to the general ideas of horizontal and vertical translation and vertical stretch, ideas which will be investigated further in a later course." This hints at how transformations will be addressed later in the Algebra 2 course.

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

- Materials demonstrate coherence at the lesson level by connecting students' prior knowledge of concepts and procedures from the current course to new mathematical knowledge and skills. For example, the narrative in Lesson 3 of Unit 6 in the online teacher resource states, "In an earlier lesson, students reasoned about visual patterns using different representations and wrote expressions to describe patterns. In this lesson, they continue to work with patterns but begin to see these relationships as quadratic functions and write equations to define them." Additionally, the narrative in Lesson 3 of Unit 6 describes how students used graphs in an earlier lesson to recognize patterns and write expressions to describe the visual patterns. In the current lesson, the focus shifts to understanding these relationships as quadratic functions and formulating equations to define them. Students are asked to recognize that different expressions can describe the same function, laying groundwork for more in-depth exploration of equivalent expressions in later lessons.
- Materials demonstrate coherence at the lesson level by connecting students' prior knowledge of concepts and procedures from prior grade levels to new mathematical knowledge and skills. For example, the narrative in Lesson 12 of Unit 2 in the online teacher resource states, "This is the first series of lessons in which students review what they learned about systems of equations in middle school and develop new techniques for solving them." Additionally, the narrative in Lesson 8 of Unit 5 describes moving from conceptualizing relationships as exponential functions in Algebra 1 to selecting independent and dependent variables and articulating these relationships using function language or function notation. Building on students' prior knowledge, they are now applying familiar concepts and procedures to further study of exponential functions.

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.

- Materials provide spaced retrieval opportunities with previously learned skills and concepts across lessons. For example, in the practice questions in "Component 10.2" of Unit 7 in the online teacher and student resource, question numbers one and two have students practice rewriting quadratic expressions from factored form to standard form, which is a skill introduced at the beginning of the unit. Additionally, Lesson 4 in Unit 2 includes questions in the cumulative practice problem set that give students an opportunity to review skills and concepts from earlier in the unit and the previous unit.
- Materials provide spaced retrieval opportunities with previously learned skills and concepts across units. For example, in the online teacher and student resource, questions six through eight in the cumulative practice problems at the end of Lesson 18 in Unit 5 give students an opportunity to practice skills and concepts from previous units. Additionally, the "Teacher Guide" in the online teacher resource states, "each unit begins with a diagnostic assessment ("Check Your Readiness") of concepts and skills that are prerequisite to the unit as well as a few items that assess what students already know of the key contexts and concepts that will be addressed by the unit." Diagnostics would include prior knowledge from previous courses as well as previous units in the current course, which helps students to retrieve prior knowledge across units in the Algebra 1 course.

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

- Materials provide interleaved practice opportunities with previously learned skills and concepts across lessons. In the online teacher resource, teachers are provided with guiding questions to facilitate discussions around problem-solving strategies. For example, "Component 9.1" of Unit 6 is a warm-up that guides teachers to "Ask students to share their strategies for each problem." Students are solving linear equations to prepare for solving

quadratic equations in the upcoming lessons. Specific questions that guide teachers to focus on student strategy include "Did anyone have the same strategy but would explain it differently?" and "Did anyone solve the problem in a different way?" According to the "Teacher Guide" in the online teacher resource, typical lessons include a warm-up to help prepare students for the upcoming lesson by giving opportunities to strengthen number sense and procedural fluency, as well as reminding students of previous content that will connect to new learning.

- Materials provide interleaved practice opportunities with previously learned skills and concepts across units. For example, end-of-unit assessments in the online teacher and student materials are structured with a set of problems that require students to select and use diverse strategies on varying types of problems rather than relying on a single strategy. The "Teacher Guide" in the online teacher resource states, "When possible, extended response problems provide multiple ways for students to demonstrate understanding of the content being assessed, through some combination of arithmetic or algebra, use of representations (tables, graphs, diagrams, expressions, and equations) and explanations."

Balance of Conceptual and Procedural Understanding

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

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

Evidence includes, but is not limited to:

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

- Materials include questions and tasks that require students to interpret, analyze, and evaluate a variety of models for mathematical concepts and situations. For example, the warm-up in "Lesson 14" of "Unit 2" in the online teacher resource incorporates the use of hanger diagrams to model balanced equations. Students are asked to analyze the diagrams, interpret the meaning of the different shapes hanging on each side, and evaluate the "worth" of each shape to keep the hanger balanced. This routine incorporates both questions and tasks by asking questions such as "What do you notice?" and "What do you wonder?" and challenging students to interpret, analyze, and evaluate diagrams modeling equations. Additionally, the activity in "Component 18.2" of "Unit 5" gives students an opportunity to analyze, interpret, and evaluate population models over different periods of time to determine how accurately various exponential expressions could be used to represent the models. Teachers have students work through this task in pairs and ask questions, such as "What might be a reason that the population calculated using the model is so far off from the actual number?" This activity uses a real-world model to support conceptual learning of exponential functions and allow students to deepen their understanding of mathematical relationships.
- Materials include questions and tasks that require students to interpret, analyze, and evaluate a variety of representations for mathematical concepts and situations. For example, the warm-up in "Lesson 11" of "Unit 4" in the online teacher resource presents four unlabeled graphs. Students are directed to analyze the features of the graphs, interpret what the features represent, and evaluate commonalities and differences in the graphs to determine which one does not belong. Additionally, "Component 8.2" of "Unit 5" has students use tables, graphs, and equations to represent exponential decay. Students are asked to determine "whether a

discrete graph or a curve is more appropriate and what domain would be suitable in this context." The online teacher resource provides questions for teachers to guide students to interpret, analyze, and evaluate the independent and dependent variables to make connections to the domain and range of each situation.

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

- Materials include questions that require students to create a variety of models to represent mathematical situations. For example, "Lesson 7" of "Unit 6" in the online student materials provides cumulative practice where students are asked to write an expression to represent a pattern given in part A of question two. Students are also asked to create a graph from a given function in part A of question five. Additionally, online materials provide an end-of-unit assessment at the conclusion of each unit. Each assessment includes questions that require students to create a variety of models to represent situations and demonstrate their learning.
- Materials include tasks that require students to create a variety of models to represent mathematical situations. For example, the activity in "Component 12.2" of "Unit 2" in the online teacher resource instructs students to write and graph equations to represent two constraints within the same situation. Using tables and graphs, students explore possible values that satisfy both constraints. This exercise encourages students to think about pairs of values that simultaneously meet multiple conditions, deepening their understanding of what it means to find "a solution to both equations." In this activity, students develop a more comprehensive grasp of how different mathematical models can be used to represent and solve complex problems.

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

- Materials include questions and tasks that provide opportunities for students to apply conceptual understanding to new problem situations. For example, "Component 12.2" of "Unit 7" in the online teacher resource states, "This activity enables students to see how the coefficient of the squared term and the constant term in a quadratic expression in standard form can be seen on the graph." Students apply their prior knowledge of how to identify features of linear functions from equations to identify key features of a quadratic function from equations. Teachers are provided guiding questions to help students make connections between the coefficient of the squared term, the constant term, and the graph of the function.
- Materials include questions and tasks that provide opportunities for students to apply conceptual understanding to new contexts. The "Design Principles" section of the "Teacher Guide" in the online teacher resource states that students are consistently provided with opportunities to connect mathematical concepts to real-world contexts throughout the course. Thoughtfully chosen anchor contexts are often used to introduce new concepts, motivating students and helping them apply their understanding. For example, the lesson narrative in "Lesson 7" of "Unit 6" in the online teacher resource explains that students have

previously explored quadratic functions modeling projectile motion. In this lesson, students will examine a quadratic relationship in an economic context. Using a table of values, they investigate the relationship between price and revenue, write an equation to define the function, and analyze what the graph reveals about the situation. By constructing a quadratic function to address a pricing problem, students are given an opportunity to apply conceptual understanding in a new context.

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 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.

- Materials provide tasks that are designed to build student automaticity necessary to complete grade-level tasks. For example, the activity narrative in "Component 15.3" of "Unit 6" in the online teacher resource states, "in this process, they practice looking for regularity in repeated reasoning." In this activity, students use graphing technology to support them in making connections between the components of the vertex form of a quadratic equation and how that impacts the graph of the quadratic functions. Students are given various functions and asked to recognize the vertex and direction of opening of the graph, building their automaticity to recognize key features of quadratic functions.
- Materials provide tasks that are designed to build student fluency necessary to complete grade-level tasks. The "Teacher Guide" in the online teacher resource describes warm-ups as designed to enhance number sense or procedural fluency and encourage students to perform mental arithmetic or reason algebraically. This approach strengthens students' mathematical fluency, laying a foundation for more intuitive understanding of mathematical relationships. Additionally, the "Course Guide" describes the instructional routine "Math Talks" as a way to improve fluency by prompting students to engage with numbers, shapes, or algebraic expressions and to solve problems mentally.

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

- Materials provide opportunities for students to practice the application of efficient, flexible, and accurate mathematical procedures within the lesson. For example, at the end of each lesson in the online student and teacher resource, teachers assign a cumulative practice problem set for students to demonstrate their mastery of the lesson. These problem sets have different item types that give students an opportunity to practice the application of efficient, flexible, and accurate mathematical procedures. Additionally, the warm-up in "Lesson 21" of "Unit 2" in the online teacher resources directs students to work in small groups to determine whether a given set of points is greater than, less than, or equal to 12. This activity not only reinforces fluency in evaluating expressions but also allows students an opportunity to listen to their peers' strategies and refine their own for greater efficiency. This routine encourages students to apply various strategies to solve the problem and understand multiple approaches, promoting the practice of flexible procedures.
- Materials provide opportunities for students to practice the application of efficient, flexible, and accurate mathematical procedures throughout the unit. The "Teacher Guide" in the online teacher resource states, "The practice problem set associated with each lesson includes a few questions about the contents of that lesson, plus additional problems that review material from earlier in the unit and previous units. Distributed practice (revisiting the same content over time) is more effective than massed practice (a large amount of practice on one topic, but all at once)." Each unit culminates in an "End of Unit Assessment," where students demonstrate mastery of their learning through the application of these procedures. For example, the assessment at the end of "Unit 2" is designed to challenge students to apply the mathematical skills and concepts they've learned in a comprehensive and integrated manner. These assessments not only reinforce the importance of precision and efficiency but also provide a clear measure of students' progress and understanding of linear equations, inequalities, and systems.

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

- Materials provide opportunities for students to evaluate procedures, processes, and solutions for efficiency, flexibility, and accuracy within the lesson. For example, in "Lesson 18" of "Unit 7" in the online teacher resources, it explains that students deepen their understanding of the quadratic formula's strengths and limitations. They analyze each step of the solving process, identify common errors, and explore methods to verify accurate solutions. Through question sets, such as the cumulative practice problems at the end of the lesson, students assess mathematical approaches, refining their problem-solving skills and gaining insight into approaching problems efficiently. This encourages critical thinking, error analysis, and the application of effective strategies.
- Materials provide opportunities for students to evaluate procedures, processes, and solutions for efficiency, flexibility, and accuracy throughout a unit. For example, the narrative for "Unit 7"

in the online teacher resource indicates that students will interpret, write, and solve quadratic equations, learning both the formation and underlying principles of those equations. Students will also explore different methods and contexts, helping them recognize the most suitable approaches for various problems. The lessons and activities in this unit help enhance their analytical skills while making connections to real-world applications. Additionally, the narrative states "Toward the end of the unit, students revisit the vertex form and recall that it can be used to identify the maximum or minimum of a quadratic function. Previously students learned to rewrite expressions from vertex form to standard form. Now they can go in reverse—by completing the square." As students move through this unit, they are provided opportunities to evaluate various procedures and processes for solving quadratic equations, giving students more flexibility in their own approach to various problems.

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

- Materials contain embedded supports for teachers to guide students toward increasingly efficient approaches. For example, the activity synthesis in "Component 16.2" of "Unit 7" in the online teacher resource states, "Invite students to share their reflections on the solving process. Discuss questions such as: 'What method did you choose and why?' 'Did you find yourself choosing one method and then switching to another? If so, what prompted you to do that?' and 'Did you run into any challenges when rewriting the equation (or completing the square)? What were some of the challenges?'" This gives students an opportunity to communicate their thinking, listen to other's perspectives, and adjust their thinking for more efficient strategies that can be used.
- The "Teacher Guide" in the online teacher resource gives further evidence of embedded supports for teachers. The "Unit 2" description in the "Narrative Section" explains that students build on their prior understanding of systems of linear equations from grade 8, initially using graphing and substitution methods. They then transition to learning the elimination method in Algebra 1, understanding the valid and productive relationship of manipulating variables. This progression helps students grasp the concept of equivalent systems and the varied outcomes possible in solving equations. This narrative guides teachers in supporting students as they recognize the limitations of simpler methods and move towards more effective strategies like elimination.

Balance of Conceptual and Procedural Understanding

5.3	Balance of Conceptual Understanding and Procedural Fluency	7/16
5.3a	Materials explicitly state how the conceptual and procedural emphasis of the TEKS are addressed.	**0/2**
5.3b	Questions and tasks include the use of concrete models and manipulatives, pictorial representation (figures/drawings), and abstract representations.	**4/6**
5.3c	Materials include supports for students in connecting, creating, defining, and explaining concrete and representational models to abstract (symbolic/numeric/algorithmic) concepts.	**3/8**

The materials do not explicitly state how the conceptual or procedural emphasis of the TEKS are addressed. Questions and tasks include the use of pictorial representation and abstract representations. Questions and tasks do not include the use of concrete models and manipulatives. Materials include supports for students in connecting, creating, and explaining concrete models to abstract concepts. Materials do not include supports for students in defining concrete to abstract concepts. Materials do not include supports for students in connecting, creating, defining, and explaining representational models to abstract concepts.

Evidence includes, but is not limited to:

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

- Materials do not explicitly state how the conceptual or procedural emphasis of the TEKS are addressed. "Lessons by Standard" section of the "Teacher Guide" in the online teacher resource do not mention TEKS in any unit or lesson materials in the online course for Algebra 1.
- The document "TX TEKS IM Algebra 1_Powered by Kiddom" identifies how TEKS correspond to specific units and lessons in the online teacher resource, but it does not explicitly state how the conceptual or procedural emphasis of the TEKS is addressed in the course.

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

- Questions and tasks include the use of pictorial representation and abstract representations. Each lesson in the online teacher resource is designed to help students transition from pictorial representations to abstract ones. For example, students might start by analyzing a graph of a linear equation to understand its key attributes, then move to writing the equation in various forms. Similarly, students might use parabolas to visualize quadratic functions before solving quadratic equations algebraically. Cumulative practice problems and end-of-unit assessment questions consistently embed these representations, providing students an opportunity to apply both visual and abstract methods to solve problems. In "Component 5.2"

of "Unit 6" in the online teacher resource, students are provided with a graph that illustrates the distance a rock has fallen from the top of a building over time. This pictorial representation helps students contextualize the problem, making it easier to grasp the relationship between time and distance in a real-world scenario. This task not only clarifies the concept but also serves as a bridge to more abstract representations and algebraic solutions.

- Questions and tasks do not include the use of concrete models and manipulatives. A printed list of manipulatives titled "Algebra Manipulative List" provides a list of materials and supplies organized by unit and lesson to complete tasks. However, materials and supplies are limited to markers, chart paper, graphing technology, etc. There is no mention of items that would be considered concrete models and manipulatives for Algebra 1.

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

- Materials include supports for students in connecting representational models to abstract concepts. For example, "Component 1.3" of "Unit 5" in the online teacher resource provides students with a graph that represents two offers to choose from in the previous component (1.2) of "Purse A" or "Purse B" in the student facing task statement. The graphical representation gives a visual comparison of the two offers. In this task, students are connecting an exponential relationship to the abstract concept of "a quantity that grows by the same factor at each step forms a curve when plotted." This connection will support students in writing basic exponential functions to represent functions that grow by the same factor.
- Materials include supports for students in creating and explaining representational models to abstract concepts. For example, "Component 6.2" of "Unit 7" in the online teacher resource "prompts students to notice the structure that relates quadratic expressions in factored form and their equivalent counterparts in standard form" using rectangular diagrams learned earlier in the course. Students create the rectangular diagrams and use them to explain why a factored quadratic expression is equivalent to a given quadratic expression in standard form.
- There is no evidence of supports for students in defining representational models or connecting, creating, defining, and explaining concrete models to abstract concepts. In an Algebra 1 course, it would be helpful to have activity with concrete models, such as Algebra Tiles, to support students in moving from concrete models to representational models to abstract concepts.

Balance of Conceptual and Procedural Understanding

5.4	Development of Academic Mathematical Language	13/14
5.4a	Materials provide opportunities for students to develop their academic mathematical language using visuals, manipulatives, and other language development strategies.	**2/3**
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 and other language development strategies. Materials do not provide opportunities for students to develop their academic mathematical language using manipulatives. 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.

- Materials provide opportunities for students to develop their academic mathematical language using visuals and other language development strategies. For example, the card sort activity in "Component 16.3" of "Unit 6" in the online teacher resource indicates students will match equations and graphs of quadratic functions without using technology, relying on their understanding of the connections between these representations. In this activity, students work to refine their descriptions using precise mathematical language and practice explaining and critiquing their reasoning. As they work in pairs, students take turns matching and justifying their choices. Teachers are guided to highlight effective strategies and the use of precise language during discussions. This activity helps students develop their academic mathematical language by using key attributes to match graphs with equations, using visuals to facilitate appropriate connections. Additionally, the warm-up in "Lesson 2" of "Unit 5" in the online teacher resource prompts students to compare four tables and are asked to determine and justify which one they think does not belong. In the process of comparing the tables, this

activity "gives students a reason to use language precisely and gives the opportunity to hear how they use terminology and talk about characteristics of the items in comparison to one another."
- Materials do not provide opportunities for students to develop their academic mathematical language using manipulatives. While there are examples of visual representations being used throughout the Algebra 1 course to develop academic mathematical language, there is no indication of using manipulatives, such as algebra tiles, in this course.

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 addressing scaffolding and use of academic mathematical vocabulary in context. For example, "Component 1.2" of "Unit 4" in the online teacher resource guides the teacher to read the task statement and the descriptions to support students in the activity. The activity synthesis provides guidance for teachers to ask students specifically about input and output and remind them "that a quantity that is an input for a function is called an independent variable, and a quantity that is an output is called a dependent variable."
- Materials include embedded guidance for the teacher supporting student development and use of academic mathematical vocabulary in context. For example, "Component 5.2" of "Unit 2" in the online teacher resource guides teachers on how to assist students in comprehending and articulating academic mathematical vocabulary within the context of real-world scenarios. The think-pair-share instructional routine employed in this activity encourages students to utilize academic vocabulary in discussing practical situations, such as making purchasing decisions regarding almonds and figs.

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.

- Materials provide guidance for teachers to support the application of appropriate mathematical language, including vocabulary, syntax, and discourse. For example, the warm-up in "Lesson 9" of "Unit 6" in the online teacher resource features a "Math Talk" routine that encourages students to understand that subtracting a number is equivalent to adding its opposite. These insights support upcoming lessons, where students reason that $(x-1)(x-4)$ is equivalent to $(x + (-1))(x + (-4))$. This instructional routine offers students opportunities to apply appropriate mathematical language. Teachers are guided to have students share their problem-solving strategies, recording and displaying their responses for the class. Teachers are guided to ask questions such as, "Who can restate ___'s reasoning in a different way?", "Did anyone have the same strategy but would explain it differently?", "Did anyone solve the

problem in a different way?", "Does anyone want to add to this strategy?", and "Do you agree or disagree? Why?" These discussions foster the use of precise mathematical language and collaborative reasoning.

- Materials provide teacher guidance to support mathematical conversations that not only provide opportunities for students to hear, refine, and use math language with peers but also to develop their math language toolkit over time. For example, the activity in "Component 12.2" of "Unit 6" in the online teacher resource helps students understand how the coefficient of the squared term and the constant term in a quadratic expression in standard form are reflected on the graph. Students are asked to graph the quadratic parent function using Desmos, then experiment with adding positive and negative constant values for "a." Teachers then guide students to generalize their observations with a partner, who records those observations, and then students swap roles. This role-swapping allows students to explain their reasoning and critique their partner's thinking. During class discussions, teachers are not only guided to invite students to share their observations and demonstrate their experiments for the class but also guided to ask questions, such as "Why do you think subtracting a number from x^2 moves the graph down?"
- Materials provide guidance to support student responses using exemplar responses to both questions and tasks. Throughout the Algebra 1 course, the online teacher resource provides the teacher with responses that can serve as exemplars to both questions and tasks. For example, "Component 9.3" of "Unit 6" provides questions teachers can use to facilitate class discussions, along with possible student responses they should be hearing. Additionally, sample student responses are provided for each practice question set to illustrate the depth and quality of responses that are expected.

Balance of Conceptual and Procedural Understanding

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

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

Evidence includes, but is not limited to:

Process standards are integrated appropriately into the materials.

- The materials include a How to Use These Materials section that contains The Math Process Standards Chart. The chart outlines the TEKS process standards that are integrated in the materials.
- The materials include evidence of the process standards within the Activity Narrative description of each lesson. The mathematics process standards aligned to the lesson are in parentheses at the end of the description.

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

- The How to Use These Materials section describes how process standards are incorporated and connected throughout the course. It states, "The Math Process Standards describe the types of thinking and behaviors students engage in as they are doing mathematics." For example, "Students have an opportunity to explore the tools before they are asked to use them to represent mathematical situations in later lessons."
- The online materials include evidence of a description of how process standards, or mathematical practices, are connected throughout the course. In the How to Use These Materials section of the Teacher Guide, there is a Math Process Standards Chart section that states, "Teachers will notice that some instructional routines are generally associated with certain mathematical practices." Following, there is a description of how instructional

routines throughout the course align with mathematical practices. The chart also demonstrates how process standards connect throughout the course.

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

- The materials include a description for each unit of how process standards are incorporated and connected throughout the unit. In the How to Use These Materials section, there is a Math Process Standards Chart. This chart correlates the process standards present in each unit of the materials and each lesson.
- The materials include a Process Standards Integration Document for the TEKS and illustrate how the process standards build and connect throughout the units by connecting the student expectation with a narrative description of how the process standard(s) are represented in the units.

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

- The materials include a description for each unit of how process standards are incorporated in the lessons. In the How to Use These Materials section, there is a Math Process Standards Chart. This chart provides a useful overview of how the process standards are incorporated into each lesson.
- Mathematical Process Standards are found in the warm-up activity of every lesson throughout the units. In the A Typical IM Lesson section, the materials state that the warm-ups "place value on students' voices as they communicate their developing ideas, ask questions, justify their responses, and critique the reasoning of others."

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.

- Materials provide opportunities for students to think mathematically, persevere through problem solving, and make sense of the mathematics. The "Teacher Guide" in the online teacher resource describes attitudes and beliefs the materials are meant to cultivate in students. The "What is a Problem-Based Curriculum" section states, "We want students to believe anyone can do mathematics and that persevering at mathematics will result in understanding and success. In the words of the NRC report Adding It Up, we want students to develop a 'productive disposition-[the] habitual inclination to see mathematics as sensible, useful, and worthwhile, coupled with a belief in diligence and one's own efficacy.'" For example, the warm-up of "Lesson 4" in "Unit 5" shows students two tables of x and y coordinates and asks them what they notice and what they wonder about the tables. The teacher is encouraged to ask the question, "Will a linear growth and an exponential growth that start with the same value have the same value again at some later point?" and to post this question for consideration throughout the unit. By coming back to this question throughout the unit, students are making sense of the relationship between linear and exponential functions.
- Teachers are guided to create an environment where students are challenged to think mathematically and share their thinking process. For example, the activity in "Component 16.3" of "Unit 6" in the online teacher resource has students match quadratic equations with their corresponding graphs without using a calculator. This exercise is designed to help students grasp the connection between algebraic expressions and their graphical representations. Students take turns identifying matches and explaining their reasoning while the other partner listens and seeks to understand. If disagreements come up, they discuss

their thoughts to reach a consensus. During the activity, students record each match by noting the equation, sketching the graph, and documenting their reasoning. The teacher encourages students to use precise mathematical language and refine their explanations, as well as practice explaining and critiquing reasoning. Students are given an opportunity in this activity to talk through and make sense of the mathematics.

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

- Materials support students in understanding, explaining, and justifying that there can be multiple ways to solve problems. "Math Talks" is one strategy used throughout the Algebra 1 course materials. For example, the warm-up in "Lesson 2" of "Unit 2" in the online teacher resource has students solve problems mentally based on what they know about fractions, decimals, and percents. The teacher is reminded that "students are likely to approach the problems in different ways" and given three possible examples of the various approaches. As students share their strategies, the teacher is guided to ask questions such as, "Did anyone solve the problem in a different way?" Students are given an opportunity to understand, explain, and justify different approaches to a problem.
- Materials support students in understanding, explaining, and justifying that there can be multiple ways to complete tasks. For example, the activity in "Component 14.4" of "Unit 6" in the online teacher resource asks students to complete an "Info Gap" with a partner. This activity provides students with the opportunity to apply their knowledge of quadratic function characteristics to solve real-world problems. Unlike previous tasks where they were given an equation or graph, in this activity students are presented with a familiar scenario and must identify the missing relevant details. The "Info Gap" approach requires students to analyze the problem, determine the necessary information, and request it as needed. This approach helps students refine their language and formulate more precise questions. This instructional task supports students in understanding, explaining, and justifying that there can be multiple methods to achieve solutions by encouraging problem-solving and effective communication.

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

- Materials are designed to require students to make sense of mathematics through doing the math and discussing it with peers and teachers. An example of this is when the materials guide teachers to use the five practices (anticipate, monitor, select, sequence, connect) to facilitate discourse among the class. For example, in "Component 14.2" of "Unit 7" in the online teacher resource, students practice squaring linear expressions where the coefficient of the linear term is not one. Students are arranged in groups of two to work together to rewrite these expressions in standard form. As students work, the teacher monitors for specific strategies for rewriting the expressions. After each problem, the teacher will select students to explain and justify their strategy and intentionally sequence the order students share so that connections between the strategies are visible to students.

- Materials are designed to require students to make sense of mathematics through writing about their reasoning with peers and teachers. For example, in "Component 16.3" of "Unit 6" in the online teacher resource, students work in pairs to match a quadratic equation to its graph. Students take turns making matches, explaining their reasoning until they reach a consensus on the match. Once they agree, students "record each match (write the equation and sketch the graph) and their reasoning." In the activity synthesis, the teacher invites students to share aspects of the equations and graphs they found helpful for the matching.

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.

- Materials provide support for teachers in guiding students to share their problem-solving approaches including explanations, justifications, and arguments. For example, in the activity in "Component 9.2" of "Unit 6" in the online teacher resource, students encounter quadratic expressions in factored form where at least one of the factors is a difference. Students may still use rectangular diagrams to organize the terms of the factors, or they may directly apply the distributive property. Teachers are guided to monitor for specific strategies that students use, select students to explain and justify their strategy for completing the task, and intentionally sequence the order that the students share so that connections between the strategies are visible to students. As students share their strategies, they have an opportunity to explain, justify, and argue why they chose a strategy.
- Materials support teachers in guiding students to reflect on their problem-solving approaches including explanations, justifications, and arguments. Section-level guides throughout the online teacher resource include reflection activities. For example, the "Section Level Planning Guide" for "Unit 6" states, "Select questions from the Lesson 5 lesson synthesis or the Lesson 8 lesson synthesis for students to reflect on in an online journal or discussion board." Questions in the lesson synthesis for Lesson 8, such as "In what ways is using the distributive property helpful? Are there any drawbacks?", give students an opportunity to reflect on different approaches for multiplying factors of a quadratic expression.

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

- Materials offer prompts and guidance to assist teachers in providing explanatory feedback based on student responses. In lessons throughout the online teacher resource for the Algebra 1 course, sections include practice questions where "Notes for Evaluating

Responses" and "Responding to Student Thinking" are available to support teachers in providing feedback to students. For example, "Component 9.4" of "Unit 6" states, "Use student work to identify and address common errors and strategies to use to avoid errors (for example, making a diagram, re-writing expressions with subtraction as equivalent addition problems). Consider making an anchor chart that highlights these strategies to support student work with factoring in Unit 7."

- Materials offer prompts and guidance to assist teachers in providing explanatory feedback based on anticipated misconceptions. For example, the activity in "Component 6.2" of "Unit 4" in the online teacher resource examines graphs of functions and identifies and describes their key features. The teacher is guided to consider anticipated misconceptions, such as that "some students may mistakenly think that the horizontal axis represents horizontal distance, neglecting to notice that it represents time." The teacher is prompted to have students examine the label and description for each axis. The teacher can then help students understand how an object moves vertically on a graph with respect to time.