

IMRA Review Cycle 2024 Report



Publisher Name	Program Name
Accelerate Learning	STEMscopes Texas Math
Subject	Grade Level
Mathematics	4

Texas Essential Knowledge and Skills (TEKS) Coverage: 100%
English Language Proficiency Standards (ELPS) Coverage: 100%
Quality Review Overall Score: 227 / 227

IMRA Reviewers

Flags for Suitability Noncompliance 0

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

Flags for Suitability Compliance 4

Indicator	Count of Flags
Alignment with Public Education’s Constitutional Goal, 2.1.1	4
Promoting Sexual Risk Avoidance, 6.2	0

Alleged Factual Errors 2

Public Feedback

Flags for Suitability Noncompliance N/A

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

Alleged Factual Errors 0

Public Comments 1

Quality Review Summary

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

Strengths

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

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

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

- 5.4 Development of Academic Mathematical Language: Materials provide opportunities for students to develop academic mathematical language using visuals, manipulatives, and language strategies, with embedded teacher guidance on scaffolding vocabulary, syntax, and discourse, and supporting mathematical conversations to refine and use math language.
- 5.5 Process Standards Connections: Materials integrate process standards appropriately, providing descriptions of how they are incorporated and connected

throughout the course, within each unit, and in each lesson.

- 6.1 Student Self-Efficacy: Materials provide opportunities for students to think mathematically, persevere through problem-solving, and make sense of mathematics, while supporting them in understanding multiple ways to solve problems and requiring them to engage with math through doing, writing, and discussion.
- 6.2 Facilitating Productive Struggle: Materials support teachers in guiding students to share and reflect on their problem-solving approaches, offering prompts and guidance for providing explanatory feedback based on student responses and anticipated misconceptions.

Challenges

- No challenges in this material

Summary

Accelerate Learning's *STEMscopes Texas Math* is a Mathematics K–5 program. The materials promote conceptual understanding of mathematics through hands-on exploration, inquiry, and analysis using the research-based 5E + IA model (Engage, Explain, Elaborate, Evaluate, Intervention, and Acceleration). It offers vertically aligned instructional materials that cover all TEKS and ELPS. The materials support students by building concrete understanding before transitioning to representational models and abstract representations. The program provides frequent opportunities for students to deepen their learning through discourse and writing. Additionally, the program includes materials and resources accessible through the online platform and available in both English and Spanish.

Campus and district instructional leaders should consider the following:

- The materials include teacher guidance and resources that support all learners, including emergent bilingual students, students with disabilities, and gifted and talented students. Instructional and Language Supports are embedded within each Explore. Resources for

remediation and extension are included for each scope. Teacher guidance for these resources is included in the Teacher Guide.

- The program is a comprehensive set of materials that includes a scope and sequence, planning resources, teacher guidance, assessments, and an extensive selection of instructional materials. Teachers would benefit from training on the components included in the program and navigating the online platform.

Intentional Instructional Design

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

The materials include a scope and sequence outlining the Texas Essential Knowledge and Skills (TEKS), English Language Proficiency Standards (ELPS), concepts, and knowledge taught in the course. Materials include suggested pacing (pacing guide/calendar) to support effective implementation for various instructional calendars (e.g., varying numbers of instructional days– 165, 180, and 210). Materials include an explanation for how concepts to be learned connect throughout the course. Materials include an explanation for the rationale of unit order as well as how concepts to be learned connect throughout the course. Materials include guidance, protocols, and/or templates for unit and lesson internalization. Materials include resources and guidance to support administrators and instructional coaches with implementing the materials as designed.

Evidence includes, but is not limited to:

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

- Materials for grade 4 include a scope and sequence document within the "Teacher Toolbox" tile under the "Curriculum Design" link. The scope and sequence outline the TEKS, ELPS, concepts, and knowledge taught in the course.
- The scope and sequence are organized in five columns: Scope Name, TEKS Covered, Explores, Included Standards, and Total Instructional Days. The Explores column outlines the concepts and knowledge taught in the course. For example, within the scope Compare and Order Numbers, the Explores listed are: Explore 1 - Compare Numbers and Explore 2 - Order Numbers. The Included Standards column outlines the process standards and ELPS for each Explore.

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 an Implementation Guide located under the "Curriculum Design" link within the "Teacher Toolbox" tab. The Implementation Guide provides educators with guidance on using the materials in various calendar settings, including 165 days, 180 days, and more than 180 days.
- The "Scope and Sequence documents" are aligned to a 180-day calendar and 90-minute math block. The Implementation Guide suggests adding or removing certain activities to support effective implementation in various calendar settings. One suggestion for pacing with a 165-day calendar states "Only teach using the essential activities that are highlighted on our lesson Planning Guides in the "Teacher Toolbox." If time is limited, teach only these activities to fully cover the standards." Guidance for a calendar over 180 days states "Utilize the Intervention and Acceleration elements to help strengthen the content understanding."
- Within each Scope's toolbar "Home" tab, a "Suggested Scope Calendar" outlines the pacing of each day's learning engagements with time stamps. The details for daily pacing support the effective implementation of the material. For example, day 1 of the "Scope Addition and Subtraction Algorithms" provides an outline of activities for warm-up, whole-group, small-group, and assessment.

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

- The materials include a grade 4 "Course Rationale" located under the "Curriculum Design" within the "Teacher Toolbox" tab. The course rationale identifies four areas of focus to provide insight into the major mathematical topics throughout the course. These areas of focus support the progression within and across the mathematical strands and emphasize the connections between major mathematical topics. The four areas of focus for grade 4 are whole number operations, fraction and decimal relationships, reasoning with geometry, and equivalent measurements.
- The grade 4 "Course Rationale" document includes a table that displays the areas of focus and connected TEKS for each Scope. For example, the table indicates the connected areas of focus for the "Scope Place Value of Whole Numbers" are whole number operations, fraction and decimal relationships, and equivalent measurement. The connecting TEKS for the Scope are 4.2A and 4.2B.
- The materials include an Implementation Guide under the "Curriculum Design" within the "Teacher Toolbox." The Implementation Guide lists key features of STEMscopes. The "Planning Guidance" feature states "While the natural progression of mathematics was used to determine the order and pace, our scopes are designed to be flexible and used in any order." No explanations were specifically provided for the flexible ordering of the units.

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

- "Lesson Planning Resources" under the "Essentials" tab in the "Teacher Toolbox" include "Planning Guides." Planning Guides support the teacher in creating lesson plans for either

whole-group or small-group instructional models. Planning guides support the educator with daily lesson internalization by highlighting the essential elements that provide full coverage of the standards and guiding the selection of daily activities from the scope.

- Materials for each scope include a Teacher Guide within the "Print Files" in the "Scope Overview." This resource leads teachers "through each scope's fundamental activities while providing facilitation tips, guidance, reminders, and a place to record notes on the various elements within the scope."

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

- The Implementation Guide in the "Teacher Toolbox", "Administration and Instructional Coaches" section, provides general guidance for grades 3–5 components such as scope and sequence, suggested scope calendars, planning guides, and teacher preparation and planning guidance.
- The Implementation Guide includes guidance on foundational teacher actions which describes STEMscopes' "Guiding Principles of Best Practice." Within this information, a table outlines examples of teacher and student actions in the context of hands, ears, mouth, and mind, as well as examples of what an observer might notice.
- Administrators and instructional coaches have access to a scope titled "How to Use STEMscopes Texas Math." This scope includes a compilation of videos explaining how to use the various components of the STEMscopes Texas Math program. The structure of this scope mirrors that of the content scopes.
- The "Suggested Scope Calendar" includes guidance to support administrators and instructional coaches with implementing the materials as designed. The grade 4 "Compare and Order Numbers" scope Suggested Scope Calendar lists objectives by day. For example, the day 4 objective states "Students order whole numbers through the hundred millions place."
- The "Observation Checklist" outlines lesson implementation for administrators to use when observing teachers implementing the materials as designed or implementing the materials with fidelity. The checklist includes a template with a section titled "Notes and Feedback," which allows administrators and instructional coaches to document observation notes.

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

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.

- The materials in grade 4 include a content support link under the "Home" tab for each scope. The content support document provides a variety of information for the educator to effectively teach the concepts in the unit including background knowledge and academic vocabulary. For example, the "Compare and Order Numbers" scope states that "Between first and third grades, students use their understanding of place value, and they work with concrete models and/or number lines to plot, order, and compare whole numbers by using both comparative language...and symbols." The vocabulary for the same scope includes terms such as compare, digit, and multi-digit.
- Each scope includes a "Content Unwrapped" section within the Home tab. This section provides background content knowledge in a variety of ways. First, it includes a dissection of the TEKS where it pulls apart the language in the TEKS to identify each breakout that is a part of the student expectation. In addition, implications for the instruction portion link prior knowledge to the current learning. An example in the "Place Value of Whole Numbers" scope states "Students have had experience with representing the value of digits in numbers up to 100,000. In this grade level, students extend this understanding to numbers through 1,000,000,000. In the previous grade level, students described the relationship among digits up to 100,000." Alongside linking knowledge, this section also provides common misconceptions. For the aforementioned scope, it states, "Students often struggle with using expanded notation to represent the relationship within a number that has a zero as at least one of the digits."

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

- The materials contain an English and a Spanish version of a "Take-Home Letter" on the home page for each scope. The Take-Home Letter goes home in advance and provides a breakdown of the concepts for each scope. The letter explains the content of the scope and the vocabulary in simplified terms. It includes suggestions on how to help at home and some example problems with solutions. Letters for some scopes include additional resources.

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 (e.g., homework, extension, enrichment).

Evidence includes, but is not limited to:

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

- Within the "Home" tab of each scope, the "Scope Overview" section includes a comprehensive and structured teacher guide that provides content objectives, questions, tasks, materials, and instructional assessments. This printable planning tool provides a space for teachers to calendar the activities of the scope. The "Engage and Explore" activities provide a daily content objective. For example, the "Represent and Compare Decimals" scope, "Explore 1" states "Students will write in decimal notation for fractions with the denominator of 10." The procedure and facilitation section of the tool supports the teacher by listing detailed student and teacher actions as well as questions at different depths of knowledge to engage students in discussion. The "Assessment Planner" within the teacher guide includes a template to plan for assessments using fundamental questions and assessment resources available in the scope while referencing the student learning objectives.
- The Home section of each scope includes a "Suggested Scope Calendar." Suggested Scope Calendars serve as sample lesson plans that guide teachers through scopes. They include daily content objectives, warm-up options, whole group and small group tasks, and linked assessment options with detailed directions. For example, in grade 4, the scope "Place Value of Whole Numbers" suggests an assessment for day 5 titled "Show What You Know-Part 2:

Place Value Relationships" and provides the description "Students apply the knowledge and skills learned during the Explore using this practice." This section provides teacher guidance for the preparation process and lists procedure and facilitation points for the implementation of the assessment. The answer key supports the teacher in understanding the correct responses.

- Each Explore provides a "Language Support" section at the bottom of the facilitation guidance. This structure is consistent throughout the Explores in the materials. Teachers use the list of ELPS provided in each Explore to write their own daily language objectives based on the language needs of the students in their classroom. For example, the bottom of the Language Supports box of Explore 2 in the "Compare and Order Numbers" scope states "The following English Language Proficiency Standards are supported: 1.ABCFH, 2.CDI, 3.DEFJ, 4.DF, 5.BDEFG." Questions and tasks within the Language Supports align with the objectives. For example, the teacher guidance states "Encourage students to participate in mathematical discourse while completing the Explore. Ask them to discuss how place value is helpful when ordering numbers before responding to the last question on the Student Journal."

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

- The Home section of each scope includes a Suggested Scope Calendar. The Suggested Scope Calendar includes time stamps for the day's lesson components. For example, the scope "Add and Subtract Decimals" includes Day 1 time stamps for warm-up options (5–10 minutes), whole group (<15 minutes), small group (30–45 minutes), and assessment options (<15 minutes). Day 2 time stamps shift instructional minutes within the lesson components, and the whole group minute allotment expands to 45–60 minutes while small group minutes decrease to 15–30 minutes.

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

- Each scope activity includes teacher directions under each tab within the scope. The teacher directions describe the materials needed for the activity and the preparation required beforehand. For example, the scope "Compare and Order Numbers Explore 1" teacher directions include a lesson overview with teacher and student materials necessary to effectively deliver the lesson. For example, printed materials include student journals, place value mats, set of movie ticket sales, and exit tickets. Reusable (manipulative) materials include place value disks, sheet protectors, and dry erase markers. Consumable materials include index cards and a roll of tape.

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

- Materials include an "Acceleration" tab on each scope's main section. The acceleration tab contains student exploration activities, create your own (open-ended task), and choice boards. For example, the scope "Area and Perimeter" includes a "Choice Board" for enrichment within the Acceleration tab of the white toolbar. The Choice Board teacher guidance provides a description, materials, preparation, and procedure and facilitation points for effective implementation. The description of the activity states "Students explore real-world connections and applications of math content through interactions with engaging activities."
- Materials include a "Take-Home Letter" in each scope's home section. The Take-Home Letter explains new upcoming materials and ways to enrich the learning at home by including a "Tic-Tac-Toe: Try This at Home" choice board.
- The Home section of each scope includes a Scaffolded Instruction Guide. The guide includes several virtual components to utilized for extended practice. Assigned as homework, the virtual learning options support students working at different proficiencies. For example, in the scope "Problem Solve Using the Four Operations," students practice prior grade-level skills by accessing the following activities from home: "Compatible Numbers, Estimating Solutions, Part and Whole Relationships with Strip Diagrams, and Multiplication and Division Problem Solving."

Progress Monitoring

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

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

Evidence includes, but is not limited to:

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

- Materials in grade 4 include a variety of assessments within each lesson. For example, in the "Represent and Interpret Data" scope in the "Engage" tab, an "Accessing Prior Knowledge" assessment asks students to choose the table, dot plot, pictograph, or bar graph to correctly represent a data set, providing the teacher an opportunity to gauge students' prior knowledge. Within the "Explain" tab, the "Show What You Know-Part 1: Frequency Tables and Dot Plots" formative assessment, asks "students to collect sets of data, organize the data, and represent the data in a frequency table or dot plot. Students then interpret the data." Within the "Elaborate" tab, the "Problem-Based Task-African Safari" lesson-based assessment allows students to work collaboratively to apply their learning to an open-ended, real-world challenge.
- Materials within the "Evaluate" tab of each scope include multiple assessments utilizing a variety of tasks and question types. For example, in grade 4, the scope "Compare Fractions" includes a formative assessment, "Decide and Defend," where students read a scenario and

decide which of the two students' claims of running the farthest is correct. Students determine their answers and justify their thinking using the space provided. Each scope includes a summative standards-based assessment with word problems and multiple-choice questions. Scopes also include an observation checklist. For example, the "Area and Perimeter Scope" includes separate sections for teachers to take observational notes on 4.5C and 4.5D. The checklist in this scope serves as a resource for formative assessment of key mathematical behaviors (i.e., modeling, drawing, discussion, and writing). It also provides a space for teachers to take notes and plan feedback. A student-facing checklist option supports students' self-evaluation of their understanding using the measures "I've got it, almost there, and not yet."

- Each scope includes a "Suggested Scope Calendar." The Suggested Scope Calendar lists all assessments within the scope and labels them as D = Diagnostic, F = Formative, or S = Summative.

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

- The *Teacher Toolbox Implementation Guide* within the "Essentials Curriculum Design" section includes definitions for each instructional assessment. The materials include a description of 15 assessments in all. The definition for Accessing Prior Knowledge at the beginning of each scope states "A brief probing activity to gauge students' prior knowledge before engaging in the content of the scope." The definition of "Skills Quiz" defines it as "A standards-based assessment to determine the student's ability to solve mathematical problems efficiently and accurately." The definition for Decide and Defend defines it as "An open-ended assessment that prompts students to reason mathematically and support their ideas with evidence."
- Materials provide the definition and purpose for each of the three benchmark assessments located under the "Benchmark Assessment" link on the left-hand side of the main scope page. The materials state "Each assessment provides meaningful data that can be used to inform instruction in the classroom. The intent of the pre-assessment is to evaluate students on standards they have already learned. The mid-assessment will assess a mixture of grade-level and previous grade-level standards. The post-assessment will evaluate all grade-level standards and can be used as a predictor of student performance on state tests."
- A Suggested Scope Calendar for each scope includes diagnostic, formative, and summative assessments at the unit and lesson level. The material defines each assessment type and designates it as diagnostic, formative, or summative.

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

- Within the "Division Models and Strategies" scope, the Decide and Defend assessment includes a page guiding teachers through the administration of the assessment. The guidance includes a description of the assessment, a materials and preparation section, and procedure

and facilitation points. The "Tips and Tricks" section at the end of the page offers teachers additional implementation options such as, "This element can be used as a whole-class discussion in which students pick a side and justify their decisions."

- Within the Division Models and Strategies scope, the Skills Quiz includes assessment administration guidance. The guidance includes a description of the assessment, a materials and preparation section, and procedure and facilitation points. The Tips and Tricks section at the end of the page offers teachers additional implementation options such as, "This element can be used as an assessment for learning and can be assigned to students to complete independently at their seats or as part of a workstation."

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

- Within the "Division Models and Strategies" scope, the Decide and Defend assessment includes a page guiding teachers through the administration of the assessment. The guidance includes a description of the assessment, a materials and preparation section, and procedure and facilitation points. The "Tips and Tricks" section at the end of the page offers teachers additional implementation options such as, "This element can be used as a whole-class discussion in which students pick a side and justify their decisions."
- Within the Division Models and Strategies scope, the Skills Quiz includes assessment administration guidance. The guidance includes a description of the assessment, a materials and preparation section, and procedure and facilitation points. The Tips and Tricks section at the end of the page offers teachers additional implementation options such as, "This element can be used as an assessment for learning and can be assigned to students to complete independently at their seats or as part of a workstation."

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

- Materials include a "Heat Map" for each skills quiz and standards-based assessment within the scopes and for the benchmark pre-, mid-, and post-assessments. The heat maps indicate how each question aligns with the TEKS and scope objectives. For example, the "Addition and Subtraction Algorithms" skills quiz heat map lists questions 1, 2, 3, and 4 that correlate to TEKS 4.2D. The post-assessment benchmark heat map indicates the assessment aligns with 24 grade 4 standards. For example, questions 2 and 3 align to 4.2B. Question 2 requires students to use a group of place value facts to identify a number that could be written. Question 3 requires students to represent a number to the hundredth place in expanded notation. Both of the questions require students to represent the value of a digit using expanded notation and numerals aligning the diagnostic assessment to grade-level TEKS.
- Within the "Points, Lines, and Angles" scope, "Explore 1" includes an exit ticket for students to complete that provides the teacher data on student understanding. The exit ticket requires students to name angles, line segments, lines, and rays using a geometric figure. TEKS 4.6A

states "Identify points, lines, line segments, rays, angles, and perpendicular and parallel lines." Therefore, the formative assessment aligns with a breakout of the grade level TEKS.

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

- Materials include assessments that align with standards. For example, "Technology-Enhanced Questions is an assessment designed to allow students to answer question types that are not possible in a paper/pencil format. These computer-based questions use formats that allow for non-conventional question types, including multiple answers, sequence, griddable, fill-in-the-blank, sorting, and bar graph." These assessments are located within the Evaluate tab for each scope and assigned for students to complete within the platform.
- The standards-based assessments found within the Evaluate tab for each scope provide an opportunity for students to answer multiple-choice questions at different depths of knowledge (DOK). For example, the standards-based assessment answer key within the "Multiplication Models and Strategies" scope indicates two questions at DOK level 1, nine questions at DOK level 2, and one question at DOK level 3. This question set shows that the questions vary in level of complexity within the assessment.
- The observation checklists found within the Evaluate tab for each scope may be used by the teacher or student. Students have the opportunity to demonstrate their understanding of the skill or concept being assessed in a variety of ways including drawing, modeling, or applying.

Progress Monitoring

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

The instructional assessments 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.

- The *Implementation Guide* states "Our Growth Measurement Assessments are written and aligned by MetaMetrics Inc. and are included for kindergarten through Algebra I. They track the growth of on-grade level standards from the beginning of the year to the end of the year and report a Quantile® measure in their score reporting." Additionally, the "Quantile" information menu within the "Teacher Toolbox" provides ample information about the use of quantiles to identify what the student is ready to learn and target instruction at the appropriate level to foster student growth.
- When students take assessments through the STEMscopes online platform, teachers can view the data generated from the "Students" menu. The reports provide analytics for each student.
- The *Scaffolded Instruction Guide* provides guidance for interpreting and responding to student performance assessments provided in the scopes as well as MAP growth assessment data. The guide supports the interpretation of results by defining student performance levels using four percentile ranges. For example, the guide states students performing within the 0-25 percentile range need support from previous grade-level content, students performing within the 25-50 percentile range need support from grade-level intervention, students performing within the 50-80 percentile can work on grade-level content, and those performing in the 80-100 percentile range are ready to apply their knowledge to a variety of activities. The guide supports teachers' responses to student assessment performance by providing links to suggested instructional materials organized by standard and percentile performance range.

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

- The "Accessing Prior Knowledge" activity within the "Engage" section of each scope provides an opportunity for educators to gather data regarding student understanding of prior grade-level topics. The *Teacher Guide* states "If your students are struggling with previously taught concepts, use the Foundation Builder activity in this scope to reinforce ideas presented in the Accessing Prior Knowledge." The "Foundation Builder" provides teachers with a specific activity targeting knowledge from prior grade levels to respond to data and prepare students for engagement in grade-level learning.
- Materials include instructional strategies for small group intervention to support students who demonstrate a need for more support. Teachers access this guide under the "Intervention" tab on each scope's home page. The intervention includes a list of materials and any preparation required. Procedure and facilitation points include a step-by-step guide for teachers to follow along with questions to ask and possible student responses.
- The "Suggested Scope Calendar," under the "Home" tab of each scope's home page, guides teachers to appropriate activities based on student assessment results. For example, in the "Division Models and Strategies" scope the Suggested Scope Calendar suggests the "Acceleration-Math Today" (15–30 minutes) practice activity for students who score Masters. Students who score at the Meets level participate in the "Elaborate-Math Story" practice activity (30–45 minutes) and students who score at Approaches participate in the "Elaborate-Interactive Practice" activity (15–30 minutes). "Intervention-Small-Group Intervention" activities (15–30 minutes) serve as additional guided practice opportunities.

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

- Students track their growth and progress using the observation checklist found within the Evaluate tab of each scope. For example, in the "Compare and Order Numbers" scope, the first of four columns titled "Standard" lists the standard as 4.2C. The "Skill or Key Concept" column states "I can compare and order multi-digit numbers and represent comparisons with the symbols $<$, $>$, or $=$." The next column titled "How could you show you know this?" lists five different strategies students can utilize. The last column, titled "How would you rate yourself?", shows pictures of hands with a thumb up, a thumb pointing sideways, and a thumb pointing down. Students color or circle the hand that matches their level of understanding.
- Each scope provides "Heat Maps" for the skills quizzes and standards-based assessments. Students use heat maps to "analyze their assessment results and determine what they did well and where they can improve." Students use red and green crayons and the student handout to shade their proficiency on questions aligning with specific standards. In addition, a reflection section provides the opportunity to reflect on strengths and growth areas from their performance.

Supports for All Learners

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

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

Evidence includes, but is not limited to:

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

- The practice section of the "Suggested Scope Calendar" under the "Home" tab within each scope includes recommendations for differentiated activities for students at the Masters, Meets, and Approaches proficiency levels. For example, the grade 4 "Division Models and Strategies" scope includes a "Skills Quiz" for students at the Approaches level.
- The materials provide questions to guide students' thinking within the lesson. For example, within the "Small Group Intervention" activity in the "Intervention" tab in the grade 4 "Area and Perimeter" scope, the "Procedure and Facilitation Points" step number 3 states "Have students swap grids, record each side length, and determine the perimeter of the drawn rectangle. Ask the following questions: Are the opposite sides the same length? Is the length the same measurement as the width?" Step number 7a asks, "Is it possible for two rectangles to have the same perimeters, but different side lengths?"
- Within the "Explore" section of select scopes, materials include paired activities to support students who have not yet reached proficiency on grade-level content. For example, the grade 4 "Problem-Solve Using the Four Operations" scope includes the activity, "Skill Basics - Problem-Solving Model" which supports the skill development necessary to be proficient with grade 4 content. In this activity, students utilize a "Problem-Solving Model Explanation" sheet

to practice problem-solving strategies with step-by-step guidance for identifying important information, creating a plan, generating a solution, and justifying answers.

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

- "Picture Vocabulary," located under the "Explain" tab in each scope, aids in pre-teaching academic language using student-friendly definitions and images. For example, the grade 4 "Measurement" scope defines *equivalent* as "having the same amount or value" and uses a picture with two equal groups of strawberries. Teachers access the vocabulary resource as a slideshow, flashcards, or student handout.
- In the "Engage" tab, materials include embedded supports for pre-teaching vocabulary within the "Foundation Builder," an early intervention activity meant to fill gaps before diving into new content. For example, in the grade 4 "Addition and Subtraction Algorithms" scope, the Foundation Builder activity's last bullet states "The English language has many words that have multiple meanings. Suggested Solutions: To eliminate any confusion, ensure students understand the following words." A table lists the words left and the differences, along with multiple definitions of the words. The last column in the table provides an example using the word in context. For example, the sentence provided for the word left, states "How many coins were left?"
- The grade 4 "Compare and Order Numbers" scope provides an anchor chart within the "Explain" menu of the scope. The anchor chart supports students' acquisition of academic language and reinforces newly learned content. It includes reference material for the entire scope. Teacher guidance supports making additions to the anchor chart as you go through each "Explore" of the scope.

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

- The "Lines and Angles" scope includes a *Teacher Guide* within the Home menu "Scope Overview." The *Teacher Guide* provides specific facilitation tips for students who have demonstrated proficiency in grade-level concepts and skills. For example, a "Facilitation Tip" within the "Accessing Prior Knowledge" to guide differentiation states "If time allows, try the following extension activity: Display all the figures. Invite one student to describe a shape they are thinking of and to call on their classmates to guess the shape. For example, a student may say, "I am thinking of a shape that has more than 1 right angle and exactly 2 lines of symmetry," and their classmates may guess Picture 4."
- The "Scaffolded Instruction Guide" in the "Home" tab for the "Points, Lines, and Angles" scope includes guidance in response to MAP data percentiles. The identification of activities to extend student understanding for students in the 80th to 100th percentiles lists the following to support TEKS 4.6A: Problem-based Task, Career Connections, Math Today, Math Story, Create Your Own, and Choice Board. The "Math Story-Looking through Lenses" within the

"Elaborate" menu allows students to read a passage and answer math and literacy questions related to the story.

- Materials include options for enrichment as end-of-unit activities. Within the "Acceleration" tab in each scope, the "Create Your Own" activity requires students to brainstorm, plan, and create a new product based on the skills and concepts learned in the scope, igniting students' creativity. For example, within the grade 4 "Area and Perimeter" scope, the Create Your Own activity provides the students with the following scenario, "Your family wants to buy a new house. Your parents would like the house to be between 2,000 and 2,500 square feet. If you could design your new house, what would it look like?" Students brainstorm ideas, list the materials needed, and sketch out their model house. Students share their work with their teachers and family.

Supports for All Learners

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

The materials include prompts and guidance to support the teacher in modeling, explaining, and communicating the 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).

- The materials provide an "Anchor Chart" resource within the "Explain" tab of each scope. This resource includes step-by-step guidance modeling, explaining, and communicating the concepts to be learned explicitly within each scope. For example, the "Area and Perimeter" scope Anchor Chart directions prompt the teacher to prepare the chart by setting up a section titled "Area and Perimeter Formulas", draw 2x3 tables, and gather colored markers for student participation. Step 2 prompts the teacher to review the terms *area* and *perimeter* and have students discuss their thoughts with a partner. The resource provides questions as well as possible student responses. For example, Question b asks, "What is a scenario when you would solve for area?" and provides "I would solve for area when finding the amount of carpet needed to cover a floor" as a possible student response. The print files within this section include an example anchor chart.
- The "Compare Fractions Teacher Guide" within the "Scope Overview" of the "Home" menu provides prompts and guidance for modeling in the facilitation tips section. An example of guidance in "Accessing Prior Knowledge" post-explore states "Use the Virtual Manipulative-Fraction Tiles to model for students how a whole can be broken into different but equal parts. For example, $\frac{1}{3}$ equals $\frac{2}{6}$."
- The grade 4 materials include "Procedure and Facilitation Points" for each "Explore." The Procedure and Facilitation Points provide prompts and guidance to explain and communicate

the mathematical concepts included in the scope. For example, within the "Compare Fractions" scope, the specific guidance for the "Explore 1" procedure and facilitation points tell the teacher to explain activity directions, distribute materials, and what work students should engage with when beginning the activity. Specific prompts include questions for teachers to ask for understanding checks, such as, "a. When drawing their fraction models, be sure that each drawing of one whole are the same size on the Student Journal. b. DOK-2 Can you build one option with the tiles and the other option with the circles? Explain. c. DOK-2 How can you find equivalent fractions for the ones you are comparing? d. DOK-1 How do you know which fraction is greater or less? e. DOK-1 How could you represent your choice using symbols?"

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

- The materials include guidance for engaging students in higher discourse levels by providing them with opportunities to explain their thinking and understanding of mathematics. After the "Explore" activities, teachers invite the class to a "Math Chat" to share their observations and learning. Questions provided in the Math Chat sections of the *Teacher Guide* include questions of different depth of knowledge levels. For example, in the grade 4 "Compare and Order Numbers" scope, "Explore 1" directs teachers to ask the following questions at level DOK-2: "What could you do if you didn't have a place value mat to help you compare the values? Why is place value important when comparing numbers? What helped you determine which movie made the greatest amount of money?" The *Teacher Guide* also includes examples of possible student responses.
- The "Represent and Compare Decimals" scope includes a variety of instructional approaches. The "Interactive Notebook" handout creates a reference for students to use during independent work and to record student learning. The teacher works on the examples with the students. Another way students explain their understanding of concepts is through the "My Math Thoughts" activity. This activity tells teachers to prepare by having various mathematical tools available. Students discuss their thinking with a partner and then write their thoughts from a math task. A third activity where students explain their concept knowledge is "Show What You Know." Each Show What You Know coincides with an Explore in the scope. Students engage with this task independently and access manipulatives as needed. Each Explain includes teacher guidance and recommendations for effective lesson delivery and facilitation.
- The materials provide guided instructions for tasks that allow active participation, exploration, and discovery. For example, in the grade 4 "Angles" scope, the *Teacher Guide* for Explore 1 prompts the teacher to tell students, "you were watching a dance competition show on TV last night. You noticed that the dancers did a lot of 360s. Elicit ideas from students about what a 360 might be." Step 2 guides the teacher to explain that a 360 is a full turn all the way around. Step 3 guides the teacher to have students stand up and model doing a 360. Teachers ask students, "Where else have you seen something doing a 360?" Examples include a top spinning, a car, and a dog chasing his tail. Guidance for Step 5 directs the teacher to have students fold a paper plate in half twice to find the center and then to open the plate back up.

Step 6 prompts the teacher to tell students the center point of the 360 circle is called the vertex. Students label the vertex point on the plate and their student journals.

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.

- In grade 4, the "Angles" scope supports multiple types of practice and includes teacher guidance for effective implementation. The "Hook, Part II: Post-Explore" begins with a guided practice activity as follows, "Divide the class into groups of 6. 5. Explain to students that each person in their group will choose a different number of cards to have on their Ferris wheel. You can also assign the number of cars to each student. They should have 4, 5, 6, 8, 9, or 10 cars." Explicit directions from the teacher guide student groups through the use of the tools in a whole-group format. Within the same scope, teacher guidance for "Decide and Defend" within the "Evaluate" menu of the scope states "Decide whether you want students to work individually or in pairs." Teacher guidance suggests using the "Structured Conversation Routine" within the "Teacher Toolbox" to implement partnerships. Teacher guidance for the "Show What You Know" activities in the "Explain" tab that pairs with Explores indicates students work independently for the educator to determine the needs for intervention.
- Materials support multiple types of practice by providing clear headings identifying the recommended structure for activities within the lesson. For example, the "Suggested Scope Calendar," within the home tab of each scope, organizes the unit days using the same structure. Each day begins with a description of the day's objectives followed by the following categories respectively, Warm-Up Options, Whole Group, Small Group, and Assessment Options. Each section lists the available activities to select and the suggested allotted time for each.
- Materials include "Problem-Based Tasks" under the "Elaborate" tab within each scope. During these tasks, "Students work collaboratively to apply the knowledge and skills they have learned to an open-ended, real-world challenge." The directions for the teacher are "Allow students to work in groups. Encourage students to look back at their Student Journals from the Explore activities if they need to review the skills they have learned. If students are stuck, use guiding questions to help them think through it without telling them what steps to take next. If time permits, allow each group to share its solution with the class. Discuss how different groups tackled the challenge in different ways."

Supports for All Learners

3.3	Supports for Emergent Bilingual Students	11/11
3.3a	Materials include teacher guidance on providing linguistic accommodations for various levels of language proficiency [as defined by the English Language Proficiency Standards (ELPS)], which are designed to engage students in using increasingly more academic language.	2/2
3.3b	Materials include implementation guidance to support teachers in effectively using the materials in state-approved bilingual/ESL programs.	1/1
3.3c	Materials include embedded guidance for teachers to support emergent bilingual students in developing academic vocabulary, increasing comprehension, building background knowledge, and making cross-linguistic connections through oral and written discourse.	8/8
3.3d	If designed for dual language immersion (DLI) programs, materials include resources that outline opportunities to address metalinguistic transfer from English to the partner language.	Not scored

The materials include teacher guidance on providing linguistic accommodations for various levels of language proficiency [as defined by the English Language Proficiency Standards (ELPS)], which are designed to engage students in using increasingly more academic language. Materials include implementation guidance to support teachers in effectively using the materials in state-approved bilingual/ESL programs. Materials include embedded guidance for teachers to support emergent bilingual students in developing academic vocabulary, increasing comprehension, building background knowledge, and making cross-linguistic connections through oral and written discourse. Materials include resources that outline opportunities to address metalinguistic transfer from English to the partner language.

Evidence includes, but is not limited to:

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

- The "Teacher Toolbox Linguistic Diversity" menu "Print Files" includes a table which provides teacher guidance to properly scaffold and provide linguistic accommodations based on various proficiency levels, including beginner, intermediate, and advanced. The resource categorizes each guidance by one of the four language domains (listening, speaking, reading, and writing), and the use of unique color coding aids in both reading and understanding. Additionally, as demonstrated in the table, the use of more academic language over time is evident as proficiency increases within the "Speaking" section. For example, the beginner level shows students speak in familiar single words and short phrases, the intermediate level shows students use common vocabulary and simple sentences, and the advanced level

shows students use complex grammar and abstract vocabulary. This table also supports teachers by providing information about the next steps in scaffolding to grow student language proficiency levels by defining the student language behaviors at each level.

- Materials within the "Language Connections," under the "Explain" tab of each scope, include accommodations for students at the beginner, intermediate, and advanced levels of language proficiency. In the grade 4 "Area and Perimeter" scope, the procedure and facilitation points guide the teacher to use gestures, pointing at objects, and visuals as appropriate, and use the provided prompts for listening, speaking, reading, and writing portions of the lesson. A table separates the four language domains (listening, speaking, reading, and writing) and lists strategies for each at the beginner, intermediate, and advance levels. For example, to facilitate discourse, the Speaking section includes the following differentiated sentence stems: for the beginner proficiency, "The distance around the sandbox is the ____"; for intermediate proficiency, "To find the perimeter, we have to ____"; and for the advanced proficiency, "Explain how you can find the perimeter and area of the sandbox to your partners."
- The materials include dedicated sections in the lesson plans for emergent bilingual students. For example, the grade 4 "Area and Perimeter" scope, "Explore 1-Area and Perimeter Formulas" lesson plan, includes a language support section guiding the teacher to emphasize the likeness of math terms in English and Spanish, such as *perimeter* and *perimetro* as well as the word *area*, written the same in both languages. The materials guide the teacher to provide encouragement for speakers of all languages to search for similarities to their home language in the math vocabulary. Sentence stems such as, "To find the ____, we need to ____" facilitate conversation during group work.

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

- A "Linguistic Diversity" section within the "Teacher Toolbox" provides guidance to support teachers to use materials to serve linguistically diverse populations. For example, the "Resources and Tools" section lists features used to support students at their proficiency level with a brief description of the activity and its intended purpose. Some activities include "Proficiency Levels by Domain, Working on Words, Sentence Stems/Frames, Integrated Accessibility Features, and Language Connections."
- Materials include support for teachers to use the materials in state-approved bilingual programs. For example, the "Spanish Translation and Transadaptation" section, within the *Implementation Guide* in the Teacher Toolbox includes an explanation of their approach, which states "Our approach to developing the student-facing Spanish version of our product is not a simple direct translation. Using verbiage that aligns with the Math Spanish TEKS for the state of Texas, we have a team of translators, linguistic experts, and bilingual education specialists who work to provide transadapted Spanish materials that give Spanish-speaking students equal access to the content in our curriculum."

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 by pre-teaching vocabulary within the "Foundation Builder," an early intervention activity meant to fill gaps before diving into new content. For example, within the "Engage" tab of grade 4 "Multiplication Models and Strategies," the Foundation Builder activity's last bullet states "The English language has many words that have multiple meanings. Suggested Solutions: To eliminate any confusion, ensure students understand the following words." A table lists the words *array*, *sum*, and *product*, along with multiple definitions of the words. The last column in the table provides an example using the word in context. For example, the sentence for the word *array*, states, "Can you write a multiplication sentence for the given array?"
- Materials include embedded guidance to support connections to new skills, vocabulary, and concepts at each emergent bilingual student's proficiency level by providing opportunities for students to use their linguistic and cultural background knowledge during skills practice, including opportunities for written discourse. Under the Explain tab, the "Language Connections" include differentiated student handouts for the various levels of language proficiency—beginner, intermediate, and advanced.
- The "Explores" include embedded guidance to support emergent bilingual students in building background knowledge. When working with math concepts in real-world contexts, the Explores provide opportunities to increase students' comprehension through prompts building connections to background knowledge. For example, Explore 2 within the "Compare Fractions" scope includes questions in the second step of the "Procedure and Facilitation Points." Step 2 states, "2. Support students in accessing the task by asking the following guiding questions: a. What are some examples of 'Would You Rather?' questions that would be fun to ask the people in your group? b. What do you already know about creating equivalent fractions? c. What do you remember about comparing fractions?" These questions provide an opportunity for students to engage in oral discourse applying academic vocabulary terms important to student success. During instruction, the students initially make noticings about the numerators and denominators of each given fraction on the scenario cards. The teacher checks for understanding while students work in groups to represent the scenarios and record them in their student journals through scaffolded questioning. Pairing visual models with vocabulary words supports students' cross-linguistic connections as students engage in group discussions.

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 *Implementation Guide* within the "Essentials" menu "Curriculum Design" section includes some guidance regarding Dual Language Immersion (DLI) Programs. For example, it states "Our products have visuals and suggested linguistic scaffolds for teachers to meet the needs of multilingual learners at all levels of proficiency. Our products and many of the accompanying resources are translated into Spanish and transadapted as appropriate. This

provides dual language educators with the tools for side-by-side, cross-linguistic bridging and linguistic analysis opportunities between English and Spanish."

- The *Implementation Guide* includes a section outlining opportunities to address the implementation of the program in a DLI program. For example, it states "Other elements, such as our Math Stories, were originally written in English and translated into Spanish. These stories provide another opportunity for educators in a dual language immersion program to look at explicit ways to plan language bridging with an additional lens of positive and negative transfer between grammar and phonics."
- Student-facing materials are available in both English and Spanish versions, which allows educators in DLI programs to provide opportunities for students to use their entire linguistic repertoire and plan for explicit language-bridging opportunities within the classroom. Specifically, the Picture Vocabulary, Interactive Vocabulary, and Anchor Chart elements help to lay the foundation for educators to look at positive language transfer not just of specific vocabulary but also morphological language patterns (such as prefixes and suffixes).

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.

- Practice within lessons requires students to demonstrate a depth of understanding aligned to the TEKS. For example, "Explore 3" within the "Addition and Subtraction Algorithms" scope provides practice opportunities for adding whole numbers. By locating the boarding passes for various destinations, students calculate total distances for flights across the world. Trip 1 shows flights from Atlanta to the Philippines to Australia. This problem requires students to add 8,696 and 4,435 to get the total kilometers. Students regroup across multiple place values and apply their mathematical understanding of real-world problems. This activity aligns with 4.4A. Other Explores within the scope provide students the opportunity to add and subtract to the hundredths place with decimal numbers to fulfill complete alignment to 4.4A within the course.
- "Show What You Know" (practice activities) aligns with each Explore activity in a scope (unit). Show What You Know activities require students to demonstrate depth of understanding aligned to the TEKS by applying the knowledge and skills learned over the course of the Explore lesson. For example, the grade 4 "Place Value of Whole Numbers "Show What You Know - Part 1" activity in the Explain tab requires students to represent the value of the digit in whole numbers through 1,000,000,000.
- Students demonstrate their depth of understanding across the unit through the "Decide and Defend" (open-ended assessments) in the "Evaluate" tab of each scope. The assessments prompt students to reason mathematically and support their ideas with evidence. For example, the grade 4 "Compare and Order Numbers Decide and Defend" includes a table that lists the highest scores ever recorded for a popular video game. One student thinks she is the best player because she has the highest score, but another student disagrees and believes he has the highest score. Students determine who is correct and explain their reasoning.

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

- Materials include questions and tasks that increase in rigor as the learning progression evolves from concrete understanding, representation, and abstract thinking. For example, in grade 4, "Represent and Compare Decimals Explore 1," students first represent decimal values, such as tenths and hundredths, using concrete and visual models. Questions include "What does a decimal represent?" and "If a flat is considered one whole, what is the value of the rod?" Students then relate their models to fractions and name the values using fraction notation, decimal notation, and word form. Students discuss how their decimal notations relate to the models they built and describe the relationship between fraction notation and decimal notation.
- "Area and Perimeter Explore 1" provides questions within the "Procedure and Facilitation Points" that increase in rigor and complexity throughout the lesson. The beginning of the lesson provides the question, "What do we know about the sides of a rectangle?" In the middle, the teacher poses the question, "What could you do to find the perimeter of a rectangle?" Towards the end, the teacher poses the question, "Think about the sides of a rectangle and what pieces you had to take from the containers. What do you notice about the sides of a rectangle?" The questions include Depths of Knowledge labels from 1 to 3 and lead to grade-level proficiency in the grade 4 math standards.
- Explore activities increase in rigor and complexity, leading to grade-level proficiency in the mathematics standards. For example, the Explores for the grade 4 "Addition and Subtraction Algorithms" scope progress as follows: Explore 1 - Round to Any Place Value, Explore 2 - Estimate Solutions, Explore 3 - Multi-Digit Addition, and Explore 4 - Multi-Digit Subtraction.

Depth and Coherence of Key Concepts

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

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

Evidence includes, but is not limited to:

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

- The scope and sequence for grade 4 demonstrate coherence across the course through a logical sequence that follows the natural progression of mathematics and provides opportunities for students to conceptually understand operations before their application. For example, the grade 4 "Course Rationale" in the "Teacher Toolbox" explains the purpose for the order of the initial two scopes. The "Place Value of Whole Numbers" scope instruction occurs before the "Compare and Order Numbers" scope because understanding place value and the base-ten system before engaging in complex calculations and number manipulations makes instruction comprehensible for students. Following the place value scope, students apply their knowledge of place value and develop a sense of magnitude and order within the Compare and Order Numbers Scope.
- "Content Support" on the home page of each scope demonstrates the coherence of the mathematical topics across grade bands. This resource also includes "Background Knowledge" which describes the background content knowledge students learned in previous

grades. For example, the grade 4 "Place Value of Whole Numbers Content Support" states "In third grade, students read and write numbers up to 100,000 by using expanded notation, and they compose and decompose five-digit numbers in multiple ways by using ten thousands, thousands, hundreds, tens, and ones." Content Support also includes "Coming Attractions" which explains how content further builds into the next units or grades. For example, in the scope, it tells teachers, "In fifth grade, students continue to apply their place value understanding to reason about decimals through the thousandths place."

- The materials include "Vertical Alignment" in the "Content Unwrapped" link under the "Home" tab. This section demonstrates coherence across grade levels and lists the aligned standards from the current, previous, and future grade levels. For example, in the grade 4 Compare and Order Numbers scope, the Vertical Alignment table indicates that students in grade 3 compare and order whole numbers up to 100,000 to support TEKS 4.2C. Students in grade 4 compare and order whole numbers to 1,000,000, and students in grade 5 compare and order two decimals to thousandths to support TEKS 5.2B.

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

- In grade 4, students progressively build sophistication and strategy variety with all four operations throughout the course by explicitly connecting patterns and relationships. The whole number and reasoning group of scopes allow for a focus on individual operations. The "Problem-Solve Using the Four Operations" scope allows students to connect patterns and relationships between all operations. For example, Explore 1 provides three levels of problem-solving. Explore 1 "Concert Scenario Cards" incorporate multiple problem types. One situation has a missing addend of three addends. The second situation is a one-step division problem, and the third situation requires students to calculate the cost of individually sold tickets and compare that to a package deal to see how much money could be saved. Level 2 and 3 problems promote connections between patterns and relationships of operations as the contexts and steps increase in rigor and complexity.
- Content Support on the home page of each scope includes a "Current Scope" that explains the coherence of patterns, big ideas, and relationships across units. For example, the grade 4 Problem-Solve Using the Four Operations scopestates "Students build on their prior experience solving addition, subtraction, multiplication, and division problems to solve multistep problems. They use diagrams as well as equations containing unknown quantities represented by letters. Problems require students to comprehend what a question is asking and to form a strategy consisting of several steps performed in a logical order to reach a solution."
- The grade 4 Course Rationale in the Teacher Toolbox demonstrates coherence across units by explicitly connecting big ideas between units. It states "In Grade 4, instructional time will be focused on four areas: (1) adding, subtracting, multiplying, and dividing multi-digit whole numbers, including the use of a standard algorithm; (2) developing the relationship between fractions and decimals and beginning addition and subtraction with both; (3) extending geometric reasoning to angles and attributes of triangles; and (4) developing an understanding

of equivalent measurements in the same measurement system." A table includes the four big ideas and their connectedness throughout the course. According to the table, the scope Compare and Order Numbers connects all four ideas.

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

- The Content Unwrapped resource, located within the home tab for each scope, includes "Implications for Instruction" and "Vertical Alignment." This section demonstrates the coherence across units by describing students' prior and future grade-level exposure to the content. For example, the grade 4 "Area and Perimeter" scope states "Students have had previous experiences measuring area and perimeter, but they have not developed or used formulas to determine area or perimeter. Students will use their understanding of developing these formulas in the next grade level for three-dimensional figures."
- "Assessing Prior Knowledge," located within the "Engage" tab of each scope, demonstrates coherence across units by connecting content learned in previous courses or grade levels. The activity assesses students' knowledge of previous grade level or unit content standards. For example, in the grade 4 Area and Perimeter scope, students solve real-world problems by determining the area and perimeter.
- The "Visual Glossary" within the scopes menu provides a visual example of vocabulary cards from across the grade levels. The glossary demonstrates coherence across units by connecting the language learned in previous and future grade levels to the current course. Definitions and visuals adjust slightly for grade-level appropriateness, and these cards support the connection of specific academic language across grade levels. An example of a picture vocabulary card that remains consistent in grades 3, 4, and 5 is the pictures and definition of *compatible numbers*.

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

- The "Compare Fractions" scope demonstrates coherence at the lesson level by connecting prior knowledge of concepts and procedures from the current grade level to new knowledge and skills using questions in the teacher's directions to support student access to the task at the beginning of Explore 1. The guidance states "1. Support students in accessing the task by using the following guiding questions: a. What do you already know about fractions? b. What do you remember about equivalent fractions? c. What do you remember about comparing fractions?"
- Materials connect prior knowledge of concepts and procedures from the previous grade level to new mathematical knowledge and skills using the "Implications for Instruction" section in the Content Unwrapped under the Home tab. This section provides teachers with information

about prior learning to support the coherent connections ready to be made with new content. Teacher guidance from the "Compare Fractions" scope includes, "In the previous grade level, students compared fractions with equal numerators or equal denominators...Sometimes students become over-reliant on models rather than using reasoning.... If teachers teach only rules or algorithms, such as finding common denominators for comparing fractions, students do not learn to reason about the relative sizes of fractions."

Depth and Coherence of Key Concepts

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

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

Evidence includes, but is not limited to:

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

- The grade 4 "Measurement Suggested Scope Calendar" in the "Home" menu references "Daily Numeracy" as a "Warm-Up" option. Daily Numeracy provides spaced retrieval opportunities with previously learned skills and concepts across lessons and units. For example, in the "Daily Numeracy-Patterns" activity, located on the grade 4 "Scopes" page within the "Daily Numeracy Tile," students create, describe, or extend patterns and sequences using projected images and a structured conversation led by the teacher. This activity supports students' engagement with previously learned relationships between math operations and patterns with numbers and builds numeracy skills.
- "Spiraled Review," located within the "Elaborate" tab of each scope, provides spaced retrieval opportunities with previously learned skills and concepts across units and includes four questions. According to the directions, "Students review previous or current grade-level content based on the focal points set for each grade." In the grade 4 "Compare and Order Numbers" scope, Spiraled Review includes word problems involving multiplication patterns, expanded notation, estimation, and multi-step addition and subtraction.
- "Math Story" in the "Compose and Decompose Fractions" scope in the Elaborate tab provides spaced retrieval opportunities of previously learned concepts by including questions with addition and subtraction problem-solving representations and computations beyond questions about composing and decomposing fractions, the scope's main focus. Available digitally, Math Story includes printable handouts and provides an opportunity for independent practice.

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

- Materials include interleaved practice of previously learned skills and concepts across lessons within a scope. For example, "Scope 4.3C, 4.3D - Compare Fractions" includes opportunities for student engagement with the concept of comparing fractions in various contexts. The "Hook" in the Engage tab incorporates comparing fractions with pizza deliveries. Explore 1 provides scenarios of customer orders for different types of cakes. The "Problem-Based Task" within the Elaborate menu provides an opportunity for students to work on comparing fractions using a menu for a family feast.
- Materials include the interleaved practice of previously learned skills and concepts across units when implementation follows the recommended scope and sequence. According to the grade 4 "Scope and Sequence" in the "Teacher Toolbox," the problem-solving scopes appear in the following order: "Addition and Subtraction Algorithms, Multiplication Models and Strategies, Division Models and Strategies, and Problem Solve Using the Four Operations." The Problem Solve Using the Four Operations scope allows students to retrieve skills and concepts from the three prior scopes focused on specific mathematical operations and models.
- The Daily Numeracy provides interleaved practice with previously learned skills and concepts across lessons and units by requiring students to select and use diverse strategies. Teachers encourage the use of the most efficient strategy rather than relying on a single strategy for every problem by asking questions like, "How does (___ model, strategy) help you . . . ?"

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.

- "Explore" requires students to interpret and analyze a variety of models and representations for mathematical concepts and situations. For example, in the "Problem-Solve Using the Four Operations" scope Explore 1, students represent scenarios using strip diagrams and equations. After the lesson, the "Math Chat" provides several questions for the teacher to ask, including "What are the different ways you represented the problems?"
- Each Scope includes a "Foundation Builder" activity under the "Engage" tab. During Foundation Builders, students interpret and analyze a variety of models and representations. For example, the "Area and Perimeter" scope Foundation Builder slideshow describes the dimensions of a rose garden. Teachers ask students to read the slide and discuss what they notice and wonder about with partners. Students create a model of the garden using colored tiles, brainstorm questions about the garden, and find solutions to those questions. The teacher provides several additional scenarios that require students to build models and solve area and perimeter questions.
- Explore requires students to evaluate a variety of models and representations for mathematical concepts and situations. For example, the "Addition and Subtraction Algorithms" scope Explore 2 "Student Journal" asks students to reflect on how they estimated the total distance traveled during the Explore activity, explain what they did to find the estimated solution, and evaluate if they always rounded to the same place value.

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

- Explore activities include questions and tasks that require students to create a variety of models to represent their understanding of mathematical situations. For example, in the "Multiplication Models and Strategies" scope Explore 1, students use base ten blocks to represent various customer orders of boxed chocolates and bags of candy that need to be filled. Students then answer questions about their model, for example, "Explain which base ten block would represent one box of chocolates." Additionally, students represent and record their work in their Student Journals.
- Questions and tasks require students to create a variety of models to represent mathematical situations. For example, the Multiplication Models and Strategies scope requires students to represent multiplication using arrays, area models, equations, and properties of operations and place value.
- Each scope "Explain" tab includes an "Anchor Chart" activity for the teachers to complete with the students. The "Problem Solve Using the Four Operations Anchor Chart" requires students to create strip diagrams representing each Explore activity. Students add their diagrams to the class anchor chart.

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

- The materials include questions and tasks that prompt students to apply conceptual understanding to new problem situations. For example, the "Small Group Intervention" activity, in the "Intervention" tab of the Area and Perimeter scope, requires students to model two rectangles with the same area and the same perimeter. Students repeat the activity while alternating between finding rectangles with a specific perimeter or a specific area. The teacher facilitates a discussion about perimeter and area and clarifies student misconceptions.
- "Problem-Based Tasks," located in the "Elaborate" tab for each scope, provide opportunities for students to apply conceptual understanding to new contexts. For example, in the "Profit, Budgets, and Banking" scope Problem-Based Task, students research to determine a reasonable rate for dog walking.
- "Math Stories," located within the Elaborate tab for each scope, support literacy development and provide opportunities for students to apply conceptual understanding to new contexts. For example, in the Area and Perimeter scope Math Story, students read a nonfiction selection about raising animals. Students use information from the text and their conceptual understanding of area and perimeter to answer questions about the reading.

Balance of Conceptual and Procedural Understanding

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

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

Evidence includes, but is not limited to:

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

- "Fact Fluency" practice activities on the "Scopes" home page target specific skills or concepts that build the automaticity necessary to complete on-level tasks. For example, in "Fact Fluency: Addition and Subtraction," students practice strategies such as making ten, using doubles, and differences within 20.
- Students build math fluency through "Interactive Practice," an online platform within the "Elaborate" tab of each scope. For example, in the "Place Value of Whole Numbers" scope Interactive Practice, students must crack safes as they practice with whole number place value. Students must enter the correct code to open the safe and claim the prize.
- "Fluency Builder" activities in the Elaborate tab of each scope provide resources for partner games that build fluency with grade-level skills addressed in the scope. For example, in the "Angles" scope Fluency Builder, students play Four In a Row using a game board and a set of Four in a Row playing cards with questions about angles. Students record their answers on a "Student Recording Sheet."

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

- The materials include "Daily Numeracy" activities located on the scope home page. The goal of Daily Numeracy activities is to "empower students to reason with numbers in an accurate, efficient, and flexible way." The Daily Numeracy routine begins as the whole group gathers to view a numeracy activity. The teacher invites students to think about how they would solve the problem mentally. Students use hand gestures to indicate their thinking status. Teachers facilitate and encourage an open dialogue in a safe environment where students lead the conversations using sentence stems.
- "Skill Basics" activities within the "Explore" tab of each scope provide students with opportunities to efficiently, flexibly, and accurately apply mathematical procedures throughout the unit. For example, in the "Multiplication Models and Strategies" Skill Basics activity, "Students solve multiplication problems using equal groups/repeated addition, array, and area model strategies."
- Explore activities within the Explore tab of each scope utilize manipulatives for hands-on exploration of mathematical concepts to develop procedural skills throughout the unit. A strong conceptual understanding allows students to flexibly and accurately apply the knowledge and skills addressed in the Explore. For example, in the "Area and Perimeter" scope Explore 1, students use color tiles to determine the total amount of framing supplies needed for an art piece and determine that they found the perimeter because they found the distance around the shape. Students brainstorm other ways to find the perimeter of a rectangle without counting each individual tile, which leads to the discovery of the formula for finding the perimeter.

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

- The "My Math Thoughts" activity in the "Explain" tab in each scope provides students with an opportunity to evaluate procedures and processes for efficiency and accuracy within the lesson. In this activity, students write about their mathematical thoughts and ideas using three different avenues: writing about mathematical concepts and relationships; writing focused on problem-solving, strategies, and procedures; and writing about a student's attitude, experience, or mindset toward math. For example, in the "Compare Fractions" scope My Math Thoughts, students are asked to describe how to compare $\frac{2}{6}$ and $\frac{1}{4}$ using benchmark fractions and select any fraction model to show the relationship among $\frac{2}{6}$, $\frac{1}{4}$, and $\frac{1}{2}$. The last question on the resource asks students to explain why they chose a particular fraction model.
- Materials include "Small-Group Intervention" activities within the "Intervention" tab of each scope that provide opportunities for students to evaluate processes and solutions for efficiency, flexibility, and accuracy throughout the unit. For example, in the "Compare and Order Numbers" scope Small-Group Intervention, students place the correct comparison symbols between each number written on their whiteboards. Students discuss questions such as, "What do you notice about the numbers on the table?" and "Explain how we can use

this order of greatest to least to create an order of least to greatest?" Students write comparison statements and express the relationship between the numbers using mathematical language.

- Teacher directions within Explore provide opportunities for students to evaluate procedures, processes, and solutions for flexibility and accuracy through intentional questioning. For example, in the Multiplication Models and Strategies scope Explore 1, students solve problems to accurately fill orders for customers wanting boxes of chocolates and candy. Teacher guidance prompts the teacher to ask questions such as, "What do you notice about each box of chocolates?" and "Explain which base ten block would represent one box of chocolates."

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

- "Content Support" within the "Home" tab of each scope supports teachers in guiding students toward increasingly efficient approaches by including background knowledge, misconceptions and obstacles, and content knowledge specific to the scope. For example, in the Area and Perimeter scope, the Content Support resource includes an explanation and a visual example of how to create formulas for area and perimeter using manipulatives.
- The "Troubleshooting" activity under the "Launch Into Grade 4" scope Intervention tab supports teachers to guide students toward increasingly efficient approaches. For example, one of the Troubleshooting prompts asks students, "What if your partner's strategy is faster and they solve the problem before you?"
- The "Teacher Toolbox" includes a "Student Goal Setting" document. Teachers use the document to guide students to set goals toward increasingly efficient approaches to solving math problems.

Balance of Conceptual and Procedural Understanding

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

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

Evidence includes, but is not limited to:

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

- The *Teacher Guide*, within the "Scope Overview" under the "Home" tab, describes the TEKS addressed in the scope by highlighting key conceptual and procedural skills and concepts to be covered. For example, the *Place Value of Whole Numbers Teacher Guide* states "Students will solidify the concept that in the base-ten system, a digit in one place has a value ten times greater than the digit in the place to its right, and they extend this understanding to determine the value of a digit when it is shifted to the left or right, based on the relationship between multiplication and division."
- The "Grade 4 Course Rationale," within the "Teacher Toolbox" under "Curriculum Design," explicitly states how the conceptual and procedural emphasis of the TEKS are addressed. For example, "Activities such as Compare Fractions with Models and Compare Fractions with Number Lines enhances students' ability to visualize and reason about the magnitude of fractions."
- The "Content Unwrapped" resource, under the Home tab of each scope, includes the following sections that explicitly state how the conceptual and procedural emphasis of the TEKS are addressed: "Standards," "Unwrapping the Standards," and "Vertical Alignment." For example, Unwrapping the Standards outlines "Verbs: What should students be doing?" and "Nouns: What concrete words should students know?"

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

- Questions and tasks within Explore include the use of models, manipulatives, and pictorial and abstract representations. Teachers guide students in hands-on explorations using models and manipulatives. Students then record their models, equations, and all the work needed to solve the problem in their "Student Journals."
- Explore includes the use of concrete models. For example, in the "Multiplication Models and Strategies" Explore 2, students model arrays using base ten blocks.
- Explore includes questions and tasks that use concrete manipulatives and pictorial representations. For example, in "Compare Fractions" Explore 2, students model different ways to serve pies by representing given fractions using fraction circles and drawing the models on their Student Journals.

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

- The materials suggest students complete "Skill Basics" activities before participating in some Explore tasks. Skill Basics support students in connecting and explaining concrete models to more abstract concepts. For example, in the "Place Value of Whole Numbers" scope Skill Basics activity, students use base ten blocks and a Place Value Relationships "Work Mat" to explore patterns of increasing and decreasing a number ten times, before completing Explore 2 - Place Value Relationships.
- Intervention activities, within the "Intervention" tab of each scope, support students in connecting, defining, creating, and explaining concrete and representational models to abstract concepts. For example, in the "Multiplication Models and Strategies" scope, students select a number card, multiply by 10 and 100, and use place value disks to represent how to determine the product for each equation. Teachers ask students to demonstrate how they find the product of their number card by 10 using their place value disks and ask questions such as, "What equation represents how many groups of 10 we are given?" and "How can we decompose our number card?"
- "Show What You Know" activities within the "Explain" tab of each scope, support students in connecting representational models to abstract concepts. For example, in the "Problem-Solve Using the Four Operations Show What You Know," students draw a diagram and write an equation in addition to solving it.

Balance of Conceptual and Procedural Understanding

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

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

Evidence includes, but is not limited to:

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

- Materials provide opportunities for students to develop an academic mathematical language using the "Picture Vocabulary" within the "Explain" tab. Picture Vocabulary is used in tandem with "Explores" to allow students to connect vocabulary to their experiences during the Explore. The Picture Vocabulary may be projected to the class as a slideshow or printed for students to use as needed.
- Explore provides opportunities for students to develop an academic mathematical language using concrete models and manipulatives. For example, in the "Multiplication Models and Strategies" Explore 2, students use base ten blocks to model arrays. Students refer to their array to answer questions that develop academic vocabulary such as: "How can you use the array to determine how many groups of each place value is represented?" and "How does your array model relate to the information given on the station card?"

- "Vocabulary Strategies" within the Explain tab of the "Launch into Grade 4" scope provide a variety of vocabulary activities. Students develop academic mathematical language through vocabulary games, including Four in a Row, Guess My Word, and I Have Who Has. For example, the Four in a Row game requires students to flip a card and either provide the definition or the vocabulary word in order to place a colored counter on the game board grid. The first student to complete four in a row, horizontally, vertically, or diagonally, wins the game.

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

- "Language Supports" within each Explore provide embedded guidance for the teacher to scaffold and support student development and use of academic mathematical vocabulary in context. For example, the "Compare and Order Numbers" Explore 2 states "Encourage students to participate in mathematical discourse while completing the Explore. Ask them to discuss how place value is helpful with ordering numbers before responding to the last question on the Student Journal."
- *Teacher Guides* within the "Scope Overview" include scaffolds for students as they develop and use academic mathematical vocabulary. For example, in the *Properties of Two-Dimensional Figures Teacher Guide*, within the "Hook" section, a facilitation tip prompts the teacher to post the picture vocabulary while reading the scenario and showing the video.
- The materials use sentence stems and discussion starters to scaffold the use of vocabulary when speaking and writing about mathematics within the lesson. For example, in the "Measurement" Explore 5, a facilitation tip within the teacher guide states "Draw attention to the units on each Game Card by using sentence stems like: "The unit of time for the boys team is.... The unit of time for the girl's team is...."

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.

- "Math Chats" at the end of each Explore provide embedded teacher guidance to support the application of appropriate vocabulary in mathematical conversations and opportunities for students to continue building and refining their mathematical language toolkit throughout the course. Teachers begin the Math Chat by inviting the class to share their observations and learning from the Explore. Questions leveled by depth of knowledge guide the discussion. Math Chats also provide example responses to questions. For example, the "Angles" Explore 3 prompts teachers to ask, "What is the most difficult thing about using a protractor?" The provided exemplar response is, "The most difficult thing was making sure I was using the correct number scale. Sometimes it is difficult to keep one ray on the zero line."

- The "Structures for Intentional Discourse" document within the "Structured Conversation" resource under the "Essentials" tab in the Teacher Toolbox guides the teacher on the appropriate application of discourse in mathematical conversations and provides opportunities for students to develop their math language toolkit over time. The document provides sentence stems for four areas of discourse: Provide Thinking, Agree, Disagree, Add On, Ask For Clarification, and Restate or Rephrase Others' Ideas.
- The "My Math Thoughts" activity within the Explain tab provides students the opportunity to write out their mathematical thoughts and ideas. Embedded teacher guidance supports the students in hearing, refining, and speaking math language with peers. Students discuss their thinking with neighbors to refine their thoughts before recording them on the "Student Handout." Students write their answers in complete sentences using correct spelling, syntax, and punctuation. For example, in the "Elapsed Time" scope, students solve for the length of time Veronique runs every morning in hours. Students explain their strategy and then discuss a different strategy to use. Students describe their thoughts and write about a time in their life when they or someone they know used elapsed time.

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.

- "Explore" lists the process standards that are integrated appropriately into the materials. For example, in the "Multiplication Models and Strategies" scope Explore 2, students use arrays to represent four-digit by one-digit multiplication and two-digit by two-digit multiplication, with embedded process standards A, B, C, D, F, and G.
- Materials include a "Scope and Sequence" document within "Curriculum Design" under the "Essentials" tab in the "Teacher Toolbox." The Scope and Sequence lists the process standards integrated into each scope throughout the course. For example, the "Place Value and Whole Numbers" scope connects to 4.1ABCDEFGG.

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

- "Process Standards" within the Teacher Toolbox describe how process standards are incorporated and connected throughout the course. The resource is organized into sections titled "Understanding the Standard," "What Teachers Should Do," and "Putting the Standard into Actions: What Might It Look Like?" The resource includes examples of how fourth graders analyze mathematical relationships to connect and communicate mathematical ideas while learning about representing and interpreting data, addition, and subtraction of fractions, and perimeter and area.

- The *Implementation Guide* in the “Curriculum Design” link under the Essentials tab in the Teacher Toolbox includes a section titled "Mathematical Process Standards." The guide explains how incorporating the process standards throughout lessons within the scopes develops the good habits of a mathematician. This section provides some brief examples of how the process standards are embedded and further states, "We framed our lessons following the habits of effective thinkers in math."
- The Scope and Sequence shows how the process standards are incorporated in each scope throughout the course. For example, the Place Value of Whole Numbers scope connects to 4.1ABCDEFG.

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

- Materials within the "Scope Overview" under the "Home" tab include a *Teacher Guide* with a "Scope Introduction" that explains how the process standards are incorporated into the unit and connect to the content standards. For example, in the "Area and Perimeter" scope, students use models and concrete objects to determine the areas and perimeters of various rectangles. Students extend that knowledge to determine the formulas for the perimeter of a rectangle.
- Process Standards within the Teacher Toolbox include a description of how the process standards are incorporated and connected to the content standards addressed in each scope. For example, in the Area and Perimeter scope, students use models and concrete objects to determine the areas and perimeters of various rectangles. Students extend that knowledge to determine the formulas for the perimeter of a rectangle.
- "Content Support" on the Home page of each scope includes a description of the process standards that are incorporated throughout the scope. For example, within the "Measurement" scope, students "apply area and perimeter to problems arising in everyday life," such as determining the size of framing and designing new toy packaging to apply process standard 4.1A.

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

- Explore includes an overview of the process standards incorporated into the lesson. For example, process standards 4.1ABDEFG are incorporated into Explore 1 in the "Measurement" scope.
- Content Support on the Home page of each scope includes a section titled "Applying Mathematical Process Standards." This section details how process standards are incorporated throughout the lessons. For example, the Place Value of Whole Numbers Content Support resource states that process standard 4.1A is incorporated when "Students use base-ten materials and representational models, such as place value charts and diagrams, to demonstrate an understanding of a multi-digit whole number."

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 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.

- "Daily Numeracy Activities," within the "Daily Numeracy: Fourth Grade" tile, provide students opportunities to think mathematically, persevere through solving problems, and make sense of math using a structured routine and various stimuli. During the Daily Numeracy routine, students gather in a central location. The teacher displays a numeracy activity and invites students to think and solve the problem mentally. Students demonstrate perseverance and use hand signals to show whether they need more time or are ready to share their problem-solving strategy. Having at least one sharable strategy demonstrates they have made sense of the mathematics. After this, students are encouraged to articulate their thinking as the teacher records each strategy on the board. Additionally, to help facilitate discussion, provided sentence stems include: "My strategy is similar because __," "This does not make sense to me because __," and "This reminds me of __."
- "Explores" include "Procedure and Facilitations Points" with suggested prompts and exemplar student responses. The Procedure and Facilitation Points provide opportunities for students to think mathematically, persevere through solving problems, and make sense of mathematics. For example, in the "Area and Perimeter" scope Explore 1, students determine the total amount of backing material a city needs to purchase to cover the back side of four pieces of art. Students work in groups to create a model using colored tiles, record the formula in their "Student Journal," and compare the concepts of area and perimeter.
- The materials include guidance for teachers to support students in making sense of mathematics by identifying misconceptions and obstacles and providing suggestions on how

to address common errors. For example, in the Area and Perimeter scope, the "Content Support" within the "Home" tab explains that students often confuse area and perimeter due to the lack of context when initially presented. Materials guide the teacher to provide many opportunities for students to find both the area and the perimeter of the same object. Students participate in discussions with peers to explain which one is which and why.

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

- Lessons and tasks support students in understanding and explaining that there can be multiple ways to solve problems. For example, in the "Compare Fractions Anchor Chart," within the "Explain" tab, teachers guide students through the process of creating a fraction model for a given fraction. Students answer questions such as, "How can we use an area model to prove that these fractions are indeed equivalent? Is there an area model that would be better in this situation?"
- Materials include activities that require students to explain and justify that there can be multiple ways to solve problems. For example, in the Area and Perimeter Explore 1, students create frames of different dimensions for the art pieces in a gallery. Students use rulers and materials, such as ribbon, colored strips of paper, or chenille stems, to figure out each frame's perimeter. Students discuss different strategies, including adding all sides, the formula $P=2l+2w$, or multiplying the sum of the length plus the width by two. Additionally, students explain how the strategies relate to the previously discussed formulas.
- The "Problem-Based Task" within the "Elaborate" tab of the "Place Value of Whole Numbers" scope supports students in understanding, explaining, and justifying that there can be multiple ways to complete tasks. In this activity, students work in groups to plan a concert tour with five stops based on the size of the city population. After each group plans their tour, the class discusses how groups tackled the task in different ways.

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

- The materials include lessons and tasks that require students to make sense of mathematics by doing, discussing, and writing about it. For example, in the "Compare Fractions My Math Thoughts" activity within the Explain tab, students use math tools and create model representations. Next, students discuss their representations with their peers and draw any newly discovered representations. Lastly, for specific chosen strategies, students formulate their reasoning in writing.
- Daily Numeracy activities are designed to require students to make sense of mathematics by discussing it with peers. For example, during the Daily Numeracy activity "Counting," students count collections, choral count, or complete patterns based on skip counting using objects, pictures, and graphic organizers.
- Small-group "Intervention" lessons, within the Intervention tab of each scope, require students to make sense of mathematics through doing, writing about, and discussing math

with the teacher. For example, in the "Area and Perimeter Small Group Intervention" lesson, students use digit cards to create a number in the thousands on their "Comparing Place Value Mat." Students analyze the numbers and use place value disks to build each number on the mat by creating stacks under each related place value. Teachers prompt students to discuss questions such as, "How can you determine which place value disks to use for each place value?" Students use their mats and disks to record their number in expanded form on the table below the mat using dry-erase markers.

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.

- Clear instructions with questions and prompts are included throughout the material to guide students to share and reflect on their problem-solving approaches and explanations. For example, in "Add and Subtract Decimals Explore 1," the "Procedure and Facilitation Points" prompt the teacher to invite the class to a "Math Chat" to share and explain their observations and learning. The Procedure and Facilitation Points include questions to guide the discussion, such as, "What makes a strategy the best choice?" and "Is the standard algorithm always the most efficient method to solve an addition problem?" Sample responses support the teacher in guiding the discussion.
- The materials support teachers in guiding students to share and reflect on their problem-solving approaches and include arguments and justifications. For example, in the "Add and Subtract Fractions and Mixed Numbers Accessing Prior Knowledge" activity, students work in pairs to discuss and draw a model that represents the solution to a scenario. Directions prompt the teacher to invite students to walk around and compare their answers to others. Students determine if they agree or disagree with the answer choices and make changes if necessary. Directions guide the teacher to facilitate a class discussion about student choices and to encourage students to support their answers. Additionally, materials support the teacher with sample student responses.
- "Decide and Defend" open-ended assessments provide opportunities for students to communicate their reasoning and assess understanding. Procedure and Facilitation Points for the assessment support teachers in guiding students to reflect on their problem-solving approaches, including justifications. For example, the "Represent and Compare Decimals" Decide and Defend requires students to decide if all four points on a number line are

accurately marked and to defend their thinking. Procedure and Facilitations, point 5, guides teachers to ask students to share their ideas with the class and discuss misconceptions.

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

- Prompts and guidance within the Explores support teachers in providing feedback when students struggle with understanding content. For example, in "Compare Fractions" scope Explore 1, students build models of fractions using tiles and fraction circles, then explore equivalent fractions. A facilitation tip prompts the teacher to provide templates for students who struggle to create equivalent fractions.
- "Content Support" in the "Home" tab of each scope includes a section titled "Misconceptions and Obstacles," which includes guidance to assist teachers in providing explanatory feedback based on anticipated misconceptions. For example, the "Division Models and Strategies" Content Support prompts the teacher to support students in understanding the difference between columns and rows by providing visual representations of those terms.
- "Foundation Builders" under "Engage" for each scope include prompts and guidance for addressing possible student misconceptions in a section called "Possible Preconceptions." For example, the "Elapsed Time" scope suggests students may have a misconception about time since it is based on 60-minute intervals. Teachers could solve this by ensuring students have access to number lines and analog clocks to scaffold their thinking. Additionally, they could consider choral counting time intervals with students to help them become familiar with switching to a new hour at 60 minutes. For example, "4:30, 4:40, 4:50, 5:00, 5:10...."