Accelerate Learning Inc.

Supplemental Spanish Mathematics, 4

STEMscopes Texas Math Pulse–Grade 4 Spanish

MATERIAL TYPE	ISBN	FORMAT	ADAPTIVE/STATIC
Supplemental	**9798330804870**	**Digital**	**Static**

Rating Overview

TEKS SCORE	TEKS BREAKOUTS ATTEMPTED	ERROR CORRECTIONS (IMRA Reviewers)	SUITABILITY NONCOMPLIANCE	SUITABILITY EXCELLENCE	PUBLIC FEEDBACK (COUNT)
100%	163	20	Flags Not in Report	Not Applicable	0

Quality Rubric Section

RUBRIC SECTION	RAW SCORE	PERCENTAGE
1. Intentional Instructional Design	20 out of 20	100%
2. Progress Monitoring	20 out of 24	83%
3. Supports for All Learners	33 out of 35	94%
4. Depth and Coherence of Key Concepts	16 out of 16	100%
5. Balance of Conceptual and Procedural Understanding	38 out of 38	100%
6. Productive Struggle	19 out of 19	100%

Breakdown by Suitability Noncompliance and Excellence Categories

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

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

IMRA Quality Report

1. Intentional Instructional Design

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

1.1 Course-Level Design

GUIDANCE	SCORE SUMMARY	RAW SCORE
1.1a	All criteria for guidance met.	4/4
1.1b	All criteria for guidance met.	3/3
1.1c	All criteria for guidance met.	2/2
1.1d	All criteria for guidance met.	2/2
1.1e	All criteria for guidance met.	2/2
—	**TOTAL**	13/13

1.1a – Materials include an alignment guide outlining the TEKS, ELPS, and concepts covered, with a rationale for learning paths across grade levels (vertical alignment) and within the same grade level (horizontal alignment) as designed in the materials.

Materials follow a consistent structure across all content scopes to support instructional planning. Each scope guides teachers in delivering conceptually grounded instruction by aligning with the Texas Essential Knowledge and Skills (TEKS) and including focus and connecting standards, key concepts, and fundamental questions. This organization is part of a broader scope and sequence that outlines the progression of units and lessons across the year. The repeated structure across units promotes coherence and supports horizontal alignment within the grade level.

The "Course Rationale" includes an alignment guide outlining TEKS, English Language Proficiency Standards (ELPS), and concepts covered with a rationale for learning paths across grade levels. This document supports the progression within and across major mathematical concepts and emphasizes connections among key mathematical concepts covered throughout the instructional year.

"Unit/Module Overview—Content Support" includes student background knowledge required for the development of mathematical concepts and ideas. This supports teachers in understanding how the skills build on prior learning experiences and outlines mathematical development across earlier grade levels leading up to grade 4. Progression supports vertical alignment by showing how conceptual understanding is intentionally developed from early numeracy into multi-digit place value, helping educators plan with awareness of students' prior knowledge.

1.1b – Materials include an implementation guide with usage recommendations and strategies for effective educator use in various contexts, such as just-in-time supports, advanced learning, or as a course.

An *Implementation Guide* provides educator recommendations in various instructional formats, such as intervention and acceleration activities. Suggestions include graphic organizers and small-group intervention activities designed to reteach and reassess skills and concepts. The "Elaborate" tab offers extension activities including high-interest, real-world texts that provide students with the opportunity to apply their learning.

The "Suggested Scope Calendar" supports instructional planning across multiple learning contexts. The calendar offers pacing guidance with time allocations for each lesson. Teachers can use this resource to prioritize essential content, adapt instruction based on student needs, and integrate intervention or enrichment. These supports promote flexible implementation while preserving instructional coherence.

The materials direct educators to prioritize essential components within each lesson, embed just-in-time supports using resources like the "Foundation Builder," and extend learning through acceleration strategies. Materials also include recommendations for adapting the content for whole-group instruction, small-group intervention, or one-to-one learning formats. These features demonstrate an intentional design to support differentiated use of the materials across varied instructional settings.

1.1c – Materials include a TEKS correlation guide with recommended skill entry points based on diagnostic assessment results.

The materials include a "Correlation Guide" with recommended skill entry points based on diagnostic assessment results. A teacher can assign pre-assessment benchmarks, mid-assessment benchmarks, and post-assessment benchmarks aligned with the grade-level TEKS and used to gather data to guide instruction. Additionally, each scope includes a "Scaffolding Instruction Guide" based on measures of academic performance (MAP) growth, "Heat Map," or online platforms. The table included used student percentiles to assign lessons for instruction.

The materials include benchmark and growth measurement assessments that support educators in identifying student learning gaps and instructional entry points. These assessments are administered at the beginning, middle, and end of the year to evaluate prior, current, and cumulative content knowledge. The "Pre-Assessment" evaluates concepts from the previous grade levels to inform decisions about reteaching and scope selection. Mid- and post-assessments provide insights into student progress and mastery. These tools allow educators to adjust the starting point for instruction based on readiness and guide students toward targeted learning goals.

The "Suggested Scope Calendar" integrates assessment features such as "Accessing Prior Knowledge," "Exit Tickets," and "Skills Quizzes" to support instructional planning. These assessments appear throughout each scope and allow educators to determine whether students are ready for grade-level

instruction or require additional support. For example, prior knowledge probes help teachers identify foundational gaps, while formative checks signal readiness for the next steps. This structure allows educators to adapt pacing and instruction using student performance data, promoting aligned entry points into instruction.

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

The materials include protocols and guidance to support lesson internalization. Each scope or topic features an "Essentials" menu, where a "Suggested Scope Calendar" outlines the lesson internalization protocol. This calendar provides everything the teacher needs to effectively prepare for lesson delivery, including key information and hyperlinks to resources that deepen content knowledge and instructional understanding.

The "Scope and Sequence Calendar" helps educators understand key learning objectives, sequencing, and instructional strategies. This ensures that educators intentionally teach lessons that align with learning goals while building their content knowledge and confidence to deliver instruction for all students. An educator can also utilize the calendar before the start of the lesson to gather the necessary materials for lesson delivery.

Materials support unit internalization through the "Content Support" section, which equips educators with conceptual background, anticipated student misconceptions, and vocabulary essential to the unit. For example, in the "Place Value of Whole Numbers" scope, the materials outline how understanding the base-ten system builds on prior knowledge from earlier grades and how common misunderstandings about expanded notation may impact student learning. This allows teachers to anticipate learning gaps and plan differentiated instruction effectively.

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

Materials offer comprehensive planning tools for instructional leaders within the "Lesson Planning Resources," including downloadable implementation guidance documents that detail program structure and instructional design features. The materials also provide grade-level planning guides in editable and PDF formats for a range of delivery models, including whole-group and small-group instruction. For example, leaders can reference differentiation pathways and Depth of Knowledge (DOK) alignment charts to support implementation decisions across various instructional contexts.

The *Implementation Guide* provides guidance to administrators and instructional coaches on how to use the tools provided in the toolbox. Such features include outlining the program structure, addressing potential challenges, explaining instructional strategies, and providing pacing recommendations to adapt the program to meet their needs. Moreover, the materials include a video to guide educators in implementing the concepts. Each lesson begins with an "Engage" component, which outlines the lesson

objectives, and the "Preparation" section, which offers step-by-step guidance on how to effectively implement the lesson.

An *Implementation Guide* offers sample calendars for varying instructional days, prioritization of essential activities, and recommendations for adapting instruction using prebuilt resources. It also includes tools for leading professional learning communities (PLCs), such as planning prompts and reminders tied to specific scopes, aiding leaders in consistent implementation and monitoring of instructional delivery.

1.2 Lesson-Level Design

GUIDANCE	SCORE SUMMARY	RAW SCORE
1.2a	All criteria for guidance met.	5/5
1.2b	This guidance is not applicable to the program.	N/A
1.2c	All criteria for guidance met.	2/2
—	**TOTAL**	7/7

1.2a – If designed to be static, materials include detailed lesson plans with learning objectives, teacher and student materials, lesson components with suggested timeframes, and assessment resources aligned with the TEKS and ELPS.

Materials provide detailed instructional guidance in Explore 1, including learning objectives, concrete models, and teacher directions. Teachers engage in hands-on activities, such as modeling place value using disks and anchor charts. For example, the teacher encourages comparative statements to help students generalize place value relationships. This structured design ensures lesson content is grounded in the TEKS and delivered through a consistent instructional routine.

The "Course Rationale" includes an alignment guide outlining TEKS and concepts covered with a rationale for learning paths across grade levels. This document supports the progression within and across the major mathematical topics in this grade level. The document emphasizes the connections among the major mathematical topics throughout the instructional year. Additionally, the "Structure Conversations" feature offers teacher-led questioning strategies, peer discussion prompts, and supports to facilitate meaningful classroom dialogue.

A "Suggested Scope Calendar" outlines structured, day-by-day instructional planning with time allocations and embedded assessments. The calendar provides detailed objectives for each day, specifies grouping strategies such as whole group, small group, and independent practice, and integrates tools like Math Chat and Interactive Notebook. Teachers are guided to administer Exit Tickets and Show What You Know after completing each Explore, helping monitor student learning throughout the lesson sequence. Each scope provides the educator with materials specifying the TEKS covered along with the corresponding "I can" statements that describe the student expectations.

1.2b – If designed to be adaptive, materials include detailed lesson overviews with learning objectives, lesson components with suggested timeframes, and assessment resources aligned with the TEKS and ELPS.

This guidance is not applicable because the program is not designed to be adaptive.

1.2c – Materials contain support for families in Spanish and English for each unit, with suggestions on supporting the progress of their student(s).

The materials provide support for families in Spanish and English to reinforce students' learning and development at home for each unit. These supports include activities that extend in-class learning, visual representations of strategies, and academic vocabulary used in the unit. The letters also encourage parental involvement by offering activities that families can try at home to support student learning. For example, in the scope "Place Value and Relationships," the letter includes a summary of what students learned in the unit and a Tic-Tac-Toe activity (called *Tateti*) with suggestions of different tasks students can complete at home to reinforce their understanding, strengthening the school-to-home connection.

Each scope includes a "Take-Home Letter" to provide suggestions for how families can support student progress by including visual representations of the strategies and academic vocabulary that the students will use in the unit. For example, the "Division Model and Strategies" scope includes visuals for dividends with base-ten blocks, array models, and the partial quotients strategy.

The "Content Support" section includes key background knowledge and progression insights that teachers can use to inform families about students' learning. It details how concepts progress from earlier grades and connect to current objectives. While the section is not designed for families directly, its clarity equips educators to translate academic content for family communication.

2. Progress Monitoring

Materials support educators in effective implementation through frequent, strategic opportunities to monitor and respond to student progress.

2.1 Instructional Assessments

GUIDANCE	SCORE SUMMARY	RAW SCORE
2.1a	All criteria for guidance met.	2/2
2.1b	All criteria for guidance met.	2/2
2.1c	Materials do not include the capability for the teacher to enable or disable state-approved and content language support; they are available to all students by default.	2/4
2.1d	All criteria for guidance met.	4/4
2.1e	All criteria for guidance met.	4/4
—	**TOTAL**	14/16

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

The *Implementation Guide* includes a description, type, and intended purpose of all the assessments the program provides. For instance, as an example of diagnostic assessments, the materials include the "Accessing Prior Knowledge" part of each scope or unit defined as "a brief probing activity to gauge students' prior knowledge before engaging in the content of the scope." There is also a "Mathematical Modeling Task" to use as a formative or summative assessment, and it is an independent or collaborative task that allows students to solve a challenging, meaningful problem in a real-world context.

The *Implementation Guide* outlines multiple opportunities for students to be assessed in a variety of ways and defines the intended purposes for each type of instructional assessment. The materials provide examples of how to use different formative assessments, such as "Exit Ticket," "Show What You Know," "Observation Checklist," and "Skills Quiz."

The program also provides teachers with access to the "Suggested Scope Calendar," where assessments are labeled as "Diagnostic (D)," "Formative (F)," or "Summative (S)," along with clear guidance on their purpose throughout each scope. For example, in grade 4, the "Compare Fractions" scope includes an Accessing Prior Knowledge task involving number lines to check for readiness, followed by formative checks such as Exit Tickets and Show What You Know. At the end of the lesson, a "Standards-Based Assessment" evaluates mastery of equivalent fractions and benchmark comparisons. This sequence supports targeted pacing and instructional adjustments based on student data.

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

Materials include guidance to ensure consistent administration of instructional assessments. Each scope contains a "Suggested Scope Calendar," which outlines day-by-day classroom activities that will take place in the classroom, including assessments. For each assessment piece, it indicates the time that it should take. For example, in the "Multiplication Models and Strategies" scope, the assessment options include an "Exit Ticket," a "Show What You Know," and/or an "Observation Checklist." It also specifies the time devoted to the assessment for the day is between five and 15 minutes.

The *STEMscopes Math* materials provide teachers with a description of the quiz, materials needed, and clear guidance for teachers to administer the assessments efficiently. The “Skills Quiz” section describes the type of quiz being administered and offers additional information, including procedures, facilitation tips, and strategies for using both the assessment and the data obtained from individual student results.

Instructional assessments also include directions to ensure students receive a consistent testing environment. For example, in the “Compare Fractions Skills Quiz,” the assessment description explains its purpose and outlines steps for teacher preparation. Teachers can either print the digital assessment or assign it online. The “Suggested Scope Calendar” also indicates an allotted time of 10–30 minutes for completing the assessment.

2.1c – Digital assessments include printable versions and accommodations, including state-approved, content and language supports, and calculators, that educators can enable or disable to support individual students.

Digital assessments include printable versions. For example, the "Skills Quiz" at the end of the "Compare Fractions" scope, provides the option to either assign digitally on the platform, share digitally as a Google file, or download as a PDF to print. These features offer differentiated delivery methods to individual students as needed. Printable versions include accommodations such as large fonts, simplified formatting, or space for handwritten calculations.

The materials guide teachers to generate printable copies via the "Suggested Scope Calendar: Assessments," where students then complete number-line labeling and written justifications on the PDF, which structures conceptual development by moving from concrete representations to symbolic notation. For example, in the "Compare and Order Numbers" scope, the final slide's "Download PDF" link produces a full quiz with space provided for student answers, supporting unit internalization.

Digital assessments include accommodations, such as state-approved and content and language supports, but educators cannot enable or disable these features to support individual student needs. For example, the “Skills Quiz” found under the “Evaluate” tab of each scope includes speaker and dictionary buttons that allow students to have the questions read aloud and use the dictionary to support understanding of word meanings. However, teachers cannot enable or disable these accommodations at

will. This is also clearly specified in the document "Assigning Content" under the "Help" tab in the main portal as follows: "Note students can enlarge text, use text to speech feature, highlight text, use comments & turn on dictionary mode for assistance."

2.1d – Materials include diagnostic assessments with TEKS-aligned tasks or questions, including interactive item types with varying complexity levels.

In the "Benchmarks and Growth Measurement Assessments," students solve TEKS-aligned place-value and computation tasks that progress from simple recall to extended reasoning across four DOK levels. Teachers can view pre- and post-year diagnostic reports that require students to solve concrete number comparisons, transition to pictorial models, and then articulate abstract solution strategies in writing. Embedded scaffolds that structure conceptual development support educators and guide adaptive instruction based on student performance.

Materials include "Diagnostic Assessments" complete with a variety of tasks or questions and interactive item types with diverse complexity levels such as multiple-choice, open-ended, griddable, text-entry, drop-down, fraction models (grades 3–5 only), number line, and multi-select questions. Each diagnostic assessment is carefully aligned with grade 4 TEKS and should be utilized to gather data to inform instruction. Progress monitoring tools allow for differentiated grouping and targeted scaffolds based on student performance.

Teachers access tools within the "Suggested Scope Calendar: Assessments," where students encounter daily diagnostic prompts that progress from fact recall (DOK 1) through the application (DOK 2), reasoning (DOK 3), and extended tasks (DOK 4). For example, in the “Compare and Order Numbers” scope, the calendar provides time-stamped checks that require students to label number lines, drag and drop comparison symbols, and explain their reasoning in writing. Educators receive support through embedded scaffolds that structure conceptual development and guide adaptive instruction based on student performance.

2.1e – Materials include a variety of formative assessments with TEKS-aligned tasks or questions, including interactive item types with varying complexity levels.

Materials include a variety of formative assessments with TEKS-aligned tasks or questions with varying levels of complexity. For example, in the "Area and Perimeter" scope, formative assessments include Exit Tickets in the Explore section, where students interact with open-ended questions and calculate the area or perimeter of a shape using a problem-solving template (skills/concepts DOK 2). In addition, a set of Show What You Know activities in the Explain section involves calculating the area and perimeter of several shapes to compare them (strategic thinking, DOK 3). There is a in the Elaborate section, which consists of multi-step word problems (extensive thinking, DOK 4). Furthermore, the unit concludes with an "Observation Checklist" and a "Skills Quiz" with questions of varying complexity under the Evaluate section.

The "Suggested Scope Calendar: Assessments" slide within each scope contains TEKS-aligned formative tasks sequenced by day and by cognitive demand. Teachers view a progression from DOK 1 "Quick Checks" through DOK 2 "Show What You Know" tasks to DOK 3 "Decide and Defend" prompts. The platform provides drag-and-drop number comparison activities, inline-choice symbol entry items, and multi-select explanation questions that structure conceptual development and support unit internalization.

In the "Represent and Interpret Data" scope, educators can access the "Skill Quiz," which requires students to graph interactive item types. In the assessment, the students demonstrate understanding of word problems by representing the information in the dot plot or stem-and-leaf plot, then answering questions that involve interpreting the information on the graph and using math operations to enter a text entry response.

In the "Angles" scope "Skills Quiz," the teacher may assign the students a digital assessment that includes text entry and drawing the angles (graphing) item types. Students measure and classify angles using these interactive tools.

2.2 Data Analysis and Progress Monitoring

GUIDANCE	SCORE SUMMARY	RAW SCORE
2.2a	Materials do not include a rationale for each correct and incorrect response.	1/3
2.2b	All criteria for guidance met.	1/1
2.2c	All criteria for guidance met.	2/2
2.2d	All criteria for guidance met.	2/2
2.2e	This guidance is not applicable to the program.	N/A
—	**TOTAL**	6/8

2.2a – Instructional assessments include scoring information and guidance for interpreting student performance, including rationale for each correct and incorrect response.

Summative assessments include scoring information and guidance for interpreting student performance. For example, in the benchmark assessments for beginning, middle, and end of the year found within the "Assessments" tab, the program automatically scores the assessments to provide the teacher with data that allows them to inform instruction. However, the materials do not include a rationale for correct and incorrect student responses.

The materials also provide a "Heat Map" for the benchmark assessments, allowing students to record their results by standard. This practice supports students in monitoring their progress. Furthermore, this integrated tool guides teachers' plans for the next steps and suggests materials based on students' Instructional Area scores.

Moreover, the "Scaffolded Instruction," found within the "Home" tab of each scope, provides guidance for the teacher to plan for the next steps based on the student's performance on the scope's assessment or the MAP test. The "Scaffolded Instruction Guide" allows teachers to plan their instruction based on student performance on the "Scope's Assessment" on their digital "MAP Growth" assessment data. Additionally, the "Scaffolded Instruction Guide" categorizes student performance into four percentile ranges for each standard based on the categories described.

0%–25%: Indicates a need for remediation on prior grade-level content.

25%–50%: Suggests the student needs support with current grade-level concepts.

50%–80%: Shows the student is performing at grade level.

80%–100%: Reflects the student is ready to extend beyond grade-level expectations.

For each range, the guide provides targeted instructional material recommendations aligned to the assessed standard.

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

Materials provide guidance for the use of included tasks and activities to respond to student trends in performance on assessments. For example, in the "Compare Fractions" scope, after students have taken the "Skills Quiz," the materials refer the teacher to the "Scaffolded Instruction Guide" to differentiate instruction for each student. The "Scaffolded Instruction Guide" provides suggested activities for students who still need reinforcement in TEKS 4.3C and 4.3D.

Educators utilize the "Progress Monitoring Guide: Observation Checklist" to track student mastery of key mathematical concepts during instruction through note-taking and performance reflection. This tool supports teachers in recording observed progress during small- and whole-group activities. For example, in the checklist in the "Represent Multi-Digit Whole Numbers" scope, teachers can use the checklist to observe if students are able to explain the relationship between digits in different place value positions and identify which learners may need scaffolded support. The checklist also directs teachers to consult the "Scaffolded Instruction Guide" for differentiated follow-up based on these performance trends.

The "Scaffolded Instruction Guide" offers support for teachers in using assessment results to plan purposeful, grade-level appropriate tasks and activities. Through the digital platform, educators can view student performance trends, such as commonly missed TEKS, progress over time on specific concepts, and which students are showing growth or stagnation. The materials also include guidance on how to use this data to adjust instruction, create targeted small groups, and plan for reteaching or enrichment.

2.2c – Materials include tools for teachers to track student progress and growth, and tools for students to track their own progress and growth.

The STEMscopes materials include a dashboard where teachers may assign formative, diagnostic, and summative assessments that allow the educators to compile real-time data highlighting areas of strength and weaknesses, and monitor student progress growth. This enables educators to provide timely interventions and make instructional adjustments. Furthermore, the STEMscopes materials allow students to monitor their student growth by consulting Heat Maps, which include reflection sheets that allow students to take ownership of their learning, set goals, make note of their strengths and learning opportunities.

The "Observation Checklist" outlines the key concepts and skills within the scope and serves as both a formative assessment tool for teachers and a self-assessment tool for students. Teachers can use it to track student progress by recording anecdotal notes based on observed understanding. Students can use the checklist to reflect on their learning, identify ways to demonstrate understanding, and monitor their progress on each concept or skill.

The "Benchmarks and Growth Measurement Assessments" system includes both teacher- and student-facing tools that support growth monitoring. Teachers track student progress across multiple checkpoints using Quantile® scores to measure improvement and guide instruction over time. Students also complete Heat Map and Reflection sheets in which they color-code correct and incorrect responses by standard and answer prompts such as, "Which skill did you feel most confident with?" and "How can you avoid those errors in the future?" These structured tools enable students to reflect on academic progress while providing teachers with actionable growth data. Together, these components let teachers track academic growth over time while enabling students to visualize and reflect on their improvement.

2.2d – If designed to be static, materials provide prompts and guidance to support educators in conducting frequent checks for understanding at key points throughout each lesson or activity.

Materials provide guidance to support educators in conducting frequent checks for understanding at key points throughout each lesson or activity. For example, in the Explore section of the "Angles" scope, the materials guide the teacher to invite the class to a Math Chat that allows students to share their observations and learning. Some of the questions included in this activity are "What right angles do you see in this room?" or "Where do you think angle measurements are used in real life?" This activity promotes rich mathematical discourse and student reasoning while allowing teachers to facilitate reflective discussions and share observations at the end of each lesson. Then, the materials provide some sample student responses for the teacher to guide the conversation.

The educator can conduct checks for student understanding in the Explore phase of the scopes. During the activities found within this component of the 5E Model, students are introduced to a concept through hands-on, inquiry-based activities. This section is designed to spark curiosity, get students thinking, and give the teacher early insight into student understanding. The Explore section offers teachers a range of questions at varying DOK levels to engage students and check understanding throughout the activity.

Within the lesson script of Place Value of Whole Numbers, teacher-facing prompts guide real-time checks for understanding. During the Traffic-Data task included in the lesson under the Explore tab, instructors pause to place numbers in a place-value chart and ask, "¿En qué se diferencia el valor de los nueves en ambos números?" This reveals if students grasp that 900,000 is ten times 90,000 before the lesson proceeds. This activity quickly provides the teacher with immediate evidence of conceptual grasp before the lesson advances.

2.2e – If designed to be adaptive, materials provide frequent checks for understanding at key points throughout each lesson or activity.

This guidance is not applicable because the program is not designed to be adaptive.

3. Supports for All Learners

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

3.1 Differentiation and Scaffolds

GUIDANCE	SCORE SUMMARY	RAW SCORE
3.1a	All criteria for guidance met.	1/1
3.1b	All criteria for guidance met.	4/4
3.1c	All criteria for guidance met.	2/2
3.1d	Materials do not include educator-controlled options to enable or disable state-approved or content and language supports for individual students. These features are available to all students by default and cannot be personalized based on student need.	1/3
3.1e	All criteria for guidance met.	2/2
—	**TOTAL**	10/12

3.1a – Materials include explicit educator guidance for lessons or activities scaffolded for students who have not yet reached proficiency in prerequisite or grade-level concepts and skills.

Materials include explicit educator guidance for lessons or activities scaffolded for students who have not yet reached proficiency in prerequisite or grade-level concepts and skills. For example, in the "Multiplication Models and Strategies" scope under the "Intervention" tab, students use manipulatives and models to reinforce different strategies to multiply, such as multiplying by 10 and 100, using arrays, area models, partial products, and traditional algorithms. Moreover, the materials provide the educator with step-by-step scripted guidance, organized into five components, to help students scaffold their learning upon previous knowledge.

The materials include explicit educator guidance in the "Scaffolded Instruction Guide," assigning scaffolded lessons based on student performance bands. Teachers determine students' percentile ranges using either the scope assessments or MAP Growth and then assign instructional content aligned to specific TEKS and readiness levels. These lessons include reteaching opportunities for students who have not yet reached proficiency in prerequisite or grade-level concepts and skills, such as "Small Group Intervention" and foundational tasks drawn from earlier grade bands. Students scoring in the 0–25% range are directed to previous grade-level remediation, while others receive grade-level support or enrichment. This framework ensures students access differentiated scaffolds while teachers implement instruction aligned to skill gaps.

Materials provide intervention lessons for teachers to provide scaffolded instruction for those who have not yet reached proficiency in prerequisite or grade-level concepts and skills in the "Instructional Supports" within the Explore lesson guides.

3.1b – Materials include explicit educator guidance for language supports, including pre-teaching and embedded supports for developing academic vocabulary and unfamiliar references in text.

The materials provide explicit educator guidance for embedded language support during instruction by modeling how teachers introduce and reinforce academic vocabulary such as area, perimeter, and formula in the "Area and Perimeter" scope. Teachers present these terms through hands-on tasks and sentence stems, including, "We find perimeter by adding up all the sides," which students repeat, complete, and apply as they engage with measurement tasks. Students actively use manipulatives and oral scaffolds to derive formulas and describe the attributes of shapes in real-world contexts such as framing artwork. The lesson includes built-in prompts that connect these terms to contextual references, allowing students to use academic language fluently while solving and justifying TEKS-aligned problems.

Support for pre-teaching or reinforcing unfamiliar vocabulary and references in the text, such as academic language or figurative expressions. The Picture Vocabulary feature, found under the Explain tab within each scope, helps introduce academic terms through clear, student-friendly definitions paired with visuals to support understanding.

Pre-teaching support for the educator is provided with a preview of the digital lessons. In addition, the "Content Support" page allows educators to view how new terms will be introduced in the scope. For example, the "Division Models and Strategies" scope includes visuals and charts showing the problem-solving process and academic language used in student activities included throughout the lessons. This practice supports the educator with guidance in pre-teaching unfamiliar terms and strategies to embed additional support within the lessons in order to prepare for the lesson.

3.1c – Materials include explicit educator guidance for enrichment and extension activities for students who have demonstrated proficiency in grade-level and above grade-level content and skills.

Materials include teacher guidance for enrichment activities for students who have demonstrated proficiency in grade-level content and skills. The "Scaffolded Instruction Guide" provides tailored lesson suggestions based on "MAP Growth" percentile ranges. For students in the 81–100 percent range, it recommends enrichment and extension activities that go beyond grade-level expectations. The "Acceleration" component of the scope includes structured activities, such as project-based tasks, real-world math applications, and opportunities for advanced problem-solving, all designed to challenge proficient students.

Extension activities with explicit educator guidance are included in the materials for students who have demonstrated proficiency in grade-level and above-grade-level content and skills. For example, in every scope, within the Elaborate component, an interactive game can be assigned to those students who have mastered the skill. The game requires students to apply what they have learned to earn points or win. For instance, in the "Problem-Solve Using the Four Operations" scope, the interactive game Gold Mine requires students to identify the given data and the missing information in a word problem to create equations.

Enrichment activities for students who demonstrate proficiency in and above-grade-level content and skills with explicit guidance for the educator are included in the materials. Each scope includes a "Scaffolded Instruction Guide" with activities designed for students demonstrating concept proficiency. For example, "Area and Perimeter" scope features Interactive Practice, Fluency Builder, and Math Today activities targeted at students performing in the 50th to 100th percentile range.

3.1d – Digital materials include accommodations, including text-to-speech, content and language supports, and calculators that educators can enable or disable to support individual students.

The materials provide teachers with the ability to enable or disable calculator access when assigning the "Skills Quiz." Through the "Assign to Students" feature, educators can select from multiple calculator types (four-function, scientific, or graphing) based on the needs of individual students or the learning context. This feature allows teachers to adjust digital accommodations during assessment setup.

Digital materials provide accommodations, such as state-approved and content and language supports, but educators cannot enable or disable them to support individual students. For example, the "Skills Quiz" within the Evaluate component of each scope provides a speaker button with the option to have the questions read aloud to the student and a dictionary button for student use. However, the teacher cannot disable those buttons at will.

By default, all students have access to enlarged text, the state-approved feature, text highlighting, commenting tools, and dictionary mode for assistance. The only feature that the teacher can enable and disable is the calculator.

3.1e – Materials include educator guidance on offering options and supports for students to demonstrate understanding of mathematical concepts in various ways, such as perform, express, and represent.

Materials include educator guidance on offering options for students to demonstrate understanding of mathematical concepts in various ways—such as performing, expressing, and representing their thinking. For example, in the "Compare Fractions" scope, students demonstrate their knowledge of fractions by using models in Explore 1. In Explore 2, they represent fractions using symbols and express their thinking

with a written explanation. In Explore 3, students create models and create an anchor chart to demonstrate their learning. In the Evaluate component, students complete a quiz for which they use models, words, and numbers to demonstrate their understanding.

The materials also route students to demonstrate their understanding of mathematical concepts in multiple ways. The Explain component of the scope offers structured tasks, such as Picture Vocabulary, Model & Discuss, and Guided Practice, which help students represent mathematical concepts through visuals, manipulatives, and verbal reasoning. In addition, Elaborate materials include activities like Problem-Based Tasks, Math Today, and Create Your Own, allowing students to express and perform their understanding through real-world applications, written explanations, and hands-on models. These features support diverse learning styles and give students multiple ways to demonstrate their mathematical thinking.

The *Implementation Guide* provides the educator with guidance on offering options for students to demonstrate understanding of mathematical concepts. Materials include a description of different opportunities that students engage in for meaningful mathematical practice to demonstrate understanding, such as Math Story and the Take-Home Letter: Tic-Tac-Toe choice board activity.

3.2 Instructional Methods

GUIDANCE	SCORE SUMMARY	RAW SCORE
3.2a	All criteria for guidance met.	5/5
3.2b	All criteria for guidance met.	2/2
3.2c	All criteria for guidance met.	3/3
3.2d	All criteria for guidance met.	2/2
3.2e	All criteria for guidance met.	2/2
—	**TOTAL**	14/14

3.2a – Materials include explicit (direct) prompts and guidance for educators to build knowledge by activating prior knowledge, anchoring big ideas, and highlighting and connecting key patterns, features, and relationships through multiple means of representation.

Lessons include clear prompts and guidance to help teachers build student understanding. Each scope begins by activating prior knowledge through hands-on tasks or real-life examples. The "Scope Overview" component of the lesson highlights big ideas that guide instruction, while activities throughout the scope focus on identifying patterns, recognizing key features in models, and making connections between different representations, like visuals, equations, and number lines. This structure supports deep understanding and flexible problem-solving.

Materials also include explicitly prompts and guidance for educators to activate prior knowledge both within mathematics and across other subjects as well. For example, in the "Area and Perimeter" scope within Explore 1, the teacher asks questions such as, "Have you ever been to an art museum or gallery? What might you see there? What do you know about how art pictures are displayed?" After students have discussed these questions, the materials provide other questions that activate prior knowledge related to the content: "What do you remember about rectangles? What do you already know about area and perimeter?"

The lessons provide teachers with specific and structured opportunities to help students make meaningful connections between mathematical concepts, fostering deeper understanding. Each Explore lesson concludes with a Math Chat discussion that allows students to share their observations and learning. Additionally, the educator highlights and connects key patterns, features, and relationships through multiple means of representation during this activity. Following this framework at the close of the lesson helps students develop a deeper understanding of mathematical concepts and ideas.

3.2b – If designed to be static, materials include educator guidance for effective lesson delivery and facilitation using various instructional approaches.

The STEMscopes materials include educator guidance for effective lesson delivery and facilitation. Each scope begins with a Hook lesson that connects to real-world problems and scenarios to learn about mathematical concepts. The Explore lesson guide includes various instructional approaches to deliver effective and engaging instruction to meet the diverse needs of all learners. For example, the lesson guide prompts learning in a variety of ways for students, including opportunities for direct instruction in Math Chats and Structured Conversations.

Lesson delivery support is embedded throughout the curriculum's activities, with each lesson component guiding teachers. Every scope begins with a "Lesson Overview," which outlines key learning objectives, pacing suggestions, grouping strategies, and required materials. The Explore and Explain components include detailed "Procedure and Facilitation Points" to guide questioning, model think-alouds, and address common student misconceptions. These supports help educators transition between whole-group, small-group, and independent instruction, enabling them to tailor delivery to meet diverse student needs.

For example, the "Suggested Scope Calendar" within the "Division Models and Strategies" scope outlines daily facilitation across whole-group, small-group, and assessment settings. Teachers are directed to use this resource to plan explicit delivery of lesson components and determine which strategies, models, and tools students will use to meet the scope's objectives. Teachers receive guidance on when and how to conduct fluency routines, Math Chat discussions, structured practice, intervention sessions, and checkpoints to ensure understanding. Students engage in diverse learning through hands-on tools, journals, reflection routines, and assessments such as "Exit Tickets" and "Decide and Defend" to demonstrate understanding through written explanations.

3.2c – Materials include multi-tiered intervention methods for various types of practice and structures and educator guidance to support effective implementation.

Materials include multi-tiered intervention methods for various types of practice and educator guidance to support effective implementation. For example, in the Intervention component of the "Place Value of Whole Numbers" scope, the lesson begins with guided practice where the teacher provides step-by-step instructions while monitoring students' work. Students then work collaboratively to find the card that matches a given description. In the end, students independently complete the Checkup activity to demonstrate mastery.

Multi-tiered intervention methods are integrated throughout the curriculum. These supports are evident in components such as the "Scaffolded Instruction Guide," "Suggested Scope Calendar," and lesson-specific "Facilitation Points." The materials offer structured opportunities for whole-group instruction during lesson introductions, small-group work in the Explore and Elaborate components, collaborative

practice through partner or group tasks, and independent learning in the Interactive Practice and Evaluate components throughout each scope.

Intervention opportunities are embedded throughout each scope to support diverse learning needs. In addition to guided instruction, whole-group experiences, and collaborative experiences in Explore lessons, each scope also includes Intervention lessons with guidance and resources for collaborative small-group practice and an individual Checkup activity to monitor intervention practices.

3.2d – Materials include enrichment and extension methods that support various forms of engagement, and guidance to support educators in effective implementation.

Materials include enrichment and extension methods that support various forms of engagement. For example, in the Elaborate section of the "Addition and Subtraction Algorithms" scope, students play two different interactive games to reinforce their learning. Then, in the Acceleration section, students watch a video and read an Associated Press article about weather hazards. Afterward, students respond to math-based questions on the topic, such as "How much more rain did Tropical Storm Erika deposit on Dominica than Puerto Rico? What was the total amount of people affected in Dominica and Florida combined?" These acceleration activities bridge learning across content areas through authentic interactions.

Enrichment opportunities can be found in the Acceleration components of every scope. For example, in the "Represent and Compare Decimals" scope, students apply decimal concepts from NASA's Kepler mission in the Math Today activity. Teachers guide students using prompts such as, "What is the place value of the 6?" and "Record this comparison using <, =, or >," connecting mathematical and scientific reasoning. Students engage in interpreting percentages, ratios, and decimal comparisons. Then, students complete a "Student Page" using data from the article to solve TEKS-aligned questions. The materials include teacher "Facilitation Points" and discussion structures, supporting the implementation of extension tasks.

Materials include both enrichment and extension methods to promote varied forms of student engagement. Activities such as Acceleration, Problem-Based Tasks, Math Today, and Create Your Own encourage students to explore concepts through creative, collaborative, and real-world applications. These activities support hands-on, visual, and inquiry-based learning. To support educators, the program provides clear guidance with "Facilitation Points" and "Scaffolded Instruction Guides."

3.2e – Materials include prompts and guidance to support educators in providing timely feedback during lesson delivery.

The materials include prompts and guidance to help educators provide timely feedback during lesson delivery. For example, each Explore lesson guide embeds guiding questions that teachers use to assess student understanding and address misconceptions in real time.

Every scope of the curriculum provides both prompts and guidance that support educators in providing timely feedback during lesson delivery. Additionally, lesson facilitation questions help teachers assess student understanding and respond in the moment. These prompts encourage students to explain their thinking, justify their reasoning, and engage in meaningful mathematical conversations, allowing educators to deliver targeted feedback to clarify misconceptions and strengthen student learning.

Educators are guided in providing timely feedback during lesson delivery. For example, in the "Expenses, Profits, and Savings" scope, the materials prompt the teacher to monitor student progress and check for understanding using guiding questions, such as "Where would One-Bite Wonders put their money if they were worried about it getting stolen? Where would One-Bite Wonders put their money so they could get it easily?" This approach ensures that educators conduct frequent checks for understanding.

3.3 Support for Emergent Bilingual Students

An emergent bilingual student is a student who is in the process of acquiring English and has another language as the primary language. The term emergent bilingual student replaced the term English learner in the Texas Education Code 29, Subchapter B after the September 1, 2021 update. Some instructional materials still use English language learner or English learner and these terms have been retained in direct quotations and titles.

GUIDANCE	SCORE SUMMARY	RAW SCORE
3.3a	This guidance is not applicable to the program.	N/A
3.3b	This guidance is not applicable to the program.	N/A
3.3c	All criteria for guidance met.	1/1
3.3d	All criteria for guidance met.	8/8
3.3e	This guidance is not applicable to the program.	N/A
—	**TOTAL**	9/9

3.3a – If designed to be static, materials include educator guidance on providing and incorporating linguistic accommodations for all 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.

This guidance is not applicable because the adaptive Spanish program does not require guidance on providing and incorporating linguistic accommodations.

3.3b – If designed to be adaptive, materials include embedded linguistic accommodations for all 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.

This guidance is not applicable because the adaptive Spanish program does not require guidance on providing and incorporating linguistic accommodations.

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

The materials provide online resources to support educators in supporting emergent bilingual students. For example, the "Teacher Toolbox" offers a "Linguistic Diversity" component, which provides educators with an overview of the resources and strategies embedded within the STEMscopes materials to support linguistically diverse students. In addition, the resource includes a "Proficiency Levels by Domain" document, which provides educators insight to help support emergent bilingual students by delivering scaffolded instruction. For example, educator guidance for the "Represent and Compare Decimals" scope

suggests: "If students need assistance representing a model with a fraction, decimal, or word form, it may be beneficial to create an anchor chart for the class to refer to throughout the Explore as a reminder of what each representation looks like." This approach supports emergent bilingual learners by providing visual scaffolds alongside conceptual instruction.

STEMscopes Math support offers implementation strategies for educators of students in bilingual and English as a Second Language (ESL) programs through multiple embedded resources. Each scope includes a translated Spanish version, which features student-facing materials such as Explore, Explain, Elaborate, and Evaluate activities, along with Spanish-language teacher facilitation notes. Lessons include pre-written sentence stems in English and Spanish to guide student responses, particularly during partner talk, cooperative learning, or journaling. For example, in the "Represent and Compare Decimals: Explore" scope, a provided sentence stem is: "____ is greater than ____ because and es mayor que ____ porque ____." This supports dual-language instruction while maintaining alignment with the TEKS.

The *Implementation Guide* outlines how Spanish-language materials are adapted to align with Math Spanish TEKS, supporting educator implementation in state-approved bilingual programs. Picture Vocabulary and Anchor Charts activities also prompt scaffolded instruction and support morphological awareness in Spanish. The Picture Vocabulary provides student-friendly definitions and visuals to reinforce vocabulary, serving as a scaffold for language development. For example, in the "Properties of Two-Dimensional Figures" scope, the word *congruente* (*congruent*) is included on the front of a digital flashcard with a corresponding visual, while the back of the card contains the definition. All student-facing materials are available in Spanish, enabling educators to implement instruction consistently in dual-language classrooms.

3.3d – Materials include embedded guidance 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 to support emergent bilingual students in developing academic vocabulary, increasing comprehension, and building background knowledge. For example, the materials provide a Math Chat, which includes questions for student reflection and discussion to foster comprehension. In addition, "Language Supports" offer teachers suggestions for teaching vocabulary through the use of sentence stems, supporting academic expression, vocabulary development, and the establishment of background knowledge. For example, Explore 1 of the "Points, Lines, and Angles" scope guides teachers to "Analice la similitud entre términos matemáticos de inglés y español relacionados con esta lección, como ángulo para angle."

The Explore section explains how to make cross-linguistic connections to enhance bilingual support. For instance, the Explore 1 activity of the "Area and Perimeter" scope recommends that teachers of Spanish speakers emphasize how the word *area* is a cognate, as it is spelled the same in both English and Spanish. The activity also highlights similarities between English and Spanish vocabulary, such as

perimeter and *perímetro*. Lastly, the materials encourage identifying additional cognates in other home languages spoken by students in the classroom to support diverse multilingual learners.

The curriculum supports emergent bilingual students to build academic language and support comprehension. The "Teacher Toolbox," specifically the "Multilingual Learners" section, provides sentence stems in both English and Spanish organized by proficiency levels across listening, speaking, reading, and writing, such as "Mi respuesta es razonable porque . . ." and "My answer is reasonable because . . ." In addition, the resource includes instruction for metalinguistic transfer, helping students connect English and Spanish vocabulary and concepts. In the "Explain" tab, the Picture Vocabulary feature offers visuals paired with bilingual definitions to support vocabulary development. For instance, the "Represent and Compare Decimals" scope includes a slide for the word decimal with a corresponding definition, model, and fraction equivalency to visually support learners.

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

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

4. Depth and Coherence of Key Concepts

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

4.1 Depth of Key Concepts

GUIDANCE	SCORE SUMMARY	RAW SCORE
4.1a	All criteria for guidance met.	2/2
4.1b	All criteria for guidance met.	4/4
—	**TOTAL**	6/6

4.1a – Practice opportunities throughout learning pathways (including instructional assessments) require students to demonstrate depth of understanding aligned to the TEKS.

Lessons within the scopes promote opportunities for students to build knowledge through real-world problem-solving tasks. Students have opportunities to engage in concrete and representational models to support their learning. For example, in the "Measurement" scope, students solve single- and multi-step real-world problems involving the four operations. At the start of the scope, students participate in a real-world activity involving a fruit punch recipe. Students consider the units of measurement and engage in a problem-solving discussion about how to adjust the recipe for a larger group. The students then engage in a variety of tasks in Explore 1 where they will have further practice analyzing word problems and use measurement diagrams (models) to find solutions. Facilitation questions aid teachers in formative assessment, and an Exit Ticket helps differentiate and tailor instruction to meet the individual student needs.

The program contains assessments aligning with the depth of understanding required by the TEKS, providing accurate data regarding students' grade-level proficiency. This enables educators to make informed instructional decisions and tailor support to meet students' needs. The intent of the "Pre-Assessment" is to evaluate students on standards they have already learned in previous academic years, while the "Post-Assessment" evaluates grade-level standards. The "Post-Assessment" can be used as a predictor of student performance on state tests.

In the "Suggested Scope Calendar," teachers access tools for the "Representing and Comparing Decimals" scope, which includes an assessment where students label decimal values on a number line and justify their comparisons with visual models and written explanations. The platform provides detailed timeframes, prompts, and progress monitoring tools to analyze student explanations across multiple complexity levels. This embedded assessment guides adaptive instruction and demonstrates depth of understanding across multiple representations.

4.1b – Questions and tasks, including enrichment and extension materials, increase in rigor and complexity, leading to grade-level and above grade-level proficiency in the mathematics TEKS.

Questions and tasks increase in rigor and complexity, leading to grade-level proficiency in the mathematics TEKS. For example, in the "Compare Fractions" scope, during the Engage portion of the module, students start by using manipulatives to understand the concept of comparing fractions with the guidance of the teacher. Then, during the Explore section, students draw or use virtual models to compare two fractions with different numerators and denominators. As students develop a deeper understanding of the concept, they begin to use more abstract strategies to compare fractions, such as the use of number lines, benchmark fractions, and multiplication or division of a fraction to find equivalence. Finally, in the Explain section of the scope, students demonstrate grade-level proficiency by comparing fractions within word problems.

The program includes materials, questions, and scaffolded tasks connecting concepts by requiring students to apply their knowledge in progressively more complex ways. For example, in the "Area and Perimeter" scope, students apply the formulas for area and perimeter to solve problems. Students then collaborate to determine the area and perimeter of products and packaging for a toy company. This guidance supports the teacher in delivering strategically scaffolded questions and tasks. The progressive increase in rigor and complexity creates access points for students to build upon previous math skills and deepen their understanding of key concepts.

Tasks included in the program contain questions and tasks that increase in rigor and complexity, supporting students as they work toward and above grade-level proficiency. For example, in the "Elapsed Time: Explore 2," students solve multi-step problems in stations where they interpret and organize the information from the word problem and apply their math fluency in adding/subtracting time to real-world time planning situations. These mathematical process skills prepare the student for above-grade level proficiency.

4.2 Coherence of Key Concepts

GUIDANCE	SCORE SUMMARY	RAW SCORE
4.2a	All criteria for guidance met.	1/1
4.2b	All criteria for guidance met.	1/1
4.2c	All criteria for guidance met.	4/4
—	**TOTAL**	6/6

4.2a – Materials demonstrate coherence across concepts horizontally within the grade level by connecting patterns, big ideas, and relationships.

The "Grade 4 Course Rationale" supports the progression within and across the major mathematical topics in this grade level. This guide emphasizes the connections between major mathematical concepts across the instructional year, promoting a cohesive understanding of math. It describes the progression of fractions as first introduced in number lines and through shape partitioning, then revisited and applied in measurement and data representation tasks, such as interpreting line plots with fractional data. This reflects the big idea that fractions represent parts of a whole and are used in meaningful, real-world contexts.

Materials demonstrate coherence across concepts horizontally within the grade level by connecting relationships. In the "Compare Numbers" scope, within the Engage component of the lesson, students discuss how their prior knowledge of place value from previous scopes supports their ability to compare and order numbers in the current scope, building on prior learning and establishing coherence within the grade level.

In the "Compare and Order Numbers" scope under the Engage section, students engage in mathematical discourse based on what was previously learned in the current grade. The teacher guides the students in a discussion with questions such as "What concepts and skills will we need to apply when ordering numbers?" Furthermore, in Explore 1, students reflect on how their understanding of place value from previous lessons supports their ability to order numbers.

4.2b – Materials demonstrate coherence vertically across concepts and grade bands, including connections from grade K–6, by connecting patterns, big ideas, and relationships.

Materials demonstrate coherence vertically across concepts and grade bands, including connections from grades K–6, by connecting patterns, big ideas, and relationships. For example, in grade 4, in the Measurement section within Explore 1, the teacher guides students to make connections to what they learned in previous grade levels by asking, "What do you already know about the different systems of measurement? What do you already know about the different ways an object can be measured?"

The "Content Support" page for "Compare and Order Numbers" connects current learning to both prior and upcoming concepts. The "Background Knowledge" explains how students compared sets in kindergarten and used place-value language through grade 3. It then highlights how grade 4 extends those skills to numbers up to one billion. "Current Scope" defines what mastery looks like at this stage, while "Coming Attractions" previews how students will soon compare decimals in grade 4 and build on that skill in grade 5. Together, these components provide teachers with clear connections between past learning, current expectations, and future objectives.

Students build on prior knowledge and concepts introduced in earlier grade levels. For example, in the "Multiplication Models and Strategies" scope, students begin the scope with an Engage lesson, Hook: Spot the Talent. In this lesson, they draw on what they have previously learned about the multiplication scope, "Area," to calculate the area of a rectangular space by multiplying two-digit numbers. This connection helps activate prior knowledge and sets a strong foundation for grade 4 multiplication TEKS.

4.2c – Materials demonstrate coherence across lessons or activities by connecting students' prior knowledge of concepts and procedures to the mathematical concepts to be learned in the current grade level and future grade levels.

The materials demonstrate coherence across lessons by connecting students' prior knowledge of concepts and procedures to the mathematical concepts in current and future grade levels. The "Content Support" section within the "Background Knowledge"—included in all scopes—explains the relevant concepts learned in earlier grades that connect to the current lesson. When lessons build on past learning, students see how their knowledge fits together, gain confidence, and develop skills step by step. This clear path supports deeper understanding and prepares them for more advanced math in the future.

The "Content Support" page for the "Place Value of Whole Numbers" builds a coherent bridge from earlier base-ten learning to current and future place-value concepts. It reminds teachers that students once composed and decomposed numbers to 100,000 to be able to model digits through the hundred-millions place with disks and charts in the current grade level. Background notes prompt discussion of place value relationships. A "Coming Attractions" note previews upcoming decimal representation to the thousandth place in grade 5, tying today's procedures to future concepts.

The STEMscopes materials demonstrate coherence across lessons by connecting mathematical concepts and procedures for enhanced student learning. For instance, in the "Addition and Subtraction Algorithms" — Explore 1: Round to Any Place Value Facilitation Points, the teacher connects to prior knowledge and enhances the student's ability to understand mathematical concepts and procedures by asking, "What do you remember about representing numbers on a number line? What do you remember about rounding? What do you already know about using a number line to help your round?" Following this discussion format increases student learning by activating prior knowledge and helps connect current content to future concepts.

4.3 Coherence and Variety of Practice

GUIDANCE	SCORE SUMMARY	RAW SCORE
4.3a	All criteria for guidance met.	2/2
4.3b	All criteria for guidance met.	2/2
—	**TOTAL**	4/4

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

Materials provide spaced retrieval opportunities with previously learned skills across learning pathways. In the Explore section of every scope, there is a Spiraled Review that integrates previous skills for students to review. For instance, in the Spiraled Review within "Properties of Two-Dimensional Figures," scope questions include drawing angles of a given measure, calculating the perimeter of a shape, and converting decimals to fractions, which students learned in previous grade-level scopes. This ensures students have opportunities to recall prior knowledge and apply previously learned skills.

The Elaborate component of all scopes provides the teachers with resources to review, reinforce concepts and skills, and provide continuous assessment of student progress. For example, in the "Elapsed Time" scope, the Spiraled Review component includes four word problems in which students apply mathematical process standards to solve problems involving angles and analyze geometric attributes to identify perpendicular and parallel lines, providing students an opportunity to apply previously learned content.

The materials provide ongoing exposure to key skills and concepts, ensuring reinforcement over time rather than being presented in a single lesson. Previously taught content is incorporated into new contexts, allowing students to recall and apply what they have previously learned. Each scope includes a within the Elaborate component to support retrieval opportunities. This cycling format reinforces memory and deepens understanding as learning is spaced out rather than confined to one isolated lesson.

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

The materials provide interleaved practice opportunities that reinforce previously learned skills across learning pathways. For example, in the "Multiplication Models and Strategies" scope, multiplication is introduced through a carefully sequenced progression of strategies that build on one another. Students begin by multiplying by 10 and 100, then move on to using arrays, followed by area models, partial products, and finally calculate using the standard algorithm. This scaffolded approach allows students to make connections between models and multiplication methods, supporting conceptual understanding and building toward procedural fluency.

To reinforce long-term understanding, materials include a Spiraled Review component prompting students to revisit previously taught concepts through regular, integrated practice. For example, during the Elaborate phase of the "Multiplication Models and Strategies" scope, students engage in activities that require them to recall multi-digit addition strategies or apply place value reasoning from prior lessons to solve current multiplication tasks. These spiral activities appear alongside current instruction and support mathematical fluency. Teachers use this resource to ensure students maintain prior knowledge while deepening their conceptual understanding of new content.

This type of interleaved practice is also embedded in the Explore activities within STEMscopes Math. The Fluency Practice includes mixed problem sets that draw on multiple previously learned skills, such as operations, number patterns, and geometry, which supports and helps students retain and apply concepts across strands. This section is specifically designed to reinforce skills in a quick, engaging way while building accuracy and speed while encouraging students to make connections across concepts and build a deeper understanding over time.

5. Balance of Conceptual and Procedural Understanding

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

5.1 Development of Conceptual Understanding

GUIDANCE	SCORE SUMMARY	RAW SCORE
5.1a	All criteria for guidance met.	3/3
5.1b	All criteria for guidance met.	2/2
5.1c	All criteria for guidance met.	1/1
—	**TOTAL**	6/6

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

The curriculum for grades K–5 provides students with opportunities to work with models and real-world math problems. Lessons include visual tools like number lines, strip diagrams, and base-ten blocks. Students are asked to explain, compare, and evaluate various strategies in problem-solving. The materials provide questions and tasks where students have meaningful opportunities to interpret, analyze, and evaluate models and representations related to mathematical concepts and real-life situations. These activities help students deepen their understanding by making sense of visuals such as number lines, area models, and graphs, and by explaining how these models represent mathematical ideas. This approach supports the development of critical thinking and conceptual understanding at each grade level.

Questions and tasks provide multiple opportunities for students to engage in mathematical thinking at a deeper level. For example, in the Hook activity of the "Area and Volume" scope, students interpret information from a real-world scenario involving building a garden with unique shapes. Subsequent activities within the Explore and Exit Tickets components of the scope require students to interpret, analyze, and evaluate mathematical concepts that help them transfer their learning from the scope to a new context.

The materials provide activities for student discussions, drawing diagrams, and structured prompts for interpretation, analysis, and evaluation of mathematical models aligned with real-world scenarios in the "Problem-Solve Using the Four Operations" scope within Explore 2. Students interpret diagrams created out of paper strips to represent multi-step problems, identifying missing information, and estimating reasonable solutions using rounding strategies. Teachers guide students to analyze diagrams by chunking each sentence of a problem and using structured questioning to determine appropriate operations and model relationships. Students evaluate their solutions by comparing estimated and actual results and engage in a Math Chat to justify the reasonableness and structure of their responses.

5.1b – Questions and tasks provide opportunities for students to create concrete models and pictorial representations to represent mathematical situations.

Questions and tasks require students to create concrete models of mathematical situations. For example, in Explore 1 within the "Area and Perimeter" scope, students use ribbon and colored tiles to build a model of a piece of art that they will frame to calculate perimeter and area. In addition, students create pictorial representations of mathematical situations under the Evaluate component of the lesson where students are asked to draw a model of a rectangle based on a word problem to find area and perimeter.

Students create concrete models such as using counters, base-ten blocks, or fraction tiles and pictorial representations such as drawings, models, number lines, or strip diagrams to make sense of mathematical situations. These hands-on and visual activities help students build a deeper understanding of math concepts by allowing them to represent their thinking in multiple ways.

Students create mathematical representations in Explore 2 of the "Add and Subtract Fractions and Mixed Numbers" scope. Using manipulatives, students work with fraction circles or tiles to create models, which they then use to develop a pictorial representation in their Student Journal. This allows students to construct their understanding to actively build and draw models rather than memorize procedures.

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

Materials include tasks that ask students to apply their conceptual understanding to new and varied problem situations across different scopes. Each scope includes problem-solving tasks that connect to real-world or extended applications, allowing students to apply their learning in meaningful ways. The Explore, Elaborate, and Evaluate components of the scope provide activities that encourage students to use their conceptual understanding in new contexts, promoting flexible thinking. Additionally, activities such as Create Your Own, Problem-Based Tasks, and Math Today offer open-ended opportunities for students to apply mathematical concepts creatively and independently, further reinforcing deeper conceptual understanding.

Students apply conceptual understanding as they solve multi-step problems involving the four operations using visual models such as paper strips and symbolic equations with unknown variables under the Explore component within the "Problem-Solve Using the Four Operations" scope. They rotate through Donut Scenario Cards posted around the room, collaborating to represent and solve real-world math problems, such as calculating ingredients needed for a donut shop. Students create diagrams, write equations, and estimate before solving, then use their solutions to design original problems. For example, students model a batch problem using strips to divide and multiply to determine total quantities, then explain their strategy using sentence frames during a Math Chat, demonstrating flexible problem-solving in authentic contexts.

Questions and tasks provide opportunities for students to apply conceptual understanding to new problem situations and contexts. For example, materials in every scope within the Elaborate component provide an interactive game that simulates a real-world situation. This game requires students to apply what they have learned to earn points. For instance, in the "Multiplication Models and Strategies" scope, the interactive game Warehouse Mayhem requires students to calculate boxes in a crate and to unload the crates into a warehouse.

5.2 Development of Fluency

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

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

Materials build the automaticity and fluency necessary for students to engage in grade-level tasks and activities. To support this goal, each grade level includes scopes specifically focused on developing math fluency.

STEMscopes Math includes targeted components such as Fluency Builder and Spiraled Review specifically designed to support the development of automaticity and fluency. The Fluency Builder offers short, repeated practice tasks that focus on number facts, operations, and computation strategies. These scaffolded tasks move from conceptual understanding to quick and accurate recall, helping students internalize foundational math skills.

The materials provide tasks designed to build students' automaticity and fluency in completing grade-level mathematical tasks. For example, grade 4 units include two "Fact Fluency" resources—one focused on addition and subtraction and another on multiplication and division—to help establish a routine for fluency practice.

5.2b – Materials provide opportunities for students to practice the application of efficient, flexible, and accurate mathematical procedures throughout learning pathways.

STEMscopes Math embeds procedural practice across multiple components of each scope, including Explore, Explain, Elaborate, Fluency Builder, and Show What You Know. These components are intentionally designed to engage students in applying mathematical procedures that are accurate, efficient, and flexible. During Explore lessons, students participate in hands-on or conceptual tasks that allow for multiple solution strategies, encouraging them to approach problems from different angles. Teachers are guided to foster flexibility in mathematical thinking by prompting students with questions, such as "Can you solve it a different way?" or "Is there a more efficient strategy?" In the Explain and Elaborate sections, students develop and refine grade-level procedures with the support of visual models and strategic scaffolding, promoting both accuracy and efficiency. Across the learning pathway, the materials ensure students have repeated opportunities to apply, evaluate, and justify mathematical procedures in meaningful contexts.

Students apply efficient strategies as they solve real-world design tasks. For example, in the Explore 2 activity of the "Area and Perimeter" scope, students select formulas, estimate values, and determine unknown side lengths, calculating a missing width when given the perimeter and one side. The Student Journal and task cards support flexible thinking and problem-solving by prompting students to compare approaches in choosing whether to use equations, models, or inverse operations. Students demonstrate accurate reasoning by responding to DOK 2 questions, such as "How can estimation support you in solving these problems?" and by validating answers through Math Chat routines and group discussion.

The materials integrate practice opportunities for students to apply mathematical procedures through the learning pathway. For example, in the Explore sections of the "Measurement" scope, students convert and find equivalent amounts using customary and metric units by solving multi-step, real-world problems. Students develop flexibility by comparing similarities across conversions and are encouraged to determine which operations to use in order to accurately represent and solve each problem.

5.2c – Materials provide opportunities for students to evaluate mathematical representations, models, strategies, and solutions for efficiency, flexibility, and accuracy throughout learning pathways.

Materials provide opportunities for students to evaluate mathematical representations, models, strategies, and solutions for efficiency, flexibility, and accuracy throughout learning pathways. For example, in the Intervention Part III section of the "Compare Fractions" scope, students select two fraction cards and compare them. Students evaluate models and strategies for efficiency and accuracy when comparing fractions by engaging in reflective questioning. They consider prompts, such as "What if you did not have a model or a number line to build the fractions? What could you do?" or "What would you do if you wanted to use a benchmark number to compare two values, and both were greater than the benchmark number of 1?" These questions guide students to think critically about alternative methods and deepen their conceptual understanding.

Evaluation of real-world mathematical concepts is included throughout the curriculum. In the "Multiplication Models and Strategies" scope, students multiply factors and participate in a discussion to evaluate their solution strategies and procedures. Facilitation questions encourage students to analyze and compare strategies using different multiplication methods: "How are the partial products and standard algorithm strategies similar? How can you determine an estimate for a multiplication problem?" "If you use a different method, such as an area model, to solve this problem, would it result in a different answer or the same answer?"

The materials include multiple components across each scope that intentionally prompt students to evaluate and reflect on their mathematical thinking and the thinking of others. In the Explore and Elaborate sections, students engage with a variety of models and compare solution methods. Teachers facilitate discussions using questions such as "Which strategy is most efficient?" or "Is there another way

to solve this problem?" These opportunities support students in recognizing when a particular model or approach is more suitable for a given task, promoting flexibility and efficiency.

5.2d – Materials contain guidance to support students in selecting increasingly efficient approaches to solve mathematics problems.

Materials provide clear instructional guidance to support students in selecting increasingly efficient approaches to problem-solving through intentional learning progression. In the Explore phase, students begin with concrete or visual models to build a strong conceptual foundation. As students move into the Explain phase, the curriculum introduces more efficient procedures, including standard algorithms and numerical strategies, often accompanied by teacher prompts and step-by-step guidance to support the transition. In the Elaborate phase, students apply their understanding in more complex or real-world contexts and are encouraged to select the most appropriate and efficient strategy based on the task. This structured pathway is purposefully designed to help students evolve from basic, conceptual methods to more abstract and streamlined approaches, with the materials offering consistent support in recognizing and applying increasingly efficient strategies.

Materials contain guidance to support students in selecting increasingly efficient approaches to solve mathematics problems. For example, in the "Multiplication Models and Strategies" scope within the Explore section, students learn different multiplication strategies such as area models and partial products. Guiding questions for the teacher to support students in selecting effective strategies include, "How are area models and partial products similar? What are the advantages of using partial products instead of an area model?" These questions help students analyze the similarities and differences between strategies and consider which method may be more efficient or appropriate for a given problem.

The materials are designed to guide students toward selecting increasingly efficient problem-solving approaches as their mathematical understanding deepens. For example, in Explore 3 of the "Division Models and Strategies" scope, the lesson guide includes prompts to facilitate student thinking about efficient strategies. Prompts such as "How did the Area Model Cards support you in determining the equations for your area model?" and "Why is it beneficial to decompose the multi-digit number into smaller parts when solving division problems?" encourage students to reflect on their problem-solving process, fostering deeper conceptual understanding and strategic thinking.

5.3 Balance of Conceptual Understanding and Procedural Fluency

GUIDANCE	SCORE SUMMARY	RAW SCORE
5.3a	All criteria for guidance met.	2/2
5.3b	All criteria for guidance met.	3/3
5.3c	All criteria for guidance met.	6/6
—	**TOTAL**	11/11

5.3a – Materials explicitly state how the conceptual and procedural emphasis of the TEKS are addressed.

STEMscopes Math helps teachers plan lessons that balance conceptual understanding (why) and procedural fluency (how) through the intentional design of the Explore and Explain lesson components. In the Explore phase, students engage in hands-on tasks using manipulatives, models, or visuals to build deep conceptual understanding of mathematical ideas. This phase emphasizes reasoning, inquiry, and real-world connections, helping students make sense of the why behind mathematical procedures. In the Explain phase, teachers reinforce procedural fluency through clear modeling and guided practice. Students transition from concrete understanding to abstract application through structured instruction and practice. These components of each scope help establish a solid foundation in math concepts and skills.

Materials explicitly state how the conceptual emphasis of the TEKS is addressed in each scope. To do so, every scope includes "Content Support," which describes how to reach conceptual understanding of the TEKS. For example, in the "Compare and Order Numbers" scope, the materials explain how students will compare and order whole numbers up to 1,000,000,000, as outlined in TEKS 4.2C. In this case, students use concrete and visual supports such as place value charts and place value disks to make comparisons. In addition, students use comparative language and symbols to generate comparisons and order numbers from greatest to least and from least to greatest, demonstrating progression from conceptual to procedural understanding.

Teachers guide students through conceptual and procedural TEKS development with embedded supports. For example, teachers introduce decimals as parts of a whole by prompting students to use base-ten blocks to model tenths and hundredths and then guiding them to represent these values in multiple ways—including fraction notation, decimal notation, and word form—within the Explore 1: Relate Decimals to Fractions activity. As students record their models in the Student Journal, they apply conventions of decimal representations by accurately reading and writing decimals and aligning decimal numbers to the hundredths place, progressing from conceptual to procedural understanding of mathematical concepts.

5.3b – Questions and tasks provide opportunities for students to use concrete models, pictorial representations, and abstract models as required by the TEKS.

STEMscopes Math supports the use of the Concrete–Pictorial–Abstract (CPA) progression by embedding opportunities for students to engage with math concepts through hands-on materials, visual models, and symbolic representations. Each scope begins with Explore activities that incorporate concrete models like base-ten blocks or counters. These are followed by pictorial representations such as number lines, area models, or tables, which help students visualize mathematical relationships. Finally, in the Explain and Evaluate sections, students move to abstract models like equations and algorithms, aligning instruction with TEKS expectations and promoting a deep understanding of concepts.

Questions and tasks provide opportunities for students to use concrete models as required by the TEKS. For instance, in the Explore activities of the "Compare Fractions" scope, students use fraction circles and fraction tiles to compare fractions shown on cards. The materials emphasize that students must use the same fraction manipulatives for each scenario to ensure the whole remains the same for their comparisons. Using these manipulatives enables students to progress to more abstract fraction concepts.

In the Explore activity of the "Division Models and Strategies" scope, students use concrete models such as base-ten blocks and other concrete objects to represent division of multi-digit numbers. Students then use pictorial models to represent the division problem. Lastly, they connect their pictorial representation to a corresponding equation with a remainder, providing opportunities for the use of a variety of representations.

5.3c – Materials include supports for students in connecting, creating, defining, and explaining concrete and representational models to abstract (symbolic/numeric/algorithmic) concepts, as required by the TEKS.

STEMscopes Math includes supports that help students connect, create, define, and explain concrete and representational models to abstract concepts. In the Explore activities, students engage in hands-on tasks using manipulatives such as base-ten blocks, color counters, and area mats to build conceptual understanding. The Explain component continues this learning progression by guiding students to transition from pictorial to abstract representations. Through drawing diagrams, connecting them to equations, and ultimately applying standard algorithms, students develop a deeper understanding of the relationship between models and symbolic math.

As required by the TEKS, the materials include supports that help students connect hands-on and visual models to more abstract mathematical concepts. For instance, in the Intervention component of the "Represent and Compare Decimals" scope, students receive support in connecting models to decimals and fractions. The teacher provides guided questions to promote connections between representational models and abstract mathematical concepts, such as "How do your completed sculptures relate to a

base-ten flat? How do your incomplete sculptures relate to base-ten rods? How is your fraction notation connected to your model?"

In the Explore 4: Multi-Digit Subtraction activity, students create concrete models by using place value disks on the Subtraction Work Mat to represent multi-digit values and act out regrouping numbers when subtracting. After building the model, students connect the physical actions to abstract concepts by solving the same subtraction problem using the standard algorithm. The activity also supports students in creating representational models to match a written equation. Moreover, during Math Chat, students define and explain their concrete models by explaining the regrouping process with the use of disks. This sequence reinforces how students progress from physical tools to symbolic strategies through modeling, representation, and structured reflection.

5.4 Development of Academic Mathematical Language

GUIDANCE	SCORE SUMMARY	RAW SCORE
5.4a	All criteria for guidance met.	1/1
5.4b	All criteria for guidance met.	2/2
5.4c	All criteria for guidance met.	1/1
5.4d	All criteria for guidance met.	2/2
5.4e	All criteria for guidance met.	2/2
—	**TOTAL**	8/8

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

Materials provide opportunities for students to develop academic mathematical language using visuals, manipulatives, or other language development strategies. For example, every scope includes a Picture Vocabulary, where students reference vocabulary from the unit in the form of a slide show or flashcards. The slideshow version displays the vocabulary, a visual, and a definition to support building academic vocabulary. The flashcard version displays the vocabulary word and matching visuals. When the vocabulary word is clicked, the word is replaced with the corresponding definition. In addition, included teacher guidance and facilitation points enhance students' vocabulary development experience.

The STEMscopes "Philosophy" document provides the teacher with guidance and research-based experiences for students embedded in the materials for the development of mathematical language. Students engage in academic communication with teachers and peers to foster language development. For instance, the Explore activities include teacher guidance on incorporating academic terms into student learning experiences in the lesson. In addition, these activities include discussion prompts for the teacher to guide students in communicating their thoughts and ideas.

STEMscopes Math supports the development of academic mathematical language by integrating visuals, manipulatives, and structured language support across all grade levels. The Explore activities engage students with hands-on materials such as strip diagrams, base-ten blocks, number lines, and algebra tiles. These manipulatives allow students to physically model mathematical concepts while promoting verbal expression of relationships, strengthening their ability to connect language with mathematical thinking.

5.4b – Materials include embedded educator guidance to scaffold, support, and extend students’ use of academic mathematical vocabulary in context when communicating with peers and educators.

The materials provide embedded educator guidance to help scaffold, support, and extend students' use of academic mathematical vocabulary during instruction and peer interactions. In the "Facilitation Points"

section of the lesson, sample prompts guide teachers to encourage students to use precise mathematical language, such as describing mathematical relationships using correct terminology. Explore activities provide teacher guidance on how to connect academic vocabulary to students' hands-on learning experiences. Furthermore, discussion prompts encourage students to express their thinking using precise mathematical language. Utilizing these strategies supports all learners in developing and using new academic vocabulary within meaningful contexts.

The Picture Vocabulary guides the teacher to scaffold vocabulary by directing the teacher to read definitions aloud, discuss unfamiliar terms, and prompt students to make connections between new terms. Students extend their use of academic vocabulary by rephrasing definitions in their own words, adding personal visuals to their interactive notebooks, and using the terms in ongoing problem-solving and math discourse.

The materials also embed educator guidance to support students' use of academic mathematical vocabulary in context when communicating with peers and educators. At the end of every Explore, the materials include a "Language Supports" section that recommends scaffolds such as sentence stems for group discussions. For example, in the “Area and Perimeter” scope, sentence stems promote academic discourse: "To find the ___ we need to ___. We find the perimeter by ___. We found the area by ___." Utilizing these sentence stems extends students' use of academic mathematical vocabulary in the classroom setting.

5.4c – Materials include embedded guidance to support student application of appropriate mathematical language and academic vocabulary in discourse.

STEMscopes Math provides embedded guidance throughout the curriculum to support students in using precise mathematical language and academic vocabulary during academic discourse. This support appears within the Explore and Explain components of each scope. By integrating these supports into lesson delivery, the curriculum exposes students to mathematical language in meaningful contexts and encourages them to use it consistently, which strengthens both their understanding and fluency.

Materials include embedded guidance to support student application of appropriate mathematical language and academic vocabulary in discourse. Every Explore component found within all lessons contains a Math Chat that includes open-ended questions for the teacher to ask the students, who in turn need to use academic language and content knowledge to provide answers. For instance, in the "Area and Volume" scope, this activity includes questions such as "In what scenarios is it best to use the area formula to solve? Why do the area and perimeter formulas for rectangles also work for squares?" These questions support students in accurately applying mathematical vocabulary within the correct context.

The Picture Vocabulary component in every scope supports students in applying key vocabulary terms. In the Explore section of each lesson, students read and discuss definitions of academic vocabulary presented in the lesson. They then rephrase those definitions in their own words and connect them to

experiences and tasks they encountered throughout the lesson. Additionally, the materials support discourse by encouraging students to visualize each word and describe it aloud and by projecting slides for whole-class discussion. To extend engagement, the platform offers printable flashcards for interactive notebooks and strategies for creating a classroom math word wall, allowing students to continuously revisit and connect mathematical terms and ideas.

5.4d – Materials include embedded guidance to facilitate mathematical conversations allowing students to hear, refine, and use math language with peers.

The materials embed guidance to facilitate mathematical conversations among students. The curriculum offers "Facilitation Points," "Language Connections," and discussion prompts throughout the Explore, Explain, and Elaborate components of the scope that encourage students to engage in peer dialogue using precise mathematical language. These supports help students navigate math language through intentional discourse activities.

Materials include embedded guidance to facilitate mathematical conversations, allowing students to participate in academic discourse with peers. For example, the materials provide guidance to these structured conversations in the "Teacher Toolbox," where they describe different strategies that allow students to engage in discourse in a structured way so that they can hear, refine and use math language with peers. These strategies consist of Turn and Talk, Pair, Square, Share, and Walk, Talk, Decide. These teaching strategies promote deeper understanding and application of academic language amongst peers.

The collaborative tasks in the STEMscopes materials have embedded guidance to facilitate mathematical conversations that allow students to participate in math language amongst peers. For example, the Explore lesson guides include facilitation questions that the teacher can use to support mathematical conversations within the learning tasks. The Math Chats at the end of the lesson guide and facilitate mathematical conversations that allow students to hear, refine, and use math language with peers.

5.4e – Materials include embedded guidance to anticipate a variety of student answers including exemplar responses to questions and tasks, including guidance to support and/or redirect inaccurate student responses.

The materials support educators with tools that help anticipate student responses and inform teaching decisions. "Facilitation Points" in Explore and Explain sections offer examples of both correct and incorrect student thinking, along with recommended questions or strategies to guide students toward accurate understanding. The Evaluate sections provide rubrics and sample student work exemplifying proficient understanding of key concepts. These features allow teachers to quickly assess student progress and address learning gaps in real time. Furthermore, teachers can anticipate a variety of responses, identify misconceptions, and provide focused instructional support for those in need.

The materials include intervention strategies for additional student support with guidance on redirecting inaccurate student responses and solutions. For example, the Small-Group Intervention of the "Compare

Fractions" scope anticipates a variety of student answers by guiding students to compare mixed numbers using multiple strategies, including constructing equivalent fractions, comparing with benchmark fractions, and modeling with tiles or number lines. The materials support and redirect inaccurate responses through embedded corrective questions, including "What did we do to our mixed number to get the same denominator? How does the number line representation show how the fractions compare?" These guiding questions enable students to reflect on their incorrect responses and misunderstandings to reach accuracy when comparing fractions.

Materials include embedded guidance to anticipate a variety of student answers, including exemplar responses to questions and tasks. For example, in the Math Chat activity for the "Angles" scope, the materials include possible student responses in red for each teacher prompt. For instance, for the question "Why do angles have to be adjacent to determine the total angle measurement?" the materials provide the following suggested answer: "If there is a gap between the angles, there will be a part of the total angle that is not added in. If they overlap, then you are counting part of the measurement twice. You will not get the correct total angle measurement when adding the parts together." Providing this support prepares the teacher with anticipated student answers and equips them to redirect student misconceptions in real time.

5.5 Process Standards Connection

GUIDANCE	SCORE SUMMARY	RAW SCORE
5.5a	All criteria for guidance met.	1/1
5.5b	All criteria for guidance met.	2/2
5.5c	All criteria for guidance met.	1/1
—	**TOTAL**	4/4

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

STEMscopes Math integrates TEKS process standards throughout the curriculum by embedding them into lesson objectives, activities, and assessments. These standards appear in the "Scope Overview" and are reinforced in different components of the scope such as Explore, Explain, Elaborate, and Evaluate. For example, students engage in mathematical reasoning, problem solving, communication, and representation through hands-on tasks, discussions, and real-world applications aligned with TEKS process standards. Teacher guidance regularly shows how to support these process skills, ensuring they are woven into daily instruction rather than treated as separate lessons.

The scopes' Explore lessons include real-world problem-solving tasks to integrate TEKS process standards. For example, the guiding questions within the lessons support reasoning and communication, reinforcing the process standards. Through the facilitation and discussion questions, students outline their approach and select strategies to solve problems. Furthermore, use of the Student Journal provides students with opportunities to create visual representations, solve problems, and justify their solutions. Additionally, reflection questions prompt students to reflect on their problem-solving process, the strategies they used, and the reasonableness of their responses.

Small-Group Intervention activities found within all scopes integrate TEKS process standards by engaging students in in-depth mathematical activities. For example, the intervention lesson for the "Points, Lines, and Angles" scope includes a two-part task where students identify, compare, and draw geometric parts and line relationships following the required criteria and apply the concepts to visual design contexts such as home blueprints and street maps. Students color-code and label diagrams and engage in peer dialogue to represent points, rays, angles, and relationships. Lastly, they explain how the visual representations match the geometric definitions. These activities immerse students in real-world mathematical situations requiring them to analyze, formulate solutions, and justify their reasoning.

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

STEMscopes Math integrates the TEKS process standards throughout its instructional design. This integration is evident in the "Facilitation Points" within the Explore component of every scope. These points offer teacher prompts to guide students to explain their reasoning, use representations to justify

answers, compare different strategies, and engage in peer discussions. By embedding these practices into each lesson, the materials support ongoing development of problem-solving, critical thinking, and mathematical communication. Moreover, the materials include a description of how process standards are incorporated and connected throughout the learning pathways, ensuring that students build both conceptual understanding and strategic thinking in a cohesive, integrated way.

The materials incorporate and connect the TEKS process standards throughout the learning pathways. In the Explore activities, students engage in real-world problem-solving scenarios in the lesson guide and in the Student Journal. Guiding questions throughout the lesson support students' reasoning and communication, while the Student Journal provides opportunities to create visual representations, solve problems, and justify their solutions.

The curriculum is framed around research-based strategies described in the "Math Philosophy" document. The document outlines how the process standards are embedded throughout the learning pathway. For instance, the Explore activities engage students in real-world problem-solving tasks requiring them to justify their solutions and reasoning through strategy comparisons and classroom dialogue. The program connects these standards across the learning pathway by utilizing research-based instructional strategies such as the Concrete–Representational–Abstract (CRA) progression and Daily Numeracy for fluency. Integrating these instructional practices supports student progression from concrete modeling to standard algorithms, enabling them to support conceptual reasoning and mathematical communication.

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

The materials include an overview of the TEKS process standards embedded into each lesson through components in the "Content Support." This guides teachers in helping students apply process skills—such as problem solving, reasoning, communication, and making real-world connections—through hands-on and open-ended tasks.

Educators are provided with an overview of the process standards integrated in each lesson. For example, the Explore 2 lesson of the "Place Value of Whole Numbers" scope outlines the TEKS process standards addressed in the lesson. In addition, the overview explains how students apply these standards throughout the lesson, such as using place value disks and clue cards to build and compare numbers, recording multiplication expressions to represent digit values, and justifying place value relationships. Lastly, in the Math Chat, students use precise mathematical language to explain their group's lock code and reasoning for each value placement on the place value chart.

Each scope embeds guidance for teachers by summarizing the TEKS process standards addressed in each lesson. For example, the "Scope and Sequence" document in the "Teacher Toolbox" includes a chart outlining all standards—TEKS, mathematical process standards, and ELPS (if applicable)—covered in each

Explore component. It also provides teacher guidance on the number of Explore components, standards taught in the lesson, and the number of instructional days allotted for each lesson.

6. Productive Struggle

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

6.1 Student Self-Efficacy

GUIDANCE	SCORE SUMMARY	RAW SCORE
6.1a	All criteria for guidance met.	3/3
6.1b	All criteria for guidance met.	3/3
6.1c	All criteria for guidance met.	3/3
—	**TOTAL**	9/9

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

Materials provide opportunities for students to think mathematically. For example, in the Intervention component of the "Compare Fractions" scope, students use two randomly selected fraction cards to compare. Then, the teacher prompts students to think mathematically by asking questions such as "What if you did not have a model or a number line to build the fractions? What could you do? What would you do if you wanted to use a benchmark number to compare two values, and they were all greater than the benchmark number of 1?" Utilizing these questions promotes independent problem-solving skills for students to apply in future tasks.

The materials prompt students to think mathematically by working in collaborative groups to analyze real-world design problems. For example, the "Solve Problems with Area and Perimeter" scope requires students to apply area and perimeter formulas in the Explore activity to promote perseverance through solving problems. Students estimate, use visual models, and rework equations to determine unknown values. In addition, students use formulas and inverse operations to explain and justify their solutions verbally with peers and in written form in the Student Journal. Following this framework guides students through the problem-solving process.

The materials provide opportunities for students to make sense of mathematics. For instance, the Division Models and Strategies: Explore lesson prompts students to reflect on their problem-solving process and solutions by answering prompts such as "How can an array model support you in creating an area model? Describe how to use an area model to divide multi-digit numbers." This further supports students in developing stronger conceptual comprehension rather than memorizing the procedure.

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

STEMscopes Math provides students with multiple valid ways to approach and solve mathematical problems. Rather than focusing solely on a single correct method, the curriculum fosters flexible thinking

and strong reasoning skills. In both the Explore and Explain activities, students engage with a range of strategies and tools such as manipulatives, visual models such as area models and number lines, equations, and algorithms. They are then encouraged to justify their thinking and explain their solutions using appropriate academic vocabulary, reinforcing their conceptual understanding and communication skills.

Materials support students in a deeper understanding of mathematical concepts and justifying multiple ways to complete tasks. For example, in the "Add and Subtract Fractions and Mixed Numbers" scope, students explore various strategies for adding and subtracting fractions and mixed numbers, such as utilizing visual fraction models, number lines, fraction circles, and equivalent fraction strategies with common denominators. In the Explore component of the lesson, students complete guided practice problems using a specific method (e.g., drawing models or rewriting with equivalent fractions). Then, as a class, they discuss the different strategies and discuss their approaches, identifying how each method helped them understand the problem and which was more efficient or accurate for that type of problem. This comparison promotes flexibility in thinking and deepens conceptual understanding.

The materials support the students in understanding, explaining, and justifying that there can be multiple ways to solve problems. In the "Multiplication Models and Strategies" scope, students learn various strategies, such as arrays, area models, partial products, and the standard algorithm to solve four-digit by one-digit multiplication problems and two-digit by two-digit multiplication problems. In the Explore component of the lesson, students justify their reasoning with models or manipulatives and demonstrate their understanding with questions such as "When solving a subtraction problem, what do you do if the bottom digit has a greater value than the top digit? Explain." These varied approaches give students the opportunity to select the method that makes the most sense to them.

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

The curriculum offers multiple opportunities for students to actively engage with mathematics by completing, writing about, and discussing concepts. The materials frequently prompt students to write about their thinking in Interactive Journals, Exit Tickets, and Elaborate activities. For example, after solving a multi-step problem, students explain their method, compare it with a partner's strategy, or justify their problem-solving approach. These writing tasks help them organize their ideas, clarify misconceptions, and deepen their understanding.

The materials also require students to make sense of mathematics through multiple opportunities for students to complete, write about, and discuss through peer collaboration. For instance, in the Division Models and Strategies Small-Group Intervention activity, students use base-ten blocks with a partner to decompose dividends, form arrays, and build area models. Students utilize a variety of strategies such as sharing, partial quotients, and standard algorithms to write equations and compose explanations on

work mats. During each modeling phase, teachers pose structured discussion questions such as "How can we divide the remaining value with the divisor? What partial quotient needs to be written at the top of the array?" This framework facilitates peer-to-peer and teacher-guided math discourse and promotes writing in mathematics.

The materials engage students in opportunities to discuss mathematical concepts. For example, in the "Compare Numbers" Explore scope, students compare movie ticket sales. They engage in mathematical discourse based on real-world concepts amongst peers on questions such as "Which movie won?" After peer collaboration, they record their responses in their Student Journal, creating a structure where students reflect and write in a mathematical classroom setting.

6.2 Facilitating Productive Struggle

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

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

The materials support teachers in guiding students to share and explain their problem-solving strategies by embedding instructional guidance and feedback tools throughout the curriculum. Each scope includes "Procedure and Facilitation Points" that prompt teachers to ask students to reflect on their reasoning, compare methods, and justify their solutions. For example, teachers might be directed to ask, "How does your model represent the problem?" or "Why does this strategy work?" These prompts help foster mathematical discourse amongst peers.

Materials support educators in guiding students to reflect on their problem-solving approaches, including explanations, arguments, and justifications. For example, in the Multiplication Models and Strategies: Explore 5 lesson, the teacher guides the students to reflect on their problem-solving approaches by asking questions such as "How did you determine an estimate for the amount of money the store made selling each item? How can you check if the solution to your scenario is reasonable?" These questions require the students to use metacognitive skills to deepen their understanding of mathematical concepts.

The materials support educators in guiding students to reflect and share their explanations to their mathematical processes. For instance, in the Compare Fractions: Explore 2 lesson, students participate in a scenario task where they compare fractions and make decisions based on those comparisons. Then, they argue which option they would rather choose. Lastly, the students reflect in their Student Journal by responding in writing to the following prompts: "When comparing fractions, why is it helpful to create equivalent fractions with the same numerator or denominator?" Posing these types of questions for students promotes in-depth mathematical reasoning skills.

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

STEMscopes Math includes embedded teacher support in delivering explanatory feedback aligned with student responses and anticipated misconceptions. This support is primarily found in the "Procedure and Facilitation Points" within the Explore, Explain, and Evaluate sections of each scope. These points prompt teachers to closely observe student thinking and provide suggestions for addressing common errors. Instead of immediately correcting mistakes, the guidance encourages teachers to ask targeted questions

that help students reflect, revise, and deepen their understanding, reinforcing both conceptual development and problem-solving skills.

The materials include prompts for explanatory feedback based on student responses and anticipated misconceptions. For example, in the Show What You Know: Multi-Digit Addition lesson, students write expressions, estimate solutions, apply the standard algorithm, and state a conclusion for each problem. Teachers evaluate accuracy and reasoning at each step and provide feedback using structured problem-solving routines and manipulatives to clarify common misunderstandings. Additionally, teacher facilitation guidance encourages the use of visual tools and student reasoning to determine if intervention is needed, which supports targeted responses to misconceptions. This framework ensures the educator provides timely feedback.

The materials include prompts and guidance for educators to support student understanding. For example, the "Area and Perimeter" Explore 1 lesson guide provides prompt guidance for explanatory feedback. Feedback prompts and teacher guidance from the "Facilitation Points" includes, "What could you do to find the perimeter of a rectangle? We could add up the length of each side to find the total. Explain that when you have a process like this, you create a formula to follow. What students just said is their formula. Show students how to write the formula for the perimeter of a rectangle." This guide encourages students to reflect on their problem-solving process while the educator addresses misconceptions.