Accelerate Learning Inc.

Supplemental Spanish Mathematics, 5

STEMscopes Texas Math Pulse–Grade 5 Spanish

MATERIAL TYPE	ISBN	FORMAT	ADAPTIVE/STATIC
Supplemental	**9798330804887**	**Digital**	**Static**

Rating Overview

TEKS SCORE	TEKS BREAKOUTS ATTEMPTED	ERROR CORRECTIONS (IMRA Reviewers)	SUITABILITY NONCOMPLIANCE	SUITABILITY EXCELLENCE	PUBLIC FEEDBACK (COUNT)
100%	136	18	Flags Not in Report	Flags in Report	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	1
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; no challenges are identified.	4/4
1.1b	All criteria for guidance met; no challenges are identified.	3/3
1.1c	All criteria for guidance met; no challenges are identified.	2/2
1.1d	All criteria for guidance met; no challenges are identified.	2/2
1.1e	All criteria for guidance met; no challenges are identified.	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 the 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 the 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. It outlines mathematical development across earlier grade levels leading up to grade 5. Progression supports vertical alignment by showing how conceptual understanding is intentionally developed from early numeracy into multi-digit place value, thus 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. Recommendations are also included 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-, mid-, and post-assessment benchmarks, with each assessment carefully aligned with the grade-level TEKS and used to gather data to guide instruction. Additionally, each scope includes a "Scaffolding Instruction Guide" based on "MAP Growth," "Heat Map," or online platforms. The table includes 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 planning decisions. These assessments appear throughout each scope and allow educators to determine if 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, which promotes 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 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 "Volume of Rectangular Prisms" scope, the materials outline how understanding volume builds on prior knowledge from earlier grades and how common misunderstandings about three-dimensional measurement 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 pre-built resources. It also includes tools for leading PLCs such as planning prompts and reminders tied to specific scopes, aiding leaders in consistent implementation and monitoring 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.

The materials include detailed lesson plans with learning objectives aligned to the TEKS. In the "Multiplication and Division Algorithms" scope, the materials specify the TEKS covered, along with corresponding "I can" statements that describe student expectations. The materials also provide a list of student and teacher resources for each lesson. For instance, under the "Engage" section of the "Multiplication and Division Algorithms" scope, the materials list includes one "Phenomena" per class, one projector per class, one whiteboard per student, and one dry-erase marker per student.

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.

Teachers are directed to lead students through scaffolded activities using area models and anchor charts. For example, prompts encourage students to justify their reasoning using comparative statements, which support conceptual clarity and instructional consistency. "Explore 1" of the "Multiplication and Division Algorithms" scope offers detailed teacher guidance that includes instructional goals, hands-on materials, and steps for modeling multiplication and division strategies.

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 contain support for families in Spanish and English to use at home to support students' learning and development for each unit such as activities that reinforce in-class learning, visual representations of strategies, and academic vocabulary used in the unit. Furthermore, the letter supports parental involvement by including activities parents can try at home to aid student learning, thus reinforcing classroom instruction and academic success.

Each unit features a bilingual "Take-Home Letter" that communicates the unit's learning goals, key vocabulary, and home support strategies. The "Take-Home Letter" communicates the prior learning and the unit objectives that the students will be engaging within the upcoming school days. In addition, the letter explains and provides examples of the strategies the students will be using in the unit such as the area model, partial products, and standard algorithm. For example, in the "Multiplication and Division Algorithms" scope, the letter explains multi-digit operation strategies. The letter also includes a summary of what students learned in the unit and a Tic-Tac-Toe (called "Tatetí") with suggestions of different activities that students can do at home to reinforce their learning.

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 not designed for families directly, the clarity of the information 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 are met; no challenges are identified.	2/2
2.1b	All criteria for guidance are met; no challenges are identified.	2/2
2.1c	Materials do not include the capability for the teacher to enable or disable the text-to-speech and content language support, as they are available to all students by default.	2/4
2.1d	All criteria for guidance are met; no challenges are identified.	4/4
2.1e	All criteria for guidance are met; no challenges are identified.	4/4
—	**TOTAL**	14/16

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

The teacher *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, which is 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," which can be used as a formative or summative assessment, and 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. In addition, this document provides the definition and intended purposes for the types of instructional assessments. The materials include examples of how to utilize 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 use 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." As the lesson comes to a close, 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 the activities that will take place in the classroom, including assessments. For each assessment piece, it indicates how long it should take. For example, in the "Multiplication and Division Algorithms" scope, the assessment options include an "Observation Checklist/Facilitation Checklist" and/or a "Skills Basics Student Handout." It also specifies the time devoted to the assessment for the day is 5–15 minutes.

"STEMscopes Math" materials give the teacher a description of the quiz, materials needed, and clear guidance for teachers to administer the assessments efficiently. The "Skills Quiz" section provides a description of the type of quiz being administered. It also provides additional information such as procedure, facilitation, tips, and tricks on how to utilize the assessment and the data obtained from individual student results.

Instructional assessments provide instructions for the teacher to receive the same instruction and testing environment. For example, in the "Divide Decimals Skills Quiz," there is a description of the assessment and the purpose of the assessment. There are also instructions for teacher preparation to administer the exam and provide the teacher with an option to print the digital assessment or assign the assessment online. An allotted time for the assessment of 10–30 minutes can be found in the "Suggested Scope Calendar."

2.1c – Digital assessments include printable versions and accommodations, including text-to-speech, 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 "Add and Subtract 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, and space for handwritten calculations.

The materials guide teachers to generate printable copies via the "Suggested Scope Calendar: Assessments," where students then plot fractional values on number lines and annotate their reasoning directly on paper, which structures conceptual development from representational models to abstract notation.

Digital assessments include accommodations such as text-to-speech 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 provides a speaker button and a dictionary button that allow students to have the questions read aloud to them, as well as utilizing the dictionary to

assist in understanding word meaning. However, the teacher cannot enable or disable those accommodations at will. This is also clearly specified in the document "Assigning Content" under the "Help" tab in the main portal, which can be found within "Step 2" 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 "Benchmarks and Growth Measurement Assessments," students solve TEKS-aligned decimal problems that range from basic facts to strategic reasoning and extended analysis across four cognitive 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. Educators are supported through embedded scaffolds that structure conceptual development 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 5 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, the "Mathematical Fluency: Operations with Decimals" scope requires students to drag-and-drop decimal representations, complete number-line entries, and explain their reasoning in writing. Educators are supported 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 of varying levels of complexity. For example, in the "Perimeter, Area, and Volume" scope, formative assessments include "Exit Tickets" in the "Explore" section where students calculate the perimeter, area, or volume of given shapes using a problem-solving template (skills/concepts, DOK 2). In addition, a set of "Show What You Know" activities in the "Explain" section involves finding missing information (length, width, height, area, or volume) when at least three data points are given (strategic thinking, DOK 3). In the "Elaborate" section, there is a "Spiraled Review," which consists of multi-step word problems (extensive thinking, DOK 4). Furthermore, the conclusion of the unit consists of 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 cognitive demand. Teachers can view and reference 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 "Explore 3," requiring students to analyze area problem situations. In this activity, students will demonstrate their understanding of *area* by analyzing word problems involving rectangles. They will solve for *area* by dividing, writing numerical expressions, and representing the problems using area models. Finally, students will justify their solutions. Furthermore, the "Dividing Decimals Skill Quiz" includes 15 TEKS-aligned questions with text entry responses where 5 of those questions will require students to graph area models to solve equations.

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; no challenges are identified.	1/1
2.2c	All criteria for guidance met; no challenges are identified.	2/2
2.2d	All criteria for guidance met; no challenges are identified.	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. This provides 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, which allows 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* is provided for 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 percent–25 percent: Indicates a need for remediation on prior grade-level content.

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

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

80 percent–100 percent: 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 using included tasks and activities to respond to student trends in assessment performance. For example, in the "Divide 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 the TEKS 5.3E, 5.3J, and 5.3L.

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 "Add and Subtract Decimals" scope, teachers can use the checklist to observe whether students are accurately aligning decimal points, and identify which learners may need scaffolded support. These observations guide educators in selecting follow-up instructional resources aligned to student needs.

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." These "Heat Maps" include reflection sheets, which 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 a "Heat Map" and "Reflection" sheet 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 "Multiply Decimals" scope, the materials guide the teacher to invite the class to a "Math Chat," which allows students to share their observations and learning. Some of the questions included in this activity are, "What patterns did you notice when multiplying factors with the same digits in the different place values?" And "How did you represent the final cake order?" 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 Depths of Knowledge (DOK) levels to engage students and check understanding throughout the activity.

Within the lesson script of the "Multiplication and Division Algorithms" scope, teachers receive pre- and post-exploration prompts that drive real-time checks for understanding. Early in the "Hot-Dog" scenario within the "Explore" tab, students are asked "¿Qué observan? ¿Dónde puedes ver matemáticas en este escenario?" to surface prior knowledge. As the lesson progresses, the teacher pauses for students to explain how multiplying 136 × 16 and dividing by 12 solves the problem, revealing whether learners connect multi-step reasoning. 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; no challenges are identified.	1/1
3.1b	All criteria for guidance met; no challenges are identified.	4/4
3.1c	All criteria for guidance met; no challenges are identified.	2/2
3.1d	Materials do not include educator-controlled options to enable or disable text-to-speech 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; no challenges are identified.	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 pre-requisite or grade-level concepts and skills. For example, in the "Multiplication and Division Algorithms" scope under the "Intervention" tab, students use manipulatives and models to reinforce different strategies to multiply and divide. Students will progress through multiple representations and multiplication scaffolds, including arrays, area models, base-ten blocks, partial products, and the standard algorithm. 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*, which assigns 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 such as "Small Group Intervention" and foundational tasks drawn from earlier grade bands for students who have not yet reached proficiency in pre-requisite or grade-level concepts and skills. Students scoring in the 0–25 percent 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 pre-requisite 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 *parentheses*, *brackets*, *evaluate*, and *numerical expressions* through sentence starters, including "I evaluate the expression by . . ." in the "Numerical Expressions" scope. Students engage in guided problem-solving tasks where they use manipulatives and structured discussion to apply new terms in context. Instruction includes student reminders to connect each term to real-world scenarios and visuals that clarify unfamiliar mathematical references, which support comprehension during exploration. Lessons include built-in prompts that connect these terms to contextual references, which allow 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 can be found in the "Picture Vocabulary" feature, found under the "Explain" tab within each scope. This feature introduces 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 "Represent and Compare Decimals" 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 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 "Mystery Machine" requires students to estimate the solutions of different word problems to complete the task.

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, the "Multiply Fractions" scope features "Picture Vocabulary," "Fluency Builder," and "Math Today" activities for 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 text-to-speech 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 text-to-speech feature, text highlighting, commenting tools, and dictionary mode for assistance. The only feature 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 "Represent and Compare Decimals" scope, students demonstrate their knowledge of decimals by using base-ten blocks and place value discs in "Explore 1." In "Explore 2," they represent their decimal understanding with models and symbols, and express their thinking with a written explanation.

In "Explore 3," students verbalize their ideas through a "Math Chat" and create an anchor chart to demonstrate their understanding.

Students are routed 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.

3.2 Instructional Methods

GUIDANCE	SCORE SUMMARY	RAW SCORE
3.2a	All criteria for guidance met; no challenges are identified.	5/5
3.2b	All criteria for guidance met; no challenges are identified.	2/2
3.2c	All criteria for guidance met; no challenges are identified.	3/3
3.2d	All criteria for guidance met; no challenges are identified.	2/2
3.2e	All criteria for guidance met; no challenges are identified.	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 include explicit prompts and guidance for educators to build knowledge by activating prior knowledge, not only related to the content but across subjects as well. For example, in the "Perimeter, Area, and Volume" scope within "Explore 1," the teacher asks questions like, "What do you already know about rectangles and squares?" After students have discussed these questions, the materials provide other questions that activate prior knowledge related to the content: "What do you already know about the area and perimeter of rectangles? Have you ever seen a dog park? What math might be involved in building a fence?"

The lessons provide teachers with specific and structured opportunities to help students make meaningful connections between mathematical concepts to foster 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.

The "Suggested Scope Calendar" within the "Problem Solve with the Four Operations" 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 points to check for 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 "Multiplication and Division Algorithms" scope, the lesson begins with guided practice where the teacher provides step-by-step instructions to model multiplication and division concepts while monitoring students' work. Then, students work collaboratively, representing multiplication in different forms, including using arrays, base-ten blocks, and area models. In the end, students independently complete the "Checkup" 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 offered throughout each scope for various types of practice and structures. In addition to guided instruction, whole-group instruction, and collaborative experiences in "Explore" lessons, each scope also includes "Intervention" lessons with guidance and resources for small-group, collaborative practice and an individual "Checkup" 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 "Represent and Interpret Data" scope, students play an interactive game to reinforce their learning. Then, in the "Acceleration" section, students watch a video and read an Associated Press article about African penguins. Following the video and reading selection, students respond to math-based questions on the topic such as "How many fewer penguins were there in 2020 compared to 1800? How many rescued penguins weighed more than 7.5 pounds?" 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 "Unit Conversions" scope, students apply unit conversion and proportional reasoning to problems involving the Maasai people in the "Math Today" activity. Teachers guide students using prompts that require conversion across metric and customary units such as "How many liters of milk does a camel produce per day? How many people did that camel feed?" Then, students complete a "Student Page" after viewing a video to answer TEKS-aligned questions. The materials include teacher "Facilitation Points" and discussion structures, which support the implementation of extension tasks.

Materials include both enrichment and extension methods to promote varied forms of student engagement. Enrichment tasks—such as "Acceleration," "Problem-Based Tasks," "Math Today," and "Create Your Own"—encourage students to explore concepts, using 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 ask to assess student understanding and address misconceptions in real-time.

Both prompts and guidance that support educators in providing timely feedback during lesson delivery are found in every scope of the curriculum. 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. This allows 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 "Income, Taxes and Payment Methods" scope, the materials prompt teachers to monitor student progress and check for understanding using guiding questions such as, "What does the government use tax money for? What is a sales tax? What are property taxes?" This approach ensures that educators are conducting 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; no challenges are identified.	1/1
3.3d	All criteria for guidance met; no challenges are identified.	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 document "Proficiency Levels by Domain," which provides educators insight on how to support emergent bilingual students by delivering scaffolded instruction. For example, in the "Represent and Compare Decimals" scope, guidance on

activities where students practice shared reading and note-taking in pairs before correctly reading numbers aloud is included to aid educators in supporting emergent bilingual learners.

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. For example, in the "Add and Subtract Fractions-Explore" scope, the provided sentence stem is, "A model can help with equivalent fractions because ____. Un modelo puede ayudar con fracciones equivalentes 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, which supports educator implementation in state-approved bilingual programs. Teachers are prompted to use "Picture Vocabulary" and "Anchor Charts" to scaffold instruction and support morphological awareness in Spanish. The "Picture Vocabulary" provides student-friendly definitions and visuals to reinforce vocabulary, which serve as a scaffold for language development. For example, in the "Classify Two-Dimensional Figures" scope, the word *congruente* 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, which supports academic expression, vocabulary development, and the establishment of background knowledge. For example, "Explore 1" of the "Unit Conversions" scope guides teachers by "Enfatice la similitud entre el verbo convertir y el término inglés convert."

Guidance for making cross-linguistic connections is provided within the "Explore" section to enhance bilingual support. For instance, the "Explore 1" activity of the "Perimeter, Area, and Volume" 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 meet the needs of diverse multilingual learners.

Support for emergent bilingual students is embedded throughout the curriculum to build academic language and support comprehension. The "Teacher Toolbox," specifically the "Multilingual Learners" section, provides sentence stems in both English and Spanish, and is 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 on metalinguistic transfer, which helps 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 "Add and Subtract Decimals" scope includes a slide for the word *addition* with a corresponding definition, model, and equation 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; no challenges are identified.	2/2
4.1b	All criteria for guidance met; no challenges are identified.	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.

Materials include 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 "Perimeter, Area, and Volume" scope, students will represent and solve problems related to perimeter, area, and volume. At the start of the scope, students engage in a discussion involving a real-world garden plan scenario. Students have to formulate a plan to find the perimeter, area, or volume of the garden. The students then engage in a variety of tasks in the following lessons. For example, in "Explore 5," students will further analyze word problems involving concrete objects (listed in the materials section of the lesson) and use drawings and/or virtual manipulatives to find solutions. Teachers are supported with facilitation questions for formative assessment, as well as an "Exit Ticket" to help differentiate and tailor instruction to meet the individual student needs.

The program contains assessments that align with the depth of understanding required by the TEKS and provide 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 "Multiplication and Division Algorithms" scope, where students analyze pattern rules or model-based problems and justify their solutions using visual representations 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 "Add and Subtract Fractions" scope, during the "Engage" portion of the module, students start by using manipulatives and models to understand the concept of adding fractions with different denominators with the guidance of the teacher. Then, during the "Explore" section, they continue using models and manipulatives as needed to find common denominators to add fractions. As students develop a deeper understanding of the concept, they begin to use more abstract strategies to add fractions, like using multiplication and division to find common denominators. Finally, in the "Explain" section of the scope, students demonstrate grade-level proficiency by adding fractions with different denominators within word problems.

The program includes materials, questions, and scaffolded tasks connecting concepts by asking students to apply their knowledge in progressively more complex ways. For example, in the "Perimeter and Area of Composite Figures" scope, students represent and solve problems related to the perimeter and area of composite figures. Students then are given the dimensions provided on the "Race Route," where they have to find the perimeter and area of rectangles. Lastly, students collaborate to determine the perimeter and area of the shape created when two or more figures are combined. 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, which supports students as they work toward above-grade-level proficiency. For example, in the "Represent and Compare Decimals" scope, students demonstrate proficiency in place value and ordering decimals. In the "Field Day Results Task Cards" activity, students use tools such as place value charts, number lines, virtual place value disks, and other visual aids to solve problems. Lastly, they apply their place value knowledge to answer questions assessing their proficiency of word problems. 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; no challenges are identified.	1/1
4.2b	All criteria for guidance met; no challenges are identified.	1/1
4.2c	All criteria for guidance met; no challenges are identified.	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 5 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, which promotes a cohesive understanding of math. It describes the progression of adding and subtracting fractions using models and their knowledge of factors to find common denominators. They estimate with benchmark fractions to check for reasonableness. As they move through the fraction units, they solve real-world problems and build connections to decimals. Later, they use visual models to multiply and divide fractions, which help students understand the size of products and quotients, laying the groundwork for algebraic thinking.

Materials demonstrate coherence across concepts horizontally within the grade level by connecting relationships. For example, in the "Perimeter, Area, and Volume" scope, during the "Explore" component of the lesson, students discuss how their understanding of arrays and factors supports their ability to calculate area, and how applying the four operations helps them complete the activity, thus building upon prior learning and establishing coherence within the grade level.

In the "Add and Subtract Decimals" scope, students engage in mathematical discourse based on what was previously learned in the current grade. The teacher guides the students in a discussion on rounding numbers to the nearest hundredth, tenth, and whole number by applying students' place value knowledge. In both the activity and the student journal, students apply their understanding of place value and number lines to recognize the relationship between place value and rounding.

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 5, in the "Add and Subtract Fractions" scope within the "Explore 1," the teacher guides students to make connections to what they learned in previous grades by asking, "What do you recall about arrays? What does it mean to make even rows?"

The "Content Support" page for "Add and Subtract Decimals" connects current learning to both prior and upcoming concepts. The "Background Knowledge" describes place-value development from ten-number bundles in kindergarten to rounding and estimation strategies introduced in grades 3–4, showing how earlier skills lead naturally to grade 5 decimal computation. The "Current Scope" page explains how grade 5 students round to the thousandths and justify strategies based on place value. A "Coming Attractions" note previews grade 6 concepts to include rational number operations. 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 "Graph the First Quadrant" scope, students begin with the "Engage" lesson titled "Hook—Perfect Square." In this lesson, they draw on what they have previously learned about measurement such as the difference between horizontal and vertical lines, and the concepts of parallel and perpendicular lines, introduced in the prior grade-level scope. This connection helps activate prior knowledge and sets a strong foundation for graphing in the coordinate plane.

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 to be learned in the current and future grade levels. The "Content Support" 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, feel more confident, 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 "Perimeter, Area, and Volume" scope page builds a coherent bridge from earlier area concepts learned in grade 4 to grade 5 volume learning and previews future rational dimension tasks in grade 6. Background notes recall that students once solved perimeter and area problems with rectangles and now use unit cubes to develop formulas for rectangular prisms. A "Coming Attractions" section signals that this procedural fluency supports grade 6 work in the area of complex figures and volume involving rational numbers, which ensures a forward link in the learning progression. The STEMscopes materials demonstrate coherence across lessons by connecting mathematical concepts and procedures for enhanced student learning. For instance, in the "Multiplication and Division Algorithms Facilitation Points," the teacher activates prior knowledge and enhances the student's ability to understand mathematical concepts and procedures by asking them, "What do you remember about the area of rectangles? What do you already know about multiplication? What do you know about carpets? Have you measured the dimensions of something?" These questions not only draw from

students' existing knowledge, but also help connect current content to future concepts such as measurement.

4.3 Coherence and Variety of Practice

GUIDANCE	SCORE SUMMARY	RAW SCORE
4.3a	All criteria for guidance met; no challenges are identified.	2/2
4.3b	All criteria for guidance met; no challenges are identified.	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 "Spiral Review" that integrates previous skills for students to review. For instance, in grade 5, in the "Spiral Review" within the "Add and Subtract Fractions" scope, questions include calculating perimeter or solving problems that involve division with decimals, which was 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, reinforces concepts and skills, and allows for continuous assessment of student progress. For example, in the "Income, Taxes, and Payment Methods" scope, the "Spiraled Review" section includes four word problems where students apply mathematical process standards to solve problems involving area, volume, and data sets with fractional measurements in a dot plot. In addition, students demonstrate an understanding of coordinate planes by describing the process for graphing ordered pairs on a coordinate plane, providing students an opportunity to apply previously learned content.

The materials provide ongoing exposure to key skills and concepts, ensuring they are reinforced over time rather than only being presented in a single lesson. Previously taught content is incorporated into new contexts, which allows students to recall and apply what they have previously learned. Each scope includes a "Spiraled Review" 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 "Multiply Decimals" scope, multiplication is taught through sequenced progression of strategies that build on one another. Students begin by multiplying decimals using concrete models such as base-ten blocks, then move to visual models like the grid model. Next, they apply arrays and area models before transitioning to the standard algorithm. This scaffolded

approach helps students make connections between representations and methods, which supports conceptual understanding and builds 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 and Division Algorithms" scope, students are given a scenario involving the storage of thousands of video games and asked to apply expanded notation, ratio reasoning, and place value strategies in multi-step problems. 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 found in the "Explore" activities in STEMscopes Math. The "Fluency Practice" includes mixed problem sets that draw on multiple previously learned skills such as operations, number patterns, and geometry, which support spiraled review and help 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, and encourage 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; no challenges are identified.	3/3
5.1b	All criteria for guidance met; no challenges are identified.	2/2
5.1c	All criteria for guidance met; no challenges are identified.	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 such as 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 "Perimeter, Area, and Volume" scope, students interpret information from a real-world scenario involving building a garden. 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 "Frequency Tables and Bar Graphs" scope during "Explore 1." Students interpret mathematical models by recording coin toss results in a frequency table and constructing bar graphs that show totals using labeled axes, a title, and a scale. Teachers guide students to analyze representations by prompting discussion on how to determine interval choices, bar height comparisons, and the effectiveness of single, double, and stacked bar graphs. Students evaluate their completed graphs by reflecting on which format best communicates comparisons, explaining the advantages of specific intervals, and justifying how their group determined the "Fifth-Grade Coin Toss Championship" winner. The "Student Journal" includes scaffolded spaces and multi-part questions that support the interpretation, analysis, and evaluation of frequency tables and bar graphs across real-world scenarios.

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 2" within the "Add and Subtract Fractions" scope, students use fraction tiles to build a model to represent ingredients in a recipe, which they will later use to add and subtract fractions. In addition, students create pictorial representations of mathematical situations under the "Explain 2" component of the lesson where students are asked to draw models of fractions that represent part of a book that people have read. This model will help students compare the fractions and determine the difference between the fractions represented.

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 "Divide Fractions" 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, which promotes flexible thinking. Additionally, tasks such as "Create Your Own," "Problem-Based Tasks," and "Math Today" offer open-ended opportunities for students to apply mathematical concepts creatively and independently, which further reinforces deeper conceptual understanding.

Students apply conceptual understanding as they collaborate to solve multi-step real-world problems during a garage sale scenario under "Explore" within the "Problem-Solve with the Four Operations" scope representing the math using both symbolic equations and manipulatives. They match equation cards to word problems, use place value disks to visualize operations, and write alternate equations and solution statements. For example, students may read a story problem involving multiplying boxes of books and subtracting earnings, then write different expressions such as "2 × 14 × 4" and justify their solutions. They conclude by writing their scenario to match a given equation, which demonstrates 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, in every scope within the "Elaborate" component, the materials 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 "Problem-Solve with the Four Operations" scope, the interactive game, "Mystery Machine," requires students to estimate the solutions to different word problems to complete the task.

5.2 Development of Fluency

GUIDANCE	SCORE SUMMARY	RAW SCORE
5.2a	All criteria for guidance met; no challenges are identified.	2/2
5.2b	All criteria for guidance met; no challenges are identified.	3/3
5.2c	All criteria for guidance met; no challenges are identified.	3/3
5.2d	All criteria for guidance met; no challenges are identified.	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 are designed to build student automaticity and fluency necessary 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 tasks are scaffolded to 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, the grade 5 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, which promotes 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 1" activity of the "Perimeter, Area, and Volume" scope, students evaluate multiple combinations of dimensions to find solutions that meet area and perimeter requirements, using the fewest amount of craft sticks. They test whether a 35-by-40-yard layout yields more area than a 20-by-60-yard. The craft stick modeling task enables students to test and revise combinations of length and width, which promotes flexible reasoning as they switch between factor pairs or trial and error to meet problem expectations. Students demonstrate accuracy by recording dimensions and formulas used to calculate area and perimeter in their "Student Journals." Lastly, they refine and confirm their results through "Math Chat" discussions by comparing strategies and revising any possible errors.

Practice opportunities for students to apply mathematical procedures are integrated throughout the learning pathway. For example, in the "Multiply Fractions" scope, students practice finding the product of a fraction and a whole number using visual models, manipulatives, and a variety of strategies. Finally, students reflect on their methods to adopt more efficient strategies.

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" section of the "Add and Subtract Fractions" scope, students select two fraction cards and choose a strategy to add or subtract them. They then use sorting cards that present word problems involving both decimals and fractions. As students work through these problems, the teacher prompts them to evaluate the efficiency and accuracy of their representations and strategies. Guiding questions such as, "How can we use common fractions and decimals to solve questions like card C more easily?" or "What is your strategy for card E?" help students reflect on and refine their mathematical thinking.

Evaluation of real-world mathematical concepts are included throughout the curriculum. In the "Multiply Decimals" scope, students multiply decimals and participate in a discussion to evaluate their solution strategies and procedures. Facilitation questions support students in developing accuracy and self-monitoring skills when working with decimals: "What are some strategies you can use to check whether the decimal is in the correct place in your product? How can you check whether your answer is reasonable?"

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 are asked to compare solution methods. Teachers facilitate discussions using questions like, "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, which promotes 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 its 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 and Division Algorithms" scope, in the "Explore 1" section, students learn different multiplication strategies like area models and partial products. Guiding questions for the teacher to support students in selecting effective strategies include, "How are the area model and the partial products strategy similar?" "What is the advantage of using the partial products strategy instead of an area model?" These questions prompt students to compare methods, reflect on their efficiency, and make informed choices about the strategies they use.

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 "Represent and Compare Decimals" scope, the lesson guide includes prompts to facilitate student thinking about efficient strategies. Prompts support students in developing a deeper conceptual understanding of decimal placement and comparison using visual representations: "How can you figure out where to plot your decimal on the number line?" "How can we use our number line to help us order decimals?"

5.3 Balance of Conceptual Understanding and Procedural Fluency

GUIDANCE	SCORE SUMMARY	RAW SCORE
5.3a	All criteria for guidance met; no challenges are identified.	2/2
5.3b	All criteria for guidance met; no challenges are identified.	3/3
5.3c	All criteria for guidance met; no challenges are identified.	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, which helps students make sense of the *why* behind mathematical procedures. In the "Explain" phase, teachers are provided with clear modeling and guided practice to reinforce procedural fluency. 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. To do so, every scope includes "Content Support," which describes how to reach conceptual understanding of the TEKS. For example, in the "Represent and Compare Decimals" scope, the materials explain how students will represent the value of the digit in decimals through the thousandths place, as outlined in TEKS 5.2A. In this case, students will represent the values of decimals within the tenths, the hundredths, and the thousandths places using base-ten blocks, place value disks, number lines, expanded notation, and numerals, demonstrating progression from conceptual to procedural understanding.

Guidance on conceptual and procedural TEKS development is embedded in the materials. In the "Explore 1—Order Matters" activity, teachers use real-life examples to show that mathematical expressions stand for real numbers and need to be grouped properly to solve. Students learn that multiplication and division involve equal groups and must be done in the proper order and follow standard algorithms. Lastly, they write and simplify expressions in the "Student Journal" by following the standard sequence of operations and progressing from conceptual to procedural understanding of mathematical expressions.

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, which align instruction with TEKS expectations and promote 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 "Add and Subtract Fractions" scope, students start by using fraction tiles or fraction towers to add fractions with different denominators by creating equivalent fractions with the manipulatives. Using these manipulatives enables students to progress to more abstract fraction concepts.

In the "Explore" activity of the "Classify Two-Dimensional Figures" scope, students engage in hands-on tasks using concrete objects such as quadrilateral shapes and triangle shapes. Students also have access to a virtual Geoboard manipulative to model and illustrate triangles. Moreover, students use pictorial models to explain their work in their "Student Journal." These activities prepare them to solve more abstract questions and tasks such as drawing and identifying a triangle, polygon, or quadrilateral based on the given descriptors in the "Skills Quiz."

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 numbers to decimal models. They are given a number and guided through questions: "How many wholes are in this number?" How many tenths are in this number?" "Which base-ten blocks do you need to represent three tenths?" This questioning continues until the entire number is accurately represented using base-ten blocks to promote connections between representational models and abstract mathematical concepts.

In the "Explore 1—Place Value Relationships" activity, students begin by creating concrete models with base-ten blocks on the "Grid Model Mat" to represent partial products. They then connect their physical

regrouping actions to abstract concepts by solving the same problems using the standard algorithm and recording their process in the "Student Journal." The activity supports creating representational models when students draw shaded rows and columns on the grid to represent decimal factors and determine the overlapping area as the product. Moreover, during "Math Chat," students define and explain concrete models by describing how place value disks or rods were used to model tenths and hundredths. Students also define and explain representational models by interpreting how the shaded grid areas show place value relationships and align with the abstract product. The materials structure each modeling step in guiding students from hands-on experiences to abstract understanding.

5.4 Development of Academic Mathematical Language

GUIDANCE	SCORE SUMMARY	RAW SCORE
5.4a	All criteria for guidance met; no challenges are identified.	1/1
5.4b	All criteria for guidance met; no challenges are identified.	2/2
5.4c	All criteria for guidance met; no challenges are identified.	1/1
5.4d	All criteria for guidance met; no challenges are identified.	2/2
5.4e	All criteria for guidance met; no challenges are identified.	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, teacher guidance and "Facilitation Points" are included to 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 the teacher 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, which strengthens 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, teachers are given sample prompts and questions to encourage students to use precise mathematical language such as asking students to describe 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.

Materials include embedded 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, which provides the teacher with recommendations on how to scaffold and support the development of academic vocabulary by providing sentence stems for students to use during group discussions. For example, in the "Divide Decimals" scope, sentence stems that promote academic discourse include: "The pattern I noticed is ____. The quotient is (greater or less) than the dividend because _____." 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 ensures students are consistently exposed to and using mathematical language in meaningful contexts, which strengthens their understanding and fluency.

Materials include embedded guidance to support student application of appropriate mathematical language and academic vocabulary in discourse. Every "Explore" 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 "Divide Decimals" scope, this activity includes questions such as, "How does a base-ten model represent each part of a division equation?" "How do the models show the relationship between multiplication and division?" 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 are prompted to read and discuss definitions of

academic vocabulary presented in the lesson. Then they 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, which allows 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, which allows 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 among 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" are planned at the closing 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" 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 that clarify what proficient understanding should look like. 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 "Add and Subtract Fractions" scope anticipates a variety of student answers by guiding students to model and explain the addition and subtraction of fractions and mixed numbers with unlike denominators by using fraction tiles and work mats to show different equivalence strategies. The materials support and redirect inaccurate responses through embedded corrective questions, including "What happens when we multiply both the numerator and denominator by the same thing?" "Now that we have common denominators, are we able to add the two fractions?" "Explain." Answers to these questions help clarify confusion around fraction equivalency and operation procedures. These guiding questions enable students to reflect on their incorrect responses and misunderstandings to reach accuracy when adding fractions with unlike denominators.

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 "Represent and Interpret Data" scope, the materials include possible student responses in red for each teacher prompt. For instance, for the question, "What features of a bar graph are important when analyzing data?," the materials provide the following suggested answer: "It is important to read the title and the labels on each axis to know what the graph is about. Then you need to look at the interval on each axis, a key if there is one, and the bars." Providing this support enables the teacher to be prepared with anticipated student answers and be ready to redirect student misconceptions in real-time.

5.5 Process Standards Connection

GUIDANCE	SCORE SUMMARY	RAW SCORE
5.5a	All criteria for guidance met; no challenges are identified.	1/1
5.5b	All criteria for guidance met; no challenges are identified.	2/2
5.5c	All criteria for guidance met; no challenges are identified.	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 are addressed in the "Scope Overview" and 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 the TEKS process standards. Teacher guidance regularly shows how to support these process skills, making sure they are part of everyday learning instead of separate lessons.

The Scopes' "Explore" lessons include real-world problem-solving tasks to integrate the TEKS process standards. For example, the guiding questions within the lessons support reasoning and communication, which reinforces the process standards. Through the facilitation and discussion questions, students outline their approach and select strategies to solve problems. Furthermore, the 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 and the strategies they used, and to evaluate the reasonableness of their responses.

"Small-Group Intervention" activities found within all scopes integrate the TEKS process standards by engaging students in in-depth mathematical activities. For example, the intervention lesson for the "Classify Two-Dimensional Figures" scope includes a collaborative task where students classify and reclassify triangles and quadrilaterals based on defining attributes such as sides, angles, congruence, and line relationships. Students create classification trees, sort category cards, and explain how each polygon fits into overlapping subcategories. Lastly, they analyze geometric terms like *parallel* and *perpendicular* to justify differences between similar shapes. Activities such as these involve students in real-world mathematical situations that require them to analyze, formulate solutions, and justify their solutions.

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 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, which ensures 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 supports students' reasoning and communication. While in the "Student Journal," students 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 that require 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, which enables 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 1" lesson of the "Represent and Compare Decimals" scope outlines the TEKS process standards addressed in the lesson. In addition, the overview explains how students will apply these standards throughout the lesson such as using base-ten blocks and place value disks to model decimal values on a place value mat, writing expressions to represent digit values, and recording expanded notation in both decimal and fractional forms. Lastly, in the "Math Chat," students apply their knowledge of decimals in model representation and word form to engage in precise mathematical language to compare expanded notation and expanded form, and explain their reasoning using precise mathematical vocabulary and representations.

Teacher guidance is embedded within each scope 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; no challenges are identified.	3/3
6.1b	All criteria for guidance met; no challenges are identified.	3/3
6.1c	All criteria for guidance met; no challenges are identified.	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 "Add and Subtract Fractions" scope, students randomly select two fraction cards to add or subtract using their strategy of choice. Then, they use sorting cards to display word problems involving decimals and fractions. Lastly, the teacher prompts students to think mathematically by asking questions such as, "How can we use common fractions and decimals to solve questions such as card C more easily?" "What could you do?" "What is your strategy for card E?" Utilizing these questions promotes independent problem-solving skills for students to apply in future tasks. Utilizing this questioning 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 "Perimeter and Area of Composite Figures" scope requires students to apply visual strategies and formulas in the "Explore" activity to promote perseverance through solving problems. Students solve for unknown sides and compare solution paths. In addition, students use flexible approaches to partition, calculate, and label area and perimeter, and evaluate different methods 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 "Multiplication and Division Algorithms—Explore" lesson prompts students to reflect on their problem-solving process and solutions by answering questions such as, "How are the partial products and standard algorithm strategies similar?" This further supports students to develop 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, which reinforces 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 "Divide Decimals" scope, students explore various strategies for dividing decimals such as utilizing visual models such as base-ten blocks, models, and standard procedures. In the "Explore" component of the lesson, students complete guided practice problems using a specific method (e.g., estimation, area models, and standard calculation). Then, as a class, they discuss the different strategies and discuss their approaches, identify 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 "Multiply Fractions" scope, students learn various multiplication strategies with the use of manipulatives to create area models, diagrams, and number lines to make sense of the process for multiplying a fraction by a whole number. In the "Explore" component of the lesson, students justify their reasoning with models or manipulatives and demonstrate their understanding with the following question: "How does the scenario help you choose which type of model to use?" 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 doing, writing about, and discussing concepts. Students are frequently asked 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.

Materials are designed to require students to make sense of mathematics through multiple opportunities for students to do, write about, and discuss through peer collaboration. For instance, in the "Divide

Decimals Small-Group Intervention" activity, students use base-ten blocks to build area models and solve decimal division problems with a partner. Students utilize a variety of strategies such as estimated quotients, solution statements, and step-by-step recording, to write equations and compose explanations on work mats. During each modeling phase, teachers pose structured discussion questions such as, "Why would 2,952 be rounded to 3,000?" "What do you notice about the quotients?" 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 "Problem-Solve with the Four Operations—Explore 2" scope, students work in pairs to solve problems found in scenario cards. They engage in mathematical discourse based on real-world concepts amongst peers on questions such as, "What is the scenario about?" "How do you solve a scenario without seeing the numbers?" After peer collaboration, they record their responses in their "Student Journal," which creates 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; no challenges are identified.	6/6
6.2b	All criteria for guidance met; no challenges are identified.	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?" "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 "Add and Subtract Fractions—Explore 3" lesson, the teacher guides the students to reflect on their problem-solving approaches by asking questions such as, "How did you find the amount of brownies left on question 2?" "How can you evaluate the reasonableness of your solution?" 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 of their mathematical processes. For instance, in the "Divide Decimals Explore 1" lesson, students estimate quotients when dividing multi-digit numbers to the hundredths by rounding, estimating, and reasoning. Then, they reflect in their "Student Journal" by responding in writing to the following prompts: "When might it be a good idea to leave the divisor as is, and when might it be ideal to adjust the divisor before estimating?" 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, which reinforces 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—Place Value to the Thousandths Place" lesson, students complete decimal tables to represent values in multiple formats. Teachers evaluate accuracy and reasoning at each step, are guided in providing feedback, and use structured problem-solving routines and manipulatives to clarify common misunderstandings. Additionally, teacher facilitation guidance encourages the use of manipulatives 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 "Dividing Fractions—Explore 1" lesson guide provides prompt guidance for explanatory feedback. Feedback prompts and teacher guidance from the "Facilitation Points" include, "If students interchange the dividend and divisor, reinforce the description of the dividend as the total amount being split equally, and the divisor as the number of groups or the size of the groups." This guide encourages students to reflect on their problem-solving process while the educator addresses misconceptions.