# Accelerate Learning Inc.

Supplemental English Mathematics, 6

STEMscopes Texas Math Pulse–Grade 6 English

| MATERIAL TYPE | ISBN | FORMAT | ADAPTIVE/STATIC |
|---|---|---|---|
| **Supplemental** | **9798330804894** | **Digital** | **Static** |

## Rating Overview

| TEKS SCORE | TEKS BREAKOUTS ATTEMPTED | ERROR CORRECTIONS (IMRA Reviewers) | SUITABILITY NONCOMPLIANCE | SUITABILITY EXCELLENCE | PUBLIC FEEDBACK (COUNT) |
|---|---|---|---|---|---|
| 100% | 211 | 2 | Flags Not in Report | Not Applicable | 0 |

## Quality Rubric Section

| RUBRIC SECTION | RAW SCORE | PERCENTAGE |
|---|---|---|
| 1. Intentional Instructional Design | 23 out of 23 | 100% |
| 2. Progress Monitoring | 20 out of 24 | 83% |
| 3. Supports for All Learners | 37 out of 39 | 95% |
| 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 | 21 out of 21 | 100% |

## Breakdown by Suitability Noncompliance and Excellence Categories

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

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

# IMRA Quality Report

## 1. Intentional Instructional Design

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

### 1.1 Course-Level Design

| GUIDANCE | SCORE SUMMARY | RAW SCORE |
|---|---|---|
| 1.1a | All criteria for guidance met. | 5/5 |
| 1.1b | All criteria for guidance met. | 3/3 |
| 1.1c | All criteria for guidance met. | 2/2 |
| 1.1d | All criteria for guidance met. | 2/2 |
| 1.1e | All criteria for guidance met. | 2/2 |
| — | **TOTAL** | 14/14 |

#### 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.

*STEMscopes Math Pulse Grade 6* includes a "Course Rationale," which provides a comprehensive explanation of the instructional design across and within grade levels. The materials include detailed charts that map Texas Essential Knowledge and Skills (TEKS) and topics, accompanied by a written rationale explaining the order in which topics are taught, broken down by each grade level.

Separate "Vertical Alignment Charts" for grades K–3 and grades 4–6 support easy reference to both prior and subsequent instruction. The charts include thorough descriptions and justifications for the progression of content across grade levels.

Additionally, the materials include an "Alignment Guide," which outlines how English Language Proficiency Standards (ELPS) are integrated into instruction. Within the "Scope and Sequence," the ELPS are identified under the "Included Standards" column for each topic at each grade level.

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

Each scope (unit) in the *STEMscopes Math Pulse Grade 6* offers built-in tools to support differentiation and student growth, including intervention and acceleration options, Spiraled Reviews, Observation Checklists, and Skills Quizzes. These features equip teachers with the necessary resources to adapt instruction for a range of student needs.

Materials also include comprehensive program usage recommendations and strategies for effective teaching in multiple settings, including just-in-time supports, advanced learning opportunities, and full-course implementation models.

A flexible "Pacing Guide" is also provided to help educators adjust instruction to their classroom needs, while preserving the coherence of the content. The "Implementation Guide" features a section titled "Various Instructional Calendar Options," with recommendations for both 165-day and over-180-days calendars. These calendars are based on a standard 180-day instructional year.

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

*STEMscopes Math Pulse Grade 6* includes a "Scaffolded Instructional Guide," which helps teachers plan next steps based on student performance on the scope's assessments or diagnostic data, such as Measures of Academic Performance (MAP)  Growth results. The "Scaffolded Instructional Guide" also functions as an integrated tool, directing teachers to targeted materials organized by standard and student percentile ranges, to align instruction with student needs.

The curriculum includes a "TEKS Correlation Guide," which maps the standards to instructional content and includes recommended skill entry points based on diagnostic assessment results. A "Differentiation Pathways Document" is included in the lesson planning resources, offering support to meet students at their current level and guide them toward mastery.

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

The "Curriculum Design and Implementation Guide" includes clear steps and guidance to help teachers understand the intent and order of lessons.

The "Content Support" sections of each lesson serve as valuable resources for Professional Learning Community (PLC)  meetings, supporting collaborative planning and discussion of instructional strategies, background knowledge, academic vocabulary, and potential student misconceptions.

The "Lesson Internalization Section" provides a step-by-step process for lesson preparation. It includes the following: review of scope and individual lesson objectives, identification of essential vocabulary and success criteria, a list of required manipulatives and materials, and a link to a take-home letter to support family involvement.

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

*STEMscopes Math Pulse Grade 6* includes professional development offerings, such as training modules and implementation guidance, specifically designed for instructional leaders. These resources support leaders in understanding the curriculum to guide and coach teachers in using the materials effectively and accurately. "Administration and Instructional Support" offers concrete suggestions for how leaders can build sustainable instructional systems around the curriculum.

Materials offer comprehensive reports and dashboards that present actionable student performance data. Instructional leaders are equipped with specific strategies and tools to effectively interpret and use the performance data. These tools support planning, enhance instruction, and ensure teaching practices align with the program's design and learning goals.

Each scope includes several resources, such as "Content Support," "Scaffolded Instruction Guides," and "Intervention Materials." Although these are teacher-facing materials, these same tools are also valuable for instructional leaders to support data-driven decision-making, responsive instruction, and continuous teacher development.

## 1.2 Lesson-Level Design

| GUIDANCE | SCORE SUMMARY | RAW SCORE |
|---|---|---|
| 1.2a | All criteria for guidance met. | 7/7 |
| 1.2b | This guidance is not applicable to the program. | N/A |
| 1.2c | All criteria for guidance met. | 2/2 |
| — | **TOTAL** | 9/9 |

### 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.

*STEMscopes Math Pulse Grade 6* includes detailed lesson plans for each scope tile with clearly stated learning objectives, as well as alignment to the TEKS and ELPS. The lessons follow a 5E instructional model—Engage, Explore, Explain, Elaborate, and Evaluate—with detailed timing and lesson activities accessible through dropdown menus and embedded links within the lesson plan. Planning guides accommodate different instructional formats, offering flexible options for 50-minute classes or block scheduling with whole-group or small-group plans broken down by day and activity.

Each lesson includes a thorough list of resources for both teachers and students. These resources may include manipulatives, calculators, and printable materials. For instance, in the grade 6 scope "Integer Operations," each group is expected to use a set of two-color counters and an integer operation work mat. The lesson also provides access to printable worksheets to support learning.

Assessment resources are aligned with the TEKS and ELPS and are embedded within each topic. At the end of each lesson, "Assessment Options" provides various evaluation tools such as Structured Conversations, Exit Tickets, Show What You Know tasks, Skills Quizzes, formal evaluations, and "mall Group Intervention Checkups.

### 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).

*STEMscopes Math Pulse Grade 6* includes academic resources, exit tickets, and activities available in both English and Spanish. Each lesson features a "Take-Home Letter" provided in both languages that outlines

the learning objectives, vocabulary, examples, and suggested activities for families to support learning at home.

The "Take-Home Letter" explains how concepts apply to real life, such as the use of ratios and rates in daily situations. Each scope guides teachers on how to use these letters, which contain visual aids, strategies, and academic terms to reinforce classroom learning and promote student progress with family involvement.

For each new scope, a designated "Take-Home Letter" is included and recommended for distribution the week before introducing new material. These letters explain the concepts to be covered and offer strategies for families to support their child's progress. For example, the grade 6 scope "Integer Operations" includes "Math Outside the Classroom," which allows conversations between students and families about how banking and credit are used in everyday life connecting classroom learning to real-world contexts.

# 2. Progress Monitoring

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

## 2.1 Instructional Assessments

| GUIDANCE | SCORE SUMMARY | RAW SCORE |
|---|---|---|
| 2.1a | All criteria for guidance met. | 2/2 |
| 2.1b | All criteria for guidance met. | 2/2 |
| 2.1c | Materials did not include text-to-speech that educators can enable or disable to support individual students. Materials did not include content and language support that educators can enable or disable to support individual students. | 2/4 |
| 2.1d | All criteria for guidance met. | 4/4 |
| 2.1e | All criteria for guidance met. | 4/4 |
| — | **TOTAL** | 14/16 |

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

*STEMscopes Math Pulse Grade 6* includes a list of three diagnostic assessments—Accessing Prior Knowledge, Benchmark Assessments, and Growth Measurement Assessments—each with a definition and purpose. Growth Measurement Assessments are used to track student progress toward grade-level standards over the academic year. The "Assessments Tab" allows assignment of package assessments and provides a breakdown of benchmark assessments into pre-, mid-, and post-assessments, detailing each assessment and its instructional use. It also includes explanations of growth measurement and quantile measures. The "Implementation Guide" outlines all assessment types, identifies the type of each assessment activity, and provides brief overviews for their use.

Materials include lists of both formative and summative assessments, each with a brief definition and stated purpose. Formative assessments include Exit Tickets, Decide and Defend, and Small-Group Interventions, which are used to evaluate student understanding during instruction. For example, Small-Group Interventions assess comprehension after targeted support sessions. Summative assessments include Skills Quizzes, Standards-Based Assessments, Technology-Enhanced Questions, Benchmark Assessments, and Growth Measurement Assessments, all designed to measure student mastery of content after instruction.

Materials clearly outline the intended purpose of various instructional assessments within each scope tile, including in the "Suggested Scope Calendar." For example, the "Rational Numbers" 6.2ABCD scope includes formative assessments such as an Observation Checklist and a Skills Quiz, both of which include descriptions explaining their purpose.

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

*STEMscopes Math Pulse Grade 6* provides clear guidance for teachers on how to accurately administer the assessments embedded in each lesson, different options for assessments, and a recommended time to complete each assessment.

Each assessment in the individual scopes tiles is accompanied by a guiding document that provides an overview of the assessment, outlines timeframes for each task, and offers step-by-step instructions for administering each component.

Materials include guidance for teachers to accurately administer the formative assessments. For example, in the "Integer Operations" scope, Day 1 "Closure, and Formative Assessment Options" include two options, Structured Conversations and Anchor Chart: Explore 1, that are each allotted ten minutes. Procedure and Facilitation notes appear with questions, prompts, and routines, including ten different methods for students to engage with various-sized groups and have structured conversations such as Around the Room, Back and Forth, Conga Line, and Four Corners.

## 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.

*STEMscopes Math Pulse Grade 6* includes digital assessments that provide accommodations, including the option for educators to enable or disable calculator tools to support individual student needs. These tools include four-function, graphing, and scientific calculators.

Materials include digital assessments, such as Skills Quizzes and Benchmark Assessments, which are fully formatted for seamless printing to ensure immediate accessibility for offline use.

Materials did not include text-to-speech that educators can enable or disable to support individual students.

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

TEKS-aligned tasks and questions are designed with varying levels of complexity. For example, in the grade 6 Middle-of-Year Benchmark Assessment, students complete a Venn diagram to show relationships between numbers by typing answers on the Venn diagram, drag and drop answers to put temperatures in the correct order, record answers by typing digits, and match expressions with its equivalent expression by selecting answers from a drop-down.

Materials include diagnostic assessments that incorporate a variety of interactive item types such as text entry, drag-and-drop tools, inline choice, and multi-select answers, all aligned with the TEKS.

Materials include diagnostic assessments featuring a range of interactive item types, with at least two or more unique question formats to engage students in diverse ways. Benchmark assessments are provided at three key points—pre, mid, and post—with tasks that increase in difficulty to monitor and support student growth over time. Available question formats include multiple choice, multi-select, and text entry.

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

*STEMscopes Math Pulse Grade 6* materials include TEKS-aligned formative assessment tasks and questions that vary in complexity, ranging from Basic Recall Depth of Knowledge (DOK) 1 to Extensive Thinking (DOK 4). For example, the Banking and Credit Skills Quiz for Grade 6 assesses a range of financial literacy skills. At DOK 1, students distinguish between debit and credit cards. At DOK 2, they compare and contrast the features of checking accounts and debit cards. At DOK 3, they balance a check register involving deposits, withdrawals, and transfers. At DOK 4, students solve real-world financial problems and explain their reasoning. These assessments are embedded throughout the lessons and include a variety of tools such as exit tickets, observation checklists, skills quizzes, and instructional tasks to support ongoing formative evaluation of student understanding.

Materials include formative assessments with more than two unique interactive item types, such as multiple-choice, graphing, text-entry, number lines, drawing, and short answer questions, all aligned with the TEKS. For example, the Skills Quiz within the "Represent and Interpret Data" scope tile features graphing on a coordinate plane, open-ended tasks that require completing a grid, and text-entry questions for students to input their responses, offering varied ways for students to demonstrate understanding.

Grade 6 formative assessments include Show What You Know tasks, which incorporate at least two interactive item types. For example, students may draw double number lines to make predictions, type their predictions in complete sentences, respond to fill-in-the-blank questions, and use special characters to write answers in fraction form. Additionally, the Small Group Intervention Check Up assessment includes multiple interactive formats, such as fill-in-the-blank questions, tools for plotting bar graphs, interactive stem-and-leaf plots, and prompts requiring students to type responses in complete sentences. These varied formats provide multiple ways for students to engage with and demonstrate their understanding of the content.

## 2.2 Data Analysis and Progress Monitoring

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

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

*STEMscopes Math Pulse Grade 6* includes a "Scaffolded Instruction Guide" for each scope lesson that offers guidance on interpreting student performance using data and outlines instructional next steps. It organizes support into four percentile ranges per standard: Previous Grade Level Remediation with small-group interventions, Grade Level with Supports using small-group materials, Grade Level with visual supports, and Extending Grade Level with acceleration activities.

Materials provide answer keys for assessments; however, many lack detailed explanations or rationales for correct and incorrect responses. A specific example from Grade 6 mathematics highlights this gap: "A total of 45% of students made an A on their math test. Which answer choice represents this amount as an equivalent fraction?" The question requires students to convert 45% to a fraction. While the correct answer, 9/20, is provided, there is no accompanying explanation showing that 45% means 45 out of 100, which simplifies to 9/20.

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

*STEMscopes Math Pulse Grade 6* provides guidance on using tasks and activities to address student performance trends on assessments. Each scope's "Standard Lesson" includes an "Intervention" subsection with targeted resources for small group instruction. For example, in the grade 6 "Coordinate Plane" lesson, the teacher checklist outlines key skills such as identifying and plotting ordered pairs, using parts of the coordinate plane, and applying quadrant numbers and sign patterns. These focus areas help teachers make meaningful instructional connections and address specific student needs based on assessment data.

Materials and suggested activities are organized by student percentile ranges, with clickable links directing educators to targeted resources. In the grade 6 "Fractions, Decimals and Percents" scope, which

addresses TEKS 6.4EFG and 6.5BC, each standard includes recommended activities based on performance levels. Students scoring 0–25% are guided to "Previous Grade Level Remediation" with links to grade 4 resources relating to fractions and decimals, Fluency Builders, and a Skills Quiz. Scores between 25–50% fall under "Grade Level with Supports," offering links to grade 6 activities such as Skill Review and Practice. The 50–80% range is categorized as "Grade Level," with links to tools like Picture Vocabulary, Interactive Vocabulary, and Fluency Builder.

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

*STEMscopes Math Pulse Grade 6* features a visual growth tracker designed to enhance student engagement throughout their learning journey. Each scope includes an editable Observation Checklist progress chart, allowing students and teachers to reflect learning. This tool helps both student and teacher identify areas of improvement and set new learning goals. For example, a key concept in the grade 6 scope on "Banking and Credit" includes students distinguishing between debit and credit cards. Students can provide responses with examples of how to achieve the skill and select from options such as "I've got it," "almost there," or "not yet."

Materials include user-friendly data trackers that help students record and visualize their progress on benchmark assessments. Each assessment features a Heat Map where students mark correct answers in green and incorrect ones in red, aligned to specific standards. Following this, students complete four reflection questions to deepen self-awareness, such as identifying which skill they felt most confident with and why.

Materials include "Student Goal Setting" print files that help students set goals for each scope based on specific objectives and track their progress toward achieving them. This feature also offers procedures and facilitation guidance for teachers to support the goal-setting process.

Materials incorporate the "Quantile Framework," which outlines over 550 math skills and assigns each a difficulty rating to compare concepts. This framework helps teachers monitor student growth, identify gaps in understanding, and provide appropriate support or enrichment. Students with an on-target quantile measure are ready for grade-level skills, those below target need to focus on prerequisite skills, and those above target can work on more advanced, upcoming concepts.

### 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.

STEMscopes *Math Pulse Grade 6* includes prompts in the "Procedure and Facilitation Points" sections that guide educators to pause and ask targeted questions during lessons. The Explore 1 activity offers a detailed plan that supports teachers in checking for understanding through DOK questioning. For example, in the grade 6 scopes "Represent and Interpret Data," questions are posed such as, "What are

some possible responses that yield variability?", "How could these responses be represented on a dot plot?", and "How can they be represented on a stem-and-leaf plot?"

Materials include printed lesson plans with built-in prompts for teachers to pause and check for understanding at key moments, such as after introducing a concept or before transitioning to a new activity. For example, the "Monitor and Talk" section provides guidance for formative assessment by prompting teachers to ask questions like, "How do you change fractions to decimals or decimals to fractions?" These checks help assess student understanding, encourage discussion, and provide opportunities to clarify misconceptions in real time.

Materials include "Instructional Supports" and "Language Supports" sections that offer educators guidance for checking understanding throughout lessons. In the "Multiply Fractions" scope under "Explore," these sections provide targeted suggestions at key points in instruction. For example, within the "Instructional Supports" section, the guidance includes specific strategies for assisting students who may need additional help visualizing the *y*-axis or plotting ordered pairs. These supports help teachers address learning gaps in real time and ensure that all students can engage meaningfully with the content.

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

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

# 3. Supports for All Learners

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

## 3.1 Differentiation and Scaffolds

| GUIDANCE | SCORE SUMMARY | RAW SCORE |
|---|---|---|
| 3.1a | All criteria for guidance met. | 1/1 |
| 3.1b | All criteria for guidance met. | 4/4 |
| 3.1c | All criteria for guidance met. | 2/2 |
| 3.1d | Digital materials do not provide accommodations for text-to-speech that educators can enable or disable to support individual students. | 1/3 |
| 3.1e | All criteria for guidance met. | 2/2 |
| — | **TOTAL** | 10/12 |

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

*STEMscopes Math Pulse Grade 6* provides explicit educator guidance for lessons and activities scaffolded for students who have not yet reached proficiency in prerequisite or grade-level concepts and skills. Each scope includes a "Scaffolded Instruction Guide," which uses data from the scope's assessments or MAP Growth assessments to direct teachers to appropriate materials based on individual student needs. Scores ranging from 0%–25% indicate a need for remediation of previous grade-level content, while scores between 25%–50% suggest students are approaching grade-level expectations and may benefit from additional support. The guide includes a chart with suggested activities for each performance level, complete with live links to the corresponding resources.

Materials include an "Intervention Section" that offers educators targeted guidance on lessons and activities designed for students who have not yet mastered prerequisite or grade-level concepts and skills. This section provides a comprehensive set of resources, including a list of required materials, preparation steps, detailed procedures, facilitation tips, and printable files to support effective implementation of small group intervention activities. For example, in the grade 6 scope "Triangle Properties," the "intervention" subsection—"Skill Review and Practice"—provides educators with targeted guidance and students with supportive materials such as Quick Check, Review, and Checkup activities.

### 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.

*STEMscopes Math Pulse Grade 6* materials include explicit educator guidance for language supports, including embedded supports for developing academic vocabulary. Each scope contains "Picture Vocabulary" with teacher instructions on preparation, procedure, and facilitation points, and trips and tricks, as well as the ability to assign the vocabulary in English and Spanish.

Materials include explicit educator guidance for language development, with embedded supports for unfamiliar terms and references within the text. For example, in the "Triangle Properties" scope, the "Explore" tab includes three distinct activities, each with its own "Language Support" section tailored to that specific activity. These include providing illustrations or examples of key terms and phrases, such as triangle inequality theorem, triangle, and length; prompting students to share prior knowledge about triangles before the lesson; and offering sentence frames and a vocabulary word bank.

Materials for each STEMscopes standard lesson provides explicit educator guidance for language supports, such as pre-teaching strategies to develop academic vocabulary. This section includes strategies for integrating vocabulary into pre-teaching exploration activities and provides clear guidance on how to create scenarios that promote both written and verbal use of academic language. Supports include sentence stems, modeling techniques, and structured opportunities for both independent and whole-group practice, ensuring students build language skills alongside conceptual understanding.

Materials include instructional supports that recommend reviewing or pre-teaching unfamiliar references to build background knowledge. The materials provide frequent, structured opportunities for students to engage in partner and group discussions using academic language and vocabulary. To support language development, the materials also include a visual glossary featuring images and videos that help explain new terms and reinforce vocabulary understanding in a multimodal way.

### 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.

*STEMscopes Math Pulse Grade 6* includes explicit educator guidance for extension activities for students who have demonstrated proficiency in grade-level and above-grade-level content and skills. The "Acceleration" subsection provides activities with explicit guidance to help educators facilitate student engagement in real-world applications of mathematical concepts. For example, in the grade 6 scope "Triangle Properties," the Acceleration activity "Would You Rather—Garden Fencing" offers step-by-step instructions for educators to guide students through a practical scenario involving the use of triangle properties to explore options for fencing a garden.

Materials include a "Scaffolded Instruction Guide" for each scope. This guide offers teachers a step-by-step plan to support students who have demonstrated proficiency in grade-level content and skills. For example, in the grade 6 "Integer Operations" scope, the teacher guidance provides a list of activities including fluency builders aimed at students at grade-level. Meanwhile, students above-grade-level will engage in another activity that requires written reasoning and creativity in answers.

Materials include explicit educator guidance for enrichment activities designed for students who demonstrate proficiency in grade-level skills. These enrichment opportunities are embedded throughout the STEMscopes standard lesson scopes and include hands-on activities and group projects that allow students to explore concepts in greater depth. For example, in the grade 6 scope "Triangle Properties," the "Elaborate" subsection features an interactive practice activity called Droid Quest. In this activity, students apply their understanding of triangle properties to help a droid navigate its way home.

Materials include Take-Home Letters that include extension activities for students to do at home with family members.

### 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.

*STEMscopes Math Pulse Grade 6* materials provide calculators that educators can enable or disable to support individual students. Within each scope, educators can enable or disable a four-function calculator, a scientific calculator, or a graphing calculator for any activity that can be assigned digitally to students.

For example, in the "Triangle Properties" scope, there are three Show What You Know student activities that can be assigned online, each with options for calculator use.

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 that the teacher can enable and disable is the calculator.

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

*STEMscopes Math Pulse Grade 6* includes educator guidance on supporting students in demonstrating their understanding of mathematical concepts in multiple ways—such as performing, expressing, and representing their learning. Each scope and its corresponding Explore activities offer suggestions for varied methods of student expression. Educators use tools such as physical and digital manipulatives, supplemental aids, and collaborative group work to support diverse learners. For example, in the "Area and Volume" scope, the teacher guidance recommends that students work in groups of four to solve problems using cut-out shapes to support hands-on learning. It also references supplemental aids available in the "Intervention" section to further reinforce understanding. Additionally, the lesson provides instructional supports such as the use of anchor charts displaying polygon names and angle types, helping students make visual connections to key geometric concepts.

Materials provide guidance to educators on offering students multiple options to demonstrate their understanding of mathematical concepts. The "Evaluate" subsection of each STEMscopes standard lesson scope includes a "Student Handout" and a "Teacher Observation Checklist" to guide educators in presenting varied assessment options. In the Student Handout, students demonstrate their understanding through modeling, drawing, application, discussion, and written explanation. The accompanying Teacher Handout offers multiple methods for evaluating student knowledge, including physical and pictorial modeling, problem solving, group discussion, and written responses.

## 3.2 Instructional Methods

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

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

STEMscopes Math Pulse Grade 6 includes explicit prompts and guidance for educators to support knowledge building. For example, in the "Content Support" section of the "Fraction, Decimals, & Percents" scope, educators are guided to help students model decimals and fractions and identify them on a number line, building on their understanding of how decimals relate to fractions through place value. Building on this foundation, they will next learn to relate percents to both fractions and decimals.

Grade 6 STEMscopes Math materials include specific prompts and guidance for educators to build student knowledge by highlighting and connecting key patterns, features, and relationships through multiple means of representation. For example, in the "Triangle Properties" scope under the "Suggested Scope Calendar" and "Content Support," a short pre-teaching summary is provided to educators to explain how the lesson activates prior knowledge and connects to broader mathematical concepts and skills. To anchor big ideas and support conceptual understanding, the "Explore," "Explain," and "Elaborate" tabs incorporate visual models, real-life scenarios, animations, and interactive practice that emphasize and connect critical mathematical features and relationships.

Materials provide clear prompts and guidance to help anchor key concepts. For instance, after introducing the topic of rational numbers, educators are encouraged to engage students with guiding questions: "*What types of numbers on the Rational Numbers Clue Cards are you familiar with? Where have you seen these numbers* before? What is a rational number?" These questions promote prior knowledge activation, mathematical discourse, and conceptual understanding.

Materials include lessons that provide explicit guidance for educators to build student knowledge by anchoring instruction in key mathematical concepts. For example, in "Explore 2: Ratio Tables and Graphs," the materials guide educators to focus instruction on the big idea of equivalent ratios and proportional reasoning within a real-world context—Trixie's fruit farm. Students engage in tasks that

involve analyzing and constructing ratio tables, ordered pairs, and graphs, which highlight and connect key features across multiple means of representation.

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

*STEMscopes Math Pulse Grade 6* includes educator guidance for effective lesson delivery and facilitation using multiple instructional approaches, such as direct instruction, guided practice, inquiry-based learning, collaborative learning, and exploratory learning. For example, in the "Measures of Data," the "Engage," "Explore," "Explain," and "Elaborate" sections include multiple activities with clear guidance for teachers. These support the different instructional strategies, such as using baseball scenario cards for real-world connection to math, structured conversations, and linking cubes for hands-on experience.

Materials offer clear instructions for effective lesson delivery, featuring detailed lesson plans that include step-by-step directions, recommended pacing, and strategies for differentiation tailored to each lesson. For example, in the "Equivalent Numerical Expressions" scope, the lesson incorporates at least three distinct instructional approaches: collaborative group work, visual problem-solving, and structured "Math Chats" to explore and apply order of operations, including exponents and grouping symbols.

Materials provide guidance for implementing various instructional approaches. These include small group instruction found in the "Intervention" section and the "Scaffolded Instruction Guide," which also offer teacher guidelines for game-based activities, as well as collaborative, project-based, and station activities designed for student groups. For example, in the "Coordinate Planes" scope, the teacher is guided to review parts of the graph with students (x-axis, y-axis, origin) and academic vocabulary (coordinate pairs). The teacher then guides students in plotting a coordinate pair, and then students try on their own to label the graph and graph a point.

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

*STEMscopes Math Pulse Grade 6* includes multi-tiered intervention methods to support various types of practice. For example, the "Fractions, Decimals, and Percents" scope incorporates guided, independent, and collaborative intervention methods across the different subsections. Guided and collaborative practice are featured in the "Explore" subsection; independent practice is provided in the "Explain" and "Show What You Know" subsections; and skill reinforcement is assessed through a quiz in the "Evaluate" subsection.

Materials include educator guidance to support the effective implementation of multi-tiered intervention methods. Each scope includes a "Scaffolded Instruction Guide" that provides a detailed chart to help educators identify students in need of intervention based on assessment score percentiles. The guide offers explicit guidance for interpreting assessment data and selecting targeted instructional materials aligned to each of the TEKS. For example, students who score between 0%–25% on TEKS 6.2A receive

previous grade level remediation and classify polygons—including quadrilaterals and triangles—into attribute categories and subcategories and then take a grade 5 skills quiz to assess mastery.

The materials include multi-tiered interventions designed to support students through different practice models. For instance, targeted support is provided through teacher-led activities during "Small Group Intervention" lessons. Peer collaboration is encouraged by students working together to solve problems in numerous "Engage" subsection activities. Self-paced mastery is fostered by tasks that help students independently enhance their fact fluency through "Fluency Builders." Additionally, adaptive learning happens through interactive platforms that provide engaging exercises, instant feedback, and different levels of progression via games and other interactive exercises.

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

*STEMscopes Math Pulse Grade 6* includes guidance for educators to effectively implement enrichment activities. Each scope features an "Elaborate" section designed to provide students with opportunities to apply their newly acquired knowledge and skills in various contexts, thereby deepening their understanding. The materials offer guidance for educators to effectively implement extension activities by interacting with real-world media and other methods. Each scope includes an "Accelerate" section that offers students opportunities to explore connections and applications of math alongside other subjects.

Materials include guidance to help teachers effectively implement enrichment and extension methods, with detailed support outlining procedures and facilitation points for acceleration activities provided within each scope. For example, the "Area and Volume" scope includes a "Would You Rather–Fish Tanks for Goldfish acceleration activity with detailed guidance for teachers. Procedures and facilitation points include a handout, encouraging students to review previously learned skills using their student journals, and sharing their responses and justifications with a partner.

Materials include scopes that have enrichment and extension methods that support multiple forms of engagement through collaborative problem-solving, individual reflection, and multimodal tools. For example, in the "Represent and Interpret Data" scope, students work in groups to analyze various types of graphs—dot plots, stem-and-leaf plots, histograms, and box plots—using real-world baseball statistics. They determine which type of representation best supports specific measures of data, such as identifying gaps in a dot plot or calculating medians from a box plot. Students record and justify their reasoning in their Student Journals, then participate in a "Math Chat" to discuss prompts like "Can all graphs give you the same measures of data?"

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

*STEMscopes Math Pulse Grade 6* includes prompts and guidance to support educators in providing timely feedback during lessons. For example, in the grade 6 scope "Place Value of Whole Numbers," the

"Explore" subsection mini-lesson on "Fractions, Decimals, and Percents" includes scripted prompts guiding teachers to ask DOK 1 and DOK 2 questions to support student understanding, monitor student thinking, and engage students during activities. Additionally, the lesson contains formative assessment tools such as Exit Tickets, Student Journals, Math Chats, Spiral Reviews, and Observation Checklists.

Materials include prompts and guidance to support educators in providing timely feedback during lesson delivery. For example, in the "Explore 1–Compare the Costs of Checking Accounts and Balance a Check Register," questions guide teachers in checking for understanding, addressing misconceptions, and deepening student reasoning throughout the lesson: "What operation should we perform on the balance for the withdrawal column? Why do the transactions need to be in chronological order?"

## 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 | All criteria for guidance met. | 4/4 |
| 3.3b | This guidance is not applicable to the program. | N/A |
| 3.3c | All criteria for guidance met. | 1/1 |
| 3.3d | All criteria for guidance met. | 8/8 |
| 3.3e | This guidance is not applicable to the program. | N/A |
| — | **TOTAL** | 13/13 |

### 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.

*STEMscopes Math Pulse Grade 6* includes educator guidance on providing and incorporating linguistic accommodations for all levels of language proficiency as defined by the ELPS, with a focus on helping students develop increasingly academic language. Each Explore activity includes a Language Supports document tailored to that specific task, offering strategies for differentiating instruction across at least two to three levels of language proficiency. For example, in the "Rational Numbers" scope, the "Explore" tab features four activities, each accompanied by a Language Supports document. These guides suggest various accommodations, such as images for comprehension, restating information, using oral explanations of mathematical representations before written responses, and incorporating sentence stems, all of which support emergent bilingual students in building academic vocabulary. For example, a sentence stem may include: "I predict that my product will be _____ than the original factor."

Materials include comprehensive guidance for linguistic accommodations aligned with the ELPS. The "Linguistic Diversity" tab offers suggested sentence stems, word activities, and question prompts designed to support student progression from Intermediate to Advanced proficiency, helping them engage in mathematical discourse using increasingly academic language. For example, a sentence structure may include: "To find the answer, I _____." Additionally, the "Multilingual" tab provides differentiated strategies across at least three levels of language proficiency—Beginning, Intermediate, and Advanced. These supports include leveled activities and sentence frames that are tailored to each stage, effectively scaffolding students toward more complex academic language and deeper mathematical understanding. For example, a sentence frame(s) may include: "I will divide the tape

diagram/number line into _____ parts because ____. Each section of the tape diagram/number line represents _____because _____."

### 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 to the program because it is not designed to be adaptive.

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

*STEMscopes Math Pulse Grade 6* includes implementation guidance to support educators in effectively using the materials within state-approved bilingual and ESL programs. The "Implementation Guide" includes a section on multilingual language support, outlining how to address the needs of emergent bilingual students. Within the "Resources and Tools" section, there are 17 integrated resources described with explanations of their purpose and how they support language development. These include "Proficiency Levels by Domain" that can help teachers identify a student's English proficiency; "Sentence Stems and Frames" that allow students to practice engaging in purposeful conversation; and "Language Supports" that can be applied during the lesson to assist students at any proficiency level.

The "Implementation Guide" provides visuals like anchor charts and suggested linguistic scaffolds for teachers to meet the needs of multilingual learners. For example, translations of Math Stories from English to Spanish provide educators in a dual language immersion program to look at specific ways to plan language bridging with an additional lens of positive and negative transfer between grammar and phonics.

Materials include clear implementation guidance for use in state-approved bilingual and ESL programs. The "Multilingual Learners" tab in the "Teacher Toolbox" provides ELPS-aligned strategies, Proficiency Levels by Domain, Sentence Stems, Working on Words, and guidance on how to use these tools.

### 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.

*STEMscopes Math Pulse Grade 6* includes comprehensive support for facilitating oral and written discourse among emergent bilingual students. In the "Multilingual Learners" section, discussion protocols guide teachers in promoting oral discourse to improve comprehension of math concepts, with strategies that help students make language connections between English and Spanish to support language transfer. For example, the "Teacher Notes" provide scaffolds such as background knowledge builders, visual

supports, and vocabulary pre-teaching to help connect new content to prior knowledge through written discourse. Additionally, materials guide teachers in developing students' academic vocabulary by encouraging cross-linguistic connections (e.g., connecting the English area to the Spanish, *perímetro*) and supporting students in orally rehearsing and revising their written responses in the student journal.

Materials include "Picture Vocabulary," which provides support for emergent bilingual students to build academic vocabulary. Teachers are prompted to read and define the vocabulary for each lesson with students, engage in discussions, and practice during suggested activities that promote academic vocabulary development through oral discourse.

Materials emphasize strategies that support teachers to monitor student comprehension and make adjustments when they struggle to understand. Both the "Implementation Guide" and the "Multilingual Learners" section provide a range of integrated, research-based strategies and tools to assist educators in supporting language development. Two key strategies include "Structured Conversation Routines," where students engage in guided discussions around specific questions or prompts, and "Sentence Stems and Frames" to help students participate in meaningful discussions and practice academic writing, promoting both comprehension and communication skills. For example, in the "Equivalent Numerical Expressions" scope in the "Language Support" section, the teacher facilitates a structured conversation between pairs of students to find examples of factors. "The factors of ____ are ____ and ____. The steps for finding the greatest common factor are ____."

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

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

# 4. Depth and Coherence of Key Concepts

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

## 4.1 Depth of Key Concepts

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

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

*STEMscopes Math Pulse Grade 6* includes multiple opportunities for students to demonstrate depth of understanding and mastery of the TEKS. Each scope lesson features a variety of engaging activities aligned to the TEKS, along with multiple formative assessments integrated throughout the learning pathways to monitor student progress. For example, students identify points that correspond to specific coordinate locations, determine points where the x-coordinate is less than the y-coordinate, and select graphs that accurately represent values from a given input-output table. These tasks support the development of conceptual understanding and application of mathematical reasoning.

Materials include instructional assessments throughout the learning pathways that require students to demonstrate depth of understanding. Each skill within a scope tile features a "Suggested Scope Calendar" that outlines activities and assessments designed to promote deep conceptual understanding rather than simple recall. In the "Algebraic Expressions" scope tile, students engage in tasks that build in complexity. They begin by representing and generating algebraic expressions using strip diagrams and virtual Algebra Tiles to model and simplify expressions based on real-world scenarios. As they progress, they apply properties to simplify and model expressions, and ultimately write expressions and equations in response to contextual scenarios in their student journals and exit tickets. These tasks guide students through DOK 1–3, supporting both conceptual understanding and application.

Students are given multiple opportunities to demonstrate depth of understanding of banking and credit through a variety of instructional assessments. They begin by identifying the key differences between debit cards and credit cards, then compare and contrast checking accounts and debit cards. Students also analyze the features of these financial tools as offered by different banks. Finally, they apply their knowledge by solving real-world money problems and explaining their reasoning, reinforcing both conceptual understanding and practical application.

## 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.

*STEMscopes Math Pulse Grade 6* includes questions and tasks that are intentionally designed to increase in rigor and complexity, guiding students toward grade-level proficiency in the mathematics TEKS. Lessons are scaffolded to build conceptual understanding and support student progression toward mastery. Students use two-color counters to visually represent integer operations, then progress to representing the process pictorially using number lines. Students then transition to solving problems using the standard algorithm, using the rules for adding and subtracting positive and negative integers.

Each scope lesson includes enrichment and extension materials that deepen learning and create real-world connections, further engaging students in the learning process. For example, in the "Accelerate" section of the "Banking and Credit" lesson, students identify features of credit cards, checking accounts, and debit cards and then are presented with a real-world scenario. In this scenario, students compare and contrast the costs associated with these accounts from various banks to determine which option is more cost-effective, reinforcing financial literacy and critical thinking skills. These activities encourage students to think critically and apply their understanding beyond routine practice. The Acceleration subsection also offers opportunities for cross-curricular connections and advanced exploration, supporting students in deepening their knowledge beyond grade-level expectations.

Materials include tasks and questions that gradually increase in rigor and complexity, supporting students in reaching grade-level proficiency and above. Students begin by using hundreds grids to visually represent percents and determine equivalent fractions and decimals. They then move to pictorial representations using strip diagrams and double number lines. Eventually, students transition to solving problems using the standard algorithm. Throughout this progression, students are prompted to reflect on their reasoning with questions such as: "How can you convert a percent to a fraction? How can you convert a fraction to a decimal? How does using a model help with fraction and decimal conversion?" These reflective prompts deepen conceptual understanding and foster mathematical reasoning.

## 4.2 Coherence of Key Concepts

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

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

*STEMscopes Math Pulse Grade 6* includes a "Content Support Overview" that explains how students begin by learning to identify the four quadrants of the coordinate plane and understand the types of ordered pairs that correspond to each quadrant. They explore how the signs of the x- and y-coordinates determine the location of a point within a specific quadrant. Following this foundational understanding, students progress to graphing points in all four quadrants using ordered pairs that include both positive and negative rational numbers, building toward fluency in navigating and interpreting the coordinate plane.

Materials include a "Course Rationale" that outlines how *STEMscopes Math* is intentionally designed to build on prior knowledge, ensuring smooth transitions between topics. The guide explains the overall structure and connections between patterns, big ideas, and relationships. For example, the "Course Rationale" begins by explaining, "The year starts off with the Fractions, Decimals, and Percents scope, which serves to bridge students' understanding of rational numbers with real-world applications, emphasizing the interconnectedness of fractions, decimals, and percents," and continues to connect each skill throughout the course. This intentional sequencing supports coherence and reinforces how mathematical concepts build on one another to develop deeper understanding over time.

The scope lessons exploring how concepts are interconnected and build toward real-world applications. For example, in the grade 6 "Banking and Credit/Personal Financial Literacy" scope, key interconnected concepts are presented and explored in a logical sequence. Students examine topics such as comparing the features and costs of checking accounts offered by different financial institutions, understanding the differences between credit and debit cards, and recognizing the importance of establishing a positive credit history. This structured progression helps students see the relationships between financial concepts and supports a deeper understanding of how these ideas apply in real-world contexts.

## 4.2b – Materials demonstrate coherence vertically across concepts and grade bands, including connections from grades 3–12, by connecting patterns, big ideas, and relationships.

STEMscopes Math Pulse Grade 6 includes a Content Support document that outlines the background knowledge students have developed from grade 3 onward in relation to understanding properties of triangles. For example, in the "Triangle Properties" scope tab, the "Content Support" features a two-minute video that reviews how quadrilaterals and triangles were previously classified and defined, introducing relevant vocabulary. The video then connects to the current scope by explaining how students will explore triangle theorems and properties, and looks ahead to how these concepts will eventually extend to proving the Pythagorean Theorem and applying it to solve problems. In addition to the video, the Content Support includes sections such as "Background Knowledge," which details what students learned in grade 5; "Current Scope information," which explains what is being taught now; and "Coming Attractions," which describes how this scope connects to grade 7 content and future learning.

Materials include "Vertical Alignment Charts" that span from kindergarten through Algebra II, illustrating how concepts build and connect across grade levels. These charts use color coding to make each strand easy to follow—for example, "Process Skills" are consistently marked in red across all grades. Each strand includes detailed listings of the TEKS covered, helping educators clearly see the progression of skills and standards over time.

In the "Dividing Decimals" scope, the "Background Knowledge" section outlines the progression of the concept beginning in grade 5, where students begin to understand the advantages and disadvantages of different payment methods, such as debit and credit cards. By grade 6, students explore more complex financial concepts, including various methods of payment and calculating the impact of different annual salaries on lifetime income. This progression supports the development of both mathematical and financial literacy skills in a real-world context.

## 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.

*STEMscopes Math Pulse Grade 6* demonstrates coherence across lessons by connecting students' prior knowledge of concepts to new mathematical concepts. In the "Explore" second activity section of the "Triangle Properties" scope, the "Procedure and Facilitation Points" include guiding questions such as "How would you classify the angles shown in the triangle cards?," and "What is the measure of a straight angle?" These questions serve as a bridge to the upcoming activity by activating prior knowledge and encouraging real-world connections. They help set the stage for exploring current concepts and procedures, using the accompanying print materials as tools for learning and practice.

Materials demonstrate coherence across lessons by connecting students' prior knowledge to future grade-level concepts through the "Content Support" and "Explore" tabs. For example, in the "Coordinate Planes" scope, students begin by building foundational skills with number lines—both vertical and horizontal—and working within quadrant one. The lesson then introduces all four quadrants and teaches the procedures for graphing ordered pairs across the entire coordinate plane. This structured progression ensures that students develop a deep, connected understanding of coordinate geometry that prepares them for more advanced applications in later grades.

Students engage in an introductory lesson centered on triangle properties with teacher-led discussion prompts and extension tasks that connect these new concepts to students' prior knowledge. During the lesson, students explore questions such as "What do you notice about the given phenomena?," "What are the properties of a triangle?", and "Where can you see Math in this situation?" The materials include an educator's "Content Support" tool with a "Coming Attractions" section that outlines how current student mastery connects to future grade-level concepts. For example, in grade 6, it describes that in grade 7, students will build on their understanding by learning to record financial assets and liabilities, and construct a net worth statement. This forward-looking guidance helps educators see the trajectory of learning and prepare students for more advanced financial literacy concepts.

Materials demonstrate coherence by linking students' prior knowledge to current mathematical procedures through "Standard Lessons" in each scope. These lessons provide step-by-step methods or algorithms, starting with foundational fluency in operations with decimals, fractions, and integers, and progressing to more complex concepts such as operations with positive rational numbers. For example, in the grade 6 "Positive Rational Number Operations" scope, the Explore section mini-lesson begins with multiplying and dividing fractions using models—a concept previously learned—and then guides students to select the appropriate operations, apply accurate computation strategies to solve, and understand concepts like the multiplicative inverse when dividing fractions.

## 4.3 Coherence and Variety of Practice

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

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

*STEMscopes Math Pulse Grade 6* materials offer spaced retrieval opportunities by revisiting previously learned concepts across different learning pathways. In grade 6, a module introduces integers and the behavior of positive and negative numbers. These foundational concepts are reinforced through practice and application in new contexts, such as order of operations, graphing on the coordinate plane, and solving linear equations. This intentional revisiting supports long-term retention and deeper conceptual understanding.

Materials include "Fact Fluency" activities focused on operations with decimals, fractions, and integers to provide spaced retrieval of essential skills, allowing students to revisit and reinforce their understanding regularly. This approach helps students build and maintain mastery in solving problems involving the four basic operations, supporting both accuracy and efficiency in mathematical reasoning.

Materials include a Spiraled Review in the "Elaborate" subsection that offers students opportunities to review and retrieve essential content from previous or current grade levels, reinforcing critical learning areas. For example, in the grade 6 "Area and Volume" scope, students review and apply previously learned skills and concepts such as ratios, money, and cost and the connection between ratios and shaded decimal models. This integrated practice supports long-term retention and deepens students' understanding by connecting prior knowledge to new mathematical contexts.

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

*STEMscopes Math Pulse Grade 6* materials offer interleaved practice by integrating previously learned concepts across learning pathways. Students are taught to use manipulatives to represent ratios, fractions, decimals, and percents, building a strong conceptual foundation. This understanding is reinforced in subsequent lessons, where the complexity increases through real-world problem-solving scenarios. In these tasks, students apply their strategies to generate and work with equivalent forms of fractions, decimals, and percents, promoting retention and deeper mathematical connections.

Materials include assessments that encourage students to apply previously learned strategies to solve problems and demonstrate conceptual understanding. For example, students may be asked to solve a

problem and then show or explain their mathematical thinking, which promotes reasoning, reflection, and the ability to communicate mathematical ideas clearly.

Materials include interleaved practice in the Spiraled Review section of the "Elaborate" subsection and its corresponding print files. For example, the Spiraled Review activity in the "Fractions, Decimals, and Percents" scope offers interleaved practice across multiple learning pathways. It incorporates problem solving with division and multiplication operations, addition with fractions using models, and estimation. This approach reinforces connections among concepts, supports skill retention, and encourages flexible thinking by mixing related content areas within a single activity.

# 5. Balance of Conceptual and Procedural Understanding

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

## 5.1 Development of Conceptual Understanding

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

### 5.1a – Questions and tasks provide opportunities for students to interpret, analyze, and evaluate mathematical concepts and complex, real-world situations.

*STEMscopes Math Pulse Grade 6* includes questions and tasks that require students to evaluate mathematical concepts and apply them to complex, real-world situations. For example, in the "Coordinate Planes" scope "Hook" activity, students analyze mathematical concepts through a realistic scenario. Students determine the location of ordered pairs on a coordinate plane by navigating a map-based task. Teachers facilitate this exploration by posing guiding questions: "What do you notice about maps and coordinate planes?", "How are maps and coordinate planes different?", and "What strategies can you use to determine where points are located on a coordinate plane?"

Material provides opportunities for students to interpret mathematical concepts within complex, real-world scenarios. For example, in the grade 6 "Triangle Properties," scope the "Hook" subsection "Mission Possible or Mission Impossible?" presents a scenario in which a student tries to build a birdhouse in the shape of her favorite figure—a triangle. Students must determine whether this is possible using the three wooden frame lengths available, and then applying their understanding of triangle properties to evaluate the feasibility of the design.

Material provides opportunities for students to analyze mathematical concepts within complex, real-world scenarios using cards. For example, students use scenario cards with one scenario stating "Sammy must fill his gas tank in order to reach his destination. Gas costs $3.50 per gallon on his trip. The total money spent on gas, *s*, is equal to the price per gallon times the number of gallons used on vacation, *g*." Students then analyze tables and graphs to identify independent and dependent variables, deepening their understanding of functional relationships through meaningful, real-life applications.

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

*STEMscopes Math Pulse Grade 6* includes questions and tasks that provide multiple and varied opportunities for students to create concrete models to represent mathematical situations. These opportunities are embedded within the scope lessons, supported by teacher directions, and incorporate

visuals along with physical and virtual manipulatives for hands-on learning. For example, the grade 6 "Explore 1" subsection "Forming Triangles" includes hands-on activities where students use straws of varying lengths to construct different triangles.

Materials include questions and tasks that require students to create pictorial representations of mathematical situations to support conceptual understanding. For example, students are prompted to create a pictorial representation by constructing a dot plot based on data collected by a student named Macie. In the activity, Macie surveys her classmates on the number of electronic devices in their households, gathering a data set. Students use this data to build a dot plot to help visualize the distribution and analyze patterns within the data.

Materials include questions and tasks that require students to create representations of mathematical situations, including two-color counters and an open number line, which can also be accessed virtually. Students use two-color counters to represent positive and negative charges as they work in groups to determine the charge of atoms. For example, in the "Explore" tab of the Integer Operations scope, students add integers using concrete models.

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

*STEMscopes Math Pulse Grade 6* materials include questions and tasks that provide opportunities for students to apply their conceptual understanding to new problem situations and real-world contexts. For example, in the "Triangle Properties" scope, the "Explore 2" subsection provides students with an opportunity to apply their conceptual understanding of triangle properties to a real-world problem. Students solve a situational math problem involving Mr. Wright, who wants to decorate his house with triangular mirrors that meet specific angle requirements. Students must determine the sum of the interior angles and calculate the missing angle measurements, reinforcing the understanding that the sum of the angles in any triangle is always 180 degrees.

Materials help students deepen their understanding of area and volume by engaging with real-life contexts. For example, students are presented with a scenario in which they must choose between two fish tanks with specific measurements, justifying their selection using mathematical reasoning. Each scope includes an "Observation Checklist" that outlines the relevant standards, key skills, and concepts. This "Observation Checklist" offers opportunities for students to apply their conceptual understanding to new problem situations and real-world contexts, supporting formative assessment and critical thinking.

Materials include questions and tasks that provide opportunities for students to apply their conceptual understanding to new problem situations and real-world contexts. For example, students are presented with a real-world scenario involving a family taking a sunset sailing cruise. They are given a diagram of a boat with measurements both above and below sea level and must apply their conceptual understanding to solve related problems. Tasks include classifying numbers based on the boat's measurements above

and below sea level, locating sea creatures at various depths and plotting their positions on a number line, and measuring and recording water temperatures at different depths.

## 5.2 Development of Fluency

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

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

STEMscopes Math Pulse Grade 6 provides tasks designed to build students' fluency in performing math operations. For example, in the grade 6 STEMscopes Teacher Resource Fact Fluency: Multiplication and Division, the materials offer strategies and practice opportunities that support students in developing fluency with multiplication and division.

Materials include lessons, such as the "Explore 1—Pay for College," that provide tasks designed to build student automaticity necessary to complete grade-level mathematical tasks. This lesson builds student automaticity by engaging them in repeated classification, comparison, and application of real-world financial options to solve college affordability scenarios. Through station-based card sorts and paired analysis tasks, students evaluate the advantages and disadvantages of savings, loans, grants, scholarships, and work-study, then apply those concepts to determine how to cover actual college expenses. The structured repetition and decision-making tasks strengthen fluency in using mathematical reasoning to interpret and justify practical solutions.

Materials provide tasks specifically designed to build the fluency necessary for students to complete grade-level mathematical tasks successfully. Each STEMscopes Math Pulse scope includes Fluency Builders that reinforce essential skills through engaging games and activities. For example, in the "Fractions, Decimals, and Percents" scope under the "Elaborate" tab, two Fluency Builders allow students to practice equivalency and percent applications either independently or in groups. These activities support repeated, meaningful practice to strengthen skill retention and application.

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

*STEMscopes Math Pulse Grade 6* provides opportunities for students to practice the application of efficient and accurate mathematical procedures through structured learning pathways. For example, in the "Positive Rational Number Operations" lesson, the "Explore" subsection mini-lessons provide students with opportunities to practice efficient and accurate multiplication and division procedures involving rational numbers and fractions. These lessons encourage the use of various strategies, such as creating

visual models and writing equations or expressions, to deepen conceptual understanding and promote procedural fluency.

Materials provide consistent opportunities for students to practice the application of accurate mathematical procedures across structured learning pathways. Each scope includes a progression of skills that allows students to build and reinforce their understanding through multiple practice opportunities. For example, in the "Integer Operations" scope, students begin by using color counters to model the addition of positive and negative integers, then apply this skill to problem-solving by drawing color-counter models. Practice is reinforced through a game-based activity, and students conclude the progression by completing a skills quiz that requires them to apply their understanding through both color-counter models and equations that represent those models. This sequence supports conceptual understanding and procedural fluency through hands-on, visual, and symbolic representations.

Materials include Spiraled Review opportunities throughout all scopes, where mathematical concepts are revisited. This allows students opportunities to practice efficient and flexible mathematical procedures.

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

STEMscopes Math Pulse Grade 6 materials provide opportunities for students to evaluate mathematical representations, models, strategies, and solutions for accuracy throughout learning pathways. In STEMscopes under the "Explore" tab, students are provided with activities to explore and then reflect on the learning by evaluating the work. For example, in the "Integer Operations" scope, the Subtract Integers Using Concrete Models "Explore" activity guides students to model integer subtraction using counters, number lines, and equations. After completing the models, students evaluate and reflect on their learning through guided questions, such as "How did the number line help you understand that adding a negative integer is the same as subtracting a positive integer? Did you notice any rules or patterns that helped you successfully subtract numbers with different signs and values? Give examples." These reflective prompts deepen students' conceptual understanding and promote reasoning about integer operations.

Materials provide students with opportunities to use 10-by-10 grids to create conversions among fractions, decimals, and percentages. Teachers are encouraged to prompt students to share their strategies, ask one another questions, and make meaningful connections. This collaborative process allows students to observe similarities and differences in their approaches, discuss how they solved problems, and highlight variations in procedures or strategies. Similarly, when students model the multiplication of fractions, the materials guide teachers to facilitate student discussions around their strategies. Students are encouraged to ask each other questions and reflect on the reasoning behind different approaches.

Materials include lessons, such as "Explore 1—Use Tables and Graphs to Identify Independent & Dependent Variables," that provide opportunities for students to evaluate mathematical representations, models, strategies, and solutions for both flexibility and accuracy throughout learning pathways. In this lesson, students examine tables and graphs to distinguish between independent and dependent variables. Through group-based card-sorting activities and analysis of real-world scenarios, students flexibly interpret, label, and apply their understanding of relationships across multiple contexts.

## 5.2d – Materials contain guidance to support students in selecting the most efficient approaches when solving mathematics problems.

STEMscopes Math Pulse Grade 6 contains guidance to support students in selecting increasingly efficient approaches to solve mathematical problems. The "Content Support" section of each scope offers strategies that can be introduced to students to promote more effective problem solving. For example, in the "Positive Rational Number" Scope, the "Content Support" section guides modeling the division and multiplication of fractions and rational numbers using strategies such as the standard algorithm, scaling, and visual models. These strategies support the development of conceptual understanding while guiding students toward more efficient and flexible methods for solving problems.

Materials provide teachers with guidance on selecting efficient tools, methods, and approaches for solving tasks that require active student engagement. For example, the "Decimals, Fractions, and Percents" scope includes effective strategies for representing fractions and percents using strip diagrams, generating equivalent forms (fractions, decimals, and percents), and applying percent proportions. These techniques support both conceptual understanding and procedural accuracy, equipping students with multiple entry points to solve real-world and mathematical problems.

## 5.3 Balance of Conceptual Understanding and Procedural Fluency

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

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

*STEMscopes Math Pulse Grade 6* materials clearly explain how the conceptual and procedural emphasis of the TEKS is addressed within the "Content Support" section of each scope. For example, in the "Ratios, Rates, and Unit Rates" scope, the materials include a lesson overview on ratios and rates that explicitly addresses both the conceptual and procedural emphasis of the TEKS. Conceptually, the overview explains how students build an understanding of the relationship between two quantities and develop the meaning of a unit rate using visual models and real-world contexts. Procedurally, the overview outlines where in the lesson guided practice is provided for calculating ratios and unit rates and how students apply these calculations to solve real-world problems, ensuring a balanced approach to developing both understanding and fluency.

Materials explicitly state how the conceptual emphasis of the TEKS is addressed by including a detailed progression in each scope that highlights prior knowledge, common misconceptions, and current learning goals. In the "Financial Literacy" scope, the materials emphasize conceptual understanding by guiding students to compare bank account features, distinguish between debit and credit, and interpret credit reports. These activities align with the core ideas outlined in the TEKS, helping students develop a foundational understanding of personal financial concepts through analysis and real-world application.

Materials include a "Content Support" section and a "Teacher Facilitation" script within each scope that directly address the conceptual emphasis of the TEKS. In the "Triangle Properties} scope, for instance, in the "Explore" section students use straws of different lengths to form triangles to understand which lengths can form triangles and which ones cannot. This structure supports a clear and coherent development of conceptual understanding as outlined in the TEKS.

### 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 Pulse Grade 6* includes questions and tasks that align with the TEKS by providing opportunities for students to use abstract models. In the "Area and Volume Scope," the "Explain" section guides students in transitioning from using concrete models (linking cubes) during the "Explore" activities

to applying abstract models to solve area and volume problems using equations. This progression supports deeper conceptual understanding and reflects the expectations of the TEKS.

Materials include questions and tasks that provide students with opportunities to use both concrete and pictorial models, as required by the TEKS. In grade 6, teacher guidance encourages the use of concrete representations of percentages, such as base ten blocks and counting out 100 individual ones cubes to visualize percentages. Students then organize these cubes to pictorially represent percentages and create models that connect fractions, decimals, and percents. These strategies support students in building a conceptual understanding of percent relationships through hands-on and visual learning experiences.

The materials include tasks that align with the TEKS by requiring students to use both pictorial representations and abstract models. In the Fun Run Trail activity, students develop a deep understanding of fraction multiplication by first modeling the concept using area models and number lines. They then translate these visual representations into multiplication equations, allowing them to bridge concrete understanding with abstract reasoning. Throughout the activity, students estimate and justify the size of products and generalize their thinking using symbolic notation and conceptual explanations, reinforcing both visual and numerical comprehension of fraction operations.

### 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 Pulse Grade 6* materials provide comprehensive support for students in connecting, creating, defining, and explaining concrete and representational models as they transition to abstract concepts, in alignment with the TEKS. In the "Integer Operations" scope, students engage in a structured progression of learning that moves from real-world connections to abstract reasoning and application. In the "Engage" tab, students connect mathematics to a relatable video game scenario. The "Explore" and "Explain" tabs feature six activities that begin with concrete representations using counters, transition to representational models like number lines, and then progress to abstract equations. The "Elaborate" tab provides opportunities for students to apply their understanding across all levels of representation by playing a game of concentration to find the numerical expression and its simplified answer, while the "Acceleration" tab challenges them to transfer and apply their skills to real-life scenarios, reinforcing both conceptual understanding and procedural fluency by doing an activity—Would You Rather–ATM Dilemma.

Materials support students in connecting, creating, and explaining transitions between models and abstract concepts, as required by the TEKS. In the "Fun Run Trail" fraction multiplication lesson, students use manipulatives and tools to construct area models and number lines that visually represent the multiplication of fractions. They then connect these visual models to multiplication equations, explaining how the overlap in the visuals corresponds to the symbolic product. "Math Chat" discussions and

targeted teacher prompts guide students in justifying their reasoning and verbalizing how the models illustrate abstract mathematical relationships, reinforcing the connection between conceptual understanding and symbolic representation. For example, a question posed is, "Why is the product smaller than the fraction length of the Fun Run Trail?"

Materials provide strong support for students in connecting concrete models to abstract concepts, aligning with the TEKS. Many tasks begin with hands-on or visual representations and guide students toward expressing ideas in symbolic, numerical, or algorithmic forms. For example, in the lesson "Area and Volume," students start with concrete models and then use abstract formulas to calculate area and volume. The materials also support students in defining and explaining this transition. In the same lesson, "The Hook" subsection offers guidance as students analyze a concrete model of a trapezoid-shaped planter box and apply abstract reasoning to determine how much soil is needed to fill the planter box, reinforcing their understanding of area and volume through real-world application.

## 5.4 Development of Academic Mathematical Language

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

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

*STEMscopes Math Pulse Grade 6* materials consistently provide opportunities for students to develop academic mathematical language through the use of visuals, manipulatives, and structured language development strategies. For example, in the "Integer Operations" scope, students learn about adding and subtracting integers by using concrete models (colored discs) and number lines, then adding and subtracting integers fluently to determine solutions to problems. Teacher prompts and scaffolded discussions guide students in articulating their thinking using mathematical language such as positive number, negative number, and integer, supporting the development of academic language.

The materials feature Math Chat sections in each scope designed to enhance students' mathematical language development. For example, in the grade 6 lesson on Prime Factorization, example sentence stems include: "The factors of___ are___ and___" and "The steps for finding the greatest common factor are___."

### 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.

*STEMscopes Math Pulse Grade 6* materials include embedded educator guidance that supports and extends students' use of academic vocabulary in context during peer and teacher interactions. In the "Banking and Credit" scope, the "Explore 3" activity provides structured opportunities for students to collaborate as they describe the information found in a credit report and discuss its value to both borrowers and lenders in real-world contexts. The teacher is provided with guidance on how to strategically pair students so they can effectively read and analyze credit reports together. Specific support is given to help facilitate meaningful academic conversations between partners. For example, teachers are encouraged to model and prompt the use of structured sentence stems that incorporate academic vocabulary, such as "It seems that the important thing to know about___ is___ because___." and "Is that right? Will you please explain more about___?" These sentence frames help students clarify their thinking with a peer using academic mathematical vocabulary.

Materials feature "Explore" sections that include embedded guidance for educators, designed to scaffold and support students in using academic vocabulary. Each "Explore" section is accompanied by a "Language Supports" section to help extend the use of academic vocabulary in context while communicating with peers and educators.

For instance, in the grade 6 "Algebraic Expressions" scope the teacher prompts include having one student read their algebraic expression aloud while the rest of the group listens and follows along. Afterwards, students are encouraged to share their understanding of the expression in their own words, promoting mathematical discourse and reinforcing conceptual understanding.

Materials include embedded guidance for educators to scaffold and support students' use of academic vocabulary in context. The STEMscopes Lesson Script provides teachers with explicit strategies and prompts for vocabulary development, beginning with foundational concepts and gradually progressing to more complex terminology. This includes the use of sentence stems aligned to the lesson standard and guidance for facilitating discourse between peers and educators using newly acquired academic language. For example, the teacher provides sentence structures to support students in asking and answering questions: "Partner A: How did you solve the problem?" and "Partner B: I solved the problem by___."

Additionally, each Lesson Scope's "Explain" subsection includes a Picture Vocabulary feature, which supports student understanding by pairing academic terms with visual representations. This scaffolding helps students make meaningful connections between words and concepts, promoting accurate and confident use of vocabulary in both spoken and written communication.

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

*STEMscopes Math Pulse Grade 6* materials include embedded guidance to support students in applying appropriate mathematical language and academic vocabulary during discourse. In the "Triangle Properties" scope, under the "Engage" tab, educators ask guiding questions to prompt students to justify their thinking using precise mathematical terms when determining whether a triangle can be constructed with given side lengths. Questions and prompts include the following: "What are the properties of a triangle? Do you predict that the 3 pieces will be able to form a triangle? Justify your answer. Using the triangle inequality theorem, determine whether the wooden frame parts can create a triangle. Explain your answer."

Materials include Math Chat prompts, structured conversation routines, and sentence stems to support students in using appropriate mathematical language and vocabulary during discourse. For example, in the "Explore"—Rational Numbers, prompts such as "Describe how the Venn diagram models the relationships among rational numbers, integers, and whole numbers" guide students to articulate their mathematical thinking using precise terms like rational numbers, integers, whole numbers, fractions, and

decimals. These strategies help students deepen their understanding while using precise mathematical language.

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

*STEMscopes Math Pulse Grade 6* materials include guidance for educators to encourage discourse among students, enabling them to hear and practice mathematical language with their peers. Group activities also provide teachers with strategies to facilitate meaningful conversations within and between student groups. For example, in the lesson on Coordinate Planes, the "Explore 1—Number Lines and Coordinate Planes," engages students in discussing and planning the layout of important buildings in a new city. This activity allows students to apply their newly acquired knowledge of the coordinate plane while collaborating and communicating with their peers.

Materials include embedded guidance to facilitate mathematical conversations that allow students to refine and use mathematical language with peers. In the "Triangle Properties" scope, students work in pairs to use the relationships between side lengths to determine when three lengths can form a triangle. Embedded guidance supports mathematical conversations by encouraging students to refine and use precise mathematical language. During the lesson, materials prompt educators to ask questions: "How can you tell if a triangle will be impossible without attempting to create it? What similarities and differences do you notice between the strategies used to determine if three lengths can form a triangle?" Afterward, the partner reads the written response aloud. The student then evaluates whether their message was communicated clearly and makes any necessary adjustments.

Materials offer embedded dialogues and lesson scripts to facilitate mathematical conversations, in the "Engage" section of all scopes. This section supports teachers in guiding students to refine and use mathematical language during peer interactions. It includes DOK questions along with sample student responses, providing a model for effective discourse. Additionally, the mini-lesson scripts found in the "Explore" subsection offer targeted guidance to educators for encouraging student-to-student dialogue. These supports ensure that students have repeated opportunities to hear, practice, and apply academic math language in meaningful contexts.

### 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.

*STEMscopes Math Pulse Grade 6* materials include embedded guidance to help educators anticipate a variety of student responses, including exemplar answers. For example, in the "Explore Two-Variable Relationships" scope, anticipated student responses include statements such as, "The variable representing the quantity that can change freely is the independent variable. The other variable is called the dependent variable because its value depends on the independent variable. Because the amount y

(amount spent or saved based on scenario) depends on the number *x* (days on vacation, saving money, gas bought based on scenario), *y* is the dependent variable and *x* is the independent variable." These exemplar responses are used to model appropriate mathematical reasoning and language. Teachers are further supported through embedded prompts with each question accompanied by a modeled student response to illustrate the expected level of understanding, such as "Where is the dependent variable located on a graph?"

Materials include common inaccurate student responses for each lesson to help teachers anticipate and address areas of difficulty. For example, in the grade 6 "Triangle Properties" scope, students may confuse the sum of the interior angles of a triangle (180 degrees) with that of a rectangle (360 degrees). To support teachers in addressing such misconceptions, the materials prompt educators to monitor and assess student understanding using guiding questions, such as "How can you determine if a triangle is impossible to create without attempting it?" This helps students reason mathematically and clarify their thinking.

Materials include embedded guidance to support and redirect inaccurate student responses through the "Content Support" guide provided in each scope. For example, in the "Equations and Inequalities" scope, the "Content Support" section includes a "Misconceptions and Obstacles" segment that explains common student misconceptions for teachers to address or redirect. One such misconception is that students may struggle to represent real-life situations with equations or inequalities. The "Explore 1—Write, Model, and Solve Equations" activity includes teacher DOK questions designed to guide instruction and address misconceptions. For example, questions include "What information is provided in the problem? Based on the information, what is the unknown value that should be represented by the variable *b*?"

## 5.5 Process Standards Connection

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

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

*STEMscopes Math Pulse Grade 6* materials appropriately integrate the TEKS process standards throughout instruction. Each scope includes a "Content Support" section that lists all relevant TEKS process standards addressed, along with explanations of how each is applied. For example, in the "Represent and Interpret Data" scope, the "Content Support" section identifies TEKS 6.1A–6.1G as being covered. Specifically, TEKS 6.1E emphasizes that students will use data displays to represent, organize, record, and communicate about dot plots, box plots, stem-and-leaf plots, and histograms.

In the "Ratios, Rates, and Unit Rates" scope, students solve real-world problems involving unit rates and then compare multiple strategies presented by their peers. Teachers are guided to ask reflective questions that encourage students to analyze and critique mathematical reasoning. The TEKS process standards are appropriately integrated into the materials through instructional components that require students to analyze relationships (6.1B), communicate and critique mathematical ideas (6.1D), and apply mathematics to solve real-world problems (6.1A). For example, questions posed include, "Which strategy do you prefer using to solve for unit rate? Explain. Which strategy do you prefer using to solve for unit rate? Explain." These prompts encourage students to reflect on their problem-solving approaches and justify their reasoning using mathematical language.

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

*STEMscopes Math Pulse Grade 6* materials include a clear description of how the TEKS process standards are incorporated throughout the learning pathways. STEMscopes provides a "Process Standards Guide" that offers an overview of each standard and illustrates how it progresses across grade levels from kindergarten through Algebra I. This guide also explains how each process standard is addressed within the grade-level pathways, or scopes. For example, the section titled "Process Standards – Analyze Relationships to Communicate Ideas" identifies that this standard is addressed in the grade 6 scopes "Compare and Order Rational Numbers," "Equations and Inequalities," and "Area and Volume." Each scope includes a detailed breakdown of how the process standard is applied within the instructional sequence.

Materials include a "Process Standards" tab that describes how the TEKS process standards are connected throughout the learning pathways. This section includes an explanation of each process standard, guidance for teachers on effective implementation, practical examples demonstrating application at each grade level, and a summary that encapsulates the key concepts.

The process standards are integrated throughout the learning pathways by engaging students in applying mathematical reasoning and creativity to justify their answers. For example, in the "Coordinate Planes" scope, the activity Would You Rather – Target Archery" prompts students to compare the locations (coordinate pair) where two competitors' arrows landed within the bullseye. Students must determine which competitor they would prefer to be and explain their reasoning based on the number of points assigned to each colored area.

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

*STEMscopes Math Pulse Grade 6* materials include an overview of the TEKS process standards embedded within each lesson, specifically highlighted in each "Explore" activity. For example, in the "Rational Numbers" scope, the "Explore 1 –Relationships between Numbers" activity features a dedicated section titled "Mathematical Process Standards" that lists the relevant standards TEKS 6.1 E, F, and G, along with descriptions of how each is addressed within the lesson.

An overview of the TEKS process standards is incorporated into each lesson by providing explicit references to the standards within the lesson objectives. For instance, in the scope "Positive Rational Number Operations," the process standards related to problem-solving and mathematical communication TEKS 6.1B, 6.1D, and 6.1F are highlighted in the lesson overview. Students are prompted to apply strategies for solving problems, explain their reasoning, and represent their solutions using both visual models and symbols. This ensures alignment with TEKS standards for communication, problem-solving, and representation.

# 6. Productive Struggle

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

## 6.1 Student Self-Efficacy

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

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

*STEMscopes Math Pulse Grade 6* materials provide opportunities for mathematical thinking, perseverance, and sense-making through real-world applications. In the "Explore 4–Solve Area and Volume Equations" activity, students apply area and volume formulas to solve for missing dimensions of two-dimensional and three-dimensional figures. For example, students help landscapers find missing garden dimensions and calculate the volume of fruit and vegetable bins. The task allows students to persevere through problem solving by asking students to explain how formulas determine solutions, apply reasoning to real-world scenarios, and double the garden's size, recalculate the area, and explain how the dimensions change.

Materials include tasks on ratios and rates that promote perseverance and reasoning about mathematical relationships. Students solve contextual problems requiring setup and justification of ratios and unit rates, with scaffolds for re-evaluating strategies when stuck. Guiding questions encourage reflection and refinement of solutions: "How did you know this was a unit rate? What steps did you take to find an equivalent ratio?"

Materials provide opportunities for students to think mathematically. The teacher script directs students to apply newly acquired mathematical concepts in both group and individual settings, supporting the development of mathematical thinking. For example, in the grade 6 lesson on Represent and Interpret Data, the "Explore" subsection guides students in representing and solving real-world problems using dot plots and stem-and-leaf plots. Teacher questions include the following: "How can you determine the frequency of an interval on the histogram? What does the tallest bar in the histogram represent? How is data represented on the histogram when the interval has a frequency of zero?" The "Explain" subsection of each lesson provides opportunities for students to make sense of mathematics by requiring them to demonstrate understanding and explain why their reasoning works. For example, in "Show What You Know Part 1–Dot Plots and Stem-and-Leaf Plots," students analyze and interpret data, reinforcing

conceptual understanding, such as "Is the shape of the data symmetrical or asymmetrical? Is the data skewed to the left, right, or not skewed? Does the data have a small or large deviation from the center?"

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

*STEMscopes Math Pulse Grade 6* materials support students in understanding, explaining, and justifying multiple approaches to problem-solving in the "Area and Volume" scope. In the "Explore 1–Discovering Area Formulas" activity, students decompose triangles, trapezoids, and parallelograms and rearrange their parts to form rectangles, making connections to area formulas. Students work in groups to investigate a scenario involving a landscaping company that designs areas of various shapes. They must determine multiple ways to calculate the total area of irregular spaces. Students justify their answers by describing the process they used, comparing how their solutions and models are similar or different from those of their peers. Example sentence structures include "Partner A: How did you find the answer? Partner B: To find the answer, I___ Partner A: I heard you say___. Is that right?"

Materials introduce multiple methods for understanding how to represent and interpret data, including dot plots and stem-and-leaf plots. For instance, students respond to questions, such as "Imagine you have collected data on the ages of students in your class. Would you use a dot plot or a stem-and-leaf plot to represent this data? Why?" These prompts encourage students to justify their choice of representation.

Materials support students in explaining and justifying that there are multiple ways to solve problems and complete tasks. In the "Fractions, Decimals, and Percents" scope, students explain and justify multiple ways to solve problems through modeling percent scenarios. Students compare different visual strategies, such as strip diagrams or double number lines, and participate in guided discussions about each method's effectiveness. Questions include "How did you divide the strip diagram when you labeled each part by 10%? What is the total number of equal parts we need to divide the strip diagram or number line into? Explain. How can you determine what percents need to be written on the strip diagram or number line?"

### 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.

Materials engage students in hands-on experiences with peers where they work together to do the math. For example, students use straws to create as many different triangles as possible with a partner and record their findings in their Student Journals. During this activity, teachers monitor understanding by asking guiding questions, such as "How can you tell if a triangle will be impossible without attempting to create it?" Instructional supports for introducing the triangle inequality theorem encourage students to not only compute, but also describe their reasoning in words. For instance, a student might explain, "A

frame with side lengths 2, 3, and 5 is not a triangle. The side lengths that are 2 and 3 units long would not be able to touch."

Materials provide structured opportunities for students to discuss math with peers and educators. For example, in the "Triangle Properties" scope "Explore 1," students engage in Math Chat discussions using prompts like "What strategy did you use to see if a triangle could be formed for Part II? In your own words, why does the triangle inequality theorem work? When might it be important in the real world to understand if a triangle is possible or impossible?"

Materials require students to make sense of mathematics by incorporating collaborative problem-solving, structured class discussions, and written reflections. In lessons on evaluating expressions using the order of operations, students work in groups to solve problems and match expressions to outcomes. They use structured conversation routines: "I heard you say___. I agree because___. I disagree because___.." In the reflection section in the Student Journal, students write responses to prompts. For example, a question and response may include "What is the correct order of operations now that we have added exponents to our operations? (The correct order of operations is now grouping symbols (parentheses, brackets), exponents, multiplication and division from left to right, and addition and subtraction from left to right.)"

## 6.2 Facilitating Productive Struggle

| GUIDANCE | SCORE SUMMARY | RAW SCORE |
|---|---|---|
| 6.2a | All criteria for guidance met. | 8/8 |
| 6.2b | All criteria for guidance met. | 4/4 |
| — | **TOTAL** | 12/12 |

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

*STEMscopes Math Pulse Grade 6* materials support educators in guiding students to reflect on their problem-solving approaches through multiple tools, such as Student Journals and Math Chats. In grade 6, during an activity on dividing fractions, Student Journal prompts include reflective questions: "Are the ratios for weeks 1–3 comparing part-to-part relationships or part-to-whole relationships? Explain how you know. In your own words, define the word ″ratio.″ List two different ways to represent a ratio." Math Chat prompts foster discussion among peers and teachers with questions: "What is your definition of a unit rate? Which strategy do you prefer using to solve for unit rate? Explain. Explain where in the real world you might find unit rates necessary."

Materials guide educators to support student reflection and sharing of problem-solving through collaborative tasks, multiple representations, and structured routines. For example, in lessons on rational numbers, students use horizontal and vertical number lines, benchmarks, and fraction-to-decimal conversions to represent solutions. They work in groups of three to four, compare strategies, and justify their reasoning using sentence stems: "I heard you say___. I agree because___. I disagree because __. How did you start solving this? Did anyone approach it differently?" Math Chats and Student Journal prompts ask students to explain reasoning and justify placements, such as "How do you know that your placement is accurate? What makes one rational number greater or less than another?"

Materials provide open-ended problems that allow students to use multiple strategies to find solutions, followed by opportunities to explain and justify their reasoning through peer discussions and written reflections. Educators receive prompts to facilitate argumentation and refine thinking. For example, in the "Fractions, Decimals, and Percents" scope "Explore 4," students solve real-life percent problems involving price and discount using different strategies. They participate in Math Chat discussions with prompts, such as "Why is it important to know multiple strategies to solve various percent problems? How are models useful when solving percent scenarios? How can you find the original price when given the sale price and discount?" Students collaborate to create models, solve problems, and justify their solutions in their Student Journals, providing multiple points of entry for understanding and communication.

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

*STEMscopes Math Pulse Grade 6* materials provide guidance for educators to deliver explanatory feedback based on student responses and anticipated misconceptions. The "Content Support" document in each scope includes a "Misconceptions and Obstacles Guide," which details common errors to watch for during lessons. In the "Integer Operations" scope, for example, the guide notes that students may confuse directionality on a number line, especially when subtracting integers. Within the "Explore 3," educators are directed under "Procedure and Facilitation Points" to monitor and check for understanding with questions, such as "What direction is positive on a number line? What direction is negative on a number line?" These prompts provide clear strategies for uncovering misunderstandings and offering corrective feedback in real time.

Materials are structured to support educators in providing explanatory feedback on anticipated misconceptions related to identifying independent and dependent variables in real-world contexts. Guidance includes phrasing, such as "*y* is determined by *x*." This helps students adjust incorrect reasoning (e.g., the number of weeks is determined by the amount of money saved). Educators are prompted to monitor small-group work with targeted questions: "Where is the dependent variable located on the graph? What are the dependent and independent variables in this scenario? How do you know?" Additional supports include using anchor charts, modeling processes for the first example, and engaging students in Math Chats to collaboratively reflect and revise thinking. These structures ensure educators can anticipate and address misconceptions effectively.

Materials provide possible student answers to all unit conversion problems and include suggested feedback prompts to extend student thinking. For example, guiding questions include "What are isosceles, equilateral, and scalene triangles?" Visuals are suggested to support explanations, and correct responses are provided: "Isosceles triangles have two equal sides, equilateral triangles have three equal sides, and scalene triangles have no equal sides." Feedback also addresses common misconceptions, such as "Students may confuse the sum of the interior angles of a triangle with the sum of the interior angles of a rectangle."