

### IXL Learning, Inc.

Supplemental English Mathematics, 4 IXL Math Grade 4

Supplemental	9781947569355	Digital	Adaptive
MATERIAL TYPE	ISBN	FORMAT	ADAPTIVE/STATIC

#### **Rating Overview**

TEKS SCORE	TEKS BREAKOUTS	ERROR CORRECTIONS	SUITABILITY	SUITABILITY	PUBLIC FEEDBACK
	ATTEMPTED	(IMRA Reviewers)	NONCOMPLIANCE	EXCELLENCE	(COUNT)
100%	156	0	Flags Not in Report	Not Applicable	0

#### **Quality Rubric Section**

RUBRIC SECTION	RAW SCORE	PERCENTAGE
1. Intentional Instructional Design	13 out of 21	62%
2. Progress Monitoring	19 out of 23	83%
3. Supports for All Learners	30 out of 37	81%
4. Depth and Coherence of Key Concepts	16 out of 16	100%
5. Balance of Conceptual and Procedural Understanding	33 out of 38	87%
6. Productive Struggle	19 out of 19	100%

### Breakdown by Suitability Noncompliance and Excellence Categories

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

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

### **IMRA Quality Report**

### 1. Intentional Instructional Design

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

### 1.1 Course-Level Design

GUIDANCE	SCORE SUMMARY	RAW SCORE
1.1a	Materials do not include an alignment guide outlining the English Language Proficiency Standards (ELPS), or a rationale for learning paths across grade levels (vertical alignment) and within the same grade level (horizontal alignment).	2/5
1.1b	All criteria for guidance met.	3/3
1.1c	All criteria for guidance met.	2/2
1.1d	Materials do not include protocols with corresponding guidance for unit internalization.	1/2
1.1e	All criteria for guidance met.	2/2
_	TOTAL	10/14

## 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.

The materials include alignment guides, called Skill Plans, that outline specific examples of the TEKS integrated into grade 4 lessons. The implementation guide includes features for Daily Instruction, Diagnostic Assessment, Standards Prep, Personalized Instruction, and Whole-Class Instruction.

The materials do not include a rationale for learning paths across grade levels (vertical alignment) and within the same grade level (horizontal alignment). The materials provide different "Weekly Plans," but do not provide a rationale for the order in which the lessons are organized or presented. The materials include an IXL Flex Diagnostic Action Plan for each student after they take the diagnostic assessment, but the materials do not provide the educator on which section students should focus on first.

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

The materials provide "Implementation Guides" that detail usage strategies and recommendations, and support educators with daily grade 4 instruction, lesson planning and delivery guidance, and methods for checking understanding. The "Implementation Guide for Weekly Plans" and the "Skill Plans" integrate

these adaptive resources. Educators can utilize just-in-time support by tailoring activities to students' immediate proficiency. Enrichment and extension videos challenge advanced learners. Intervention resources support struggling students.

Recommendations include utilizing targeted IXL Skill Assignments in small groups based on proficiency data, integrating IXL for introductory or review activities in whole-group settings, and assigning individualized IXL practice for independent work and reinforcement.

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

A TEKS correlation guide connects to Skill Plans. Adaptive materials include a diagnostic tool that assesses student understanding and recommends a starting point aligned with the TEKS. For example, the IXL Diagnostic pinpoints the skills students need to work on across six domains: Fractions, Algebra and Algebraic Thinking, Numbers and Operations, Geometry, Measurement, and Data, Statistics, and Probability. It recommends skills for students to work on within each domain and provides the teacher with the skill code. Students can work on these skills in their personalized skill recommendations section.

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

The "Implementation Guides" helps educators internalize lessons. Educators follow general routines using IXL to internalize skills for daily instruction and curriculum support. For example, the IXL for Daily Instruction document breaks down lesson preparation into three steps: "Plan your lesson, Deliver your lesson, and Check for understanding." The materials provide visuals and information within each section to support educators.

IXL Minis provide professional development videos on the Learning and Instructional Resources sections found within the materials. This includes how to customize skill plans, adapt learning focus for students, and other instructional tip videos for educators.

The materials do not include protocols for unit internalization. The materials provide an IXL for Unit Assessment section, but it does not support unit internalization, and the IXL Checkpoints are only available for grade 8 Math, Algebra 1, and Geometry.

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

The materials aid instructional leaders in supporting educators with effective program implementation. These resources include recorded model lessons that enhance leaders' coaching abilities, and My IXL Resources actively provide specific guidance and support for instructional leaders. The materials also

provide professional learning opportunities, such as live webinars, on-site learning, and virtual sessions to help instructional leaders support educators in the classroom.	

#### 1.2 Lesson-Level Design

GUIDANCE	SCORE SUMMARY	RAW SCORE
1.2a	This guidance is not applicable to the program.	N/A
	The materials do not provide detailed lesson overviews with learning	
1.2b	objectives aligned with the TEKS or ELPS, lesson components with	1/5
	suggested time frames, or assessment resources aligned with the ELPS.	
1.2c	All criteria for guidance met.	2/2
_	TOTAL	3/7

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

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

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.

The materials provide teacher access to assessments aligned to the TEKS that adapt to student progress, allowing educators to gauge student understanding and adjust in real time for individual student performance. As students engage in questions during the lesson, a SmartScore is calculated to give educators insight into skill progress.

The materials provide multiple skill paths for teachers to view and assign. Within these paths, the materials provide lesson objectives but do not provide a detailed lesson overview. For example, in grade 4, Bluebonnet Learning Path, Module 1, Lesson 1, the material lists three learning objectives with an additional objective to consider under Also Consider. An example of a learning objective includes, Convert between place values.

The materials do not include lesson overviews with lesson components containing suggested timeframes. However, they recommend that educators assign a learning path with a recommended timeframe of 45 minutes per week (about 4–5 practice problems per day). Each lesson includes "Learn with an example" and "Watch a video," but these are optional resources as students engage in practice questions.

The materials do not include learning objectives or assessment resources aligned with the ELPS.

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

The materials include a handout called "Family guide for getting started," which provides families with information on IXL learning plans, how to let IXL recommend skills, a personalized action plan for growth, and how to monitor your child's progress. This document provides tips like, "See where your child is getting stuck so that you can step in and provide support." This handout is available in English and Spanish.

### 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	The materials do not include digital assessments that include accommodations, including content and language supports, and calculators that educators can enable or disable to support individual	2/4
2.1d	students.  All criteria for guidance met.	4/4
2.1e	All criteria for guidance met.	4/4
_	TOTAL	14/16

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

The materials describe a comprehensive system of instructional assessments designed to pinpoint students' grade-level proficiency and inform instruction. These assessments serve in two primary capacities: a Snapshot or Benchmark mode, used periodically by administrators to gather school-wide data, and a Real-Time mode, which enables teachers to support daily instruction.

In Real-Time mode, students answer a few weekly questions, enabling teachers to continuously monitor progress, identify areas of difficulty, and generate personalized action plans. To support implementation, the materials include various guides and resources for teachers to schedule the assessments, review the data, and use it to create individualized learning paths for students.

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

The materials offer clear and consistent guidance for teachers when administering instructional assessments. They recommend an initial diagnostic session of 45–60 minutes per subject, either in one sitting or spread over multiple days, to determine students' baseline knowledge levels. To ensure standardized administration, the materials provide teachers with scripts and instructions, including guidelines for creating a quiet environment and providing students with necessary supplies, such as pencils, and paper.

The guidance materials encourage students to answer 10–15 questions weekly to keep their data up to date. The materials also provide specific instructions for other assessments, like unit checkpoints, where students should aim for a SmartScore of 80.

## 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.

The materials include printable versions of quizzes; however, the program notes that some interactive question types may not translate well to print. Educators cannot print the diagnostic assessment.

The materials include guidance for the teacher to enable and disable text-to-speech for individual students for digital assessments under Teacher Settings.

The materials do not include content and language supports that educators can enable and disable for individual students; however, they do provide translation support that can be enabled and disabled.

The materials do not allow educators to enable and disable calculators to support individual students.

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

Materials include diagnostic assessments with TEKS-aligned tasks or questions, including interactive item types with varying complexity levels. Questions ask students to calculate, compare, and justify through single- and multi-step problems.

The *Diagnostic Hub Student Guide* explains how the diagnostic assesses student knowledge through varying complexity levels and a progression of skills ranging from basic recall to multi-step reasoning and supports personalized learning paths. While evidence of complexity is implicit in the questions, they are not explicitly labeled by complexity level. Additionally, not all students may have access to varying levels of complexity, as the materials are adaptive and become more complex the more successful the student is.

The materials include diagnostic assessments with more than two interactive item types, including, but not limited to, multi-select, drag-and-drop, hot spot, text entry, graphing, and multiple-choice questions.

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

The materials provide formative assessments within the Diagnostic Hub, which includes a wide variety of interactive question types, such as text entry, multiple-choice, multi-select, drag-and-drop, and hotspot questions.

Grade 4 tasks demonstrate a clear progression, ranging from basic identification and skill application to strategic thinking. Individual skills serve as mini-checks for understanding across two to six levels of complexity—for instance, progressing from identifying multiplication in arrays to utilizing that skill in word problems to find missing information.

The materials support ongoing formative assessment through adaptive skill checks and Live Assessment, which continuously adjust question complexity based on student responses and provide real-time data on proficiency and learning needs aligned to the TEKS.

#### 2.2 Data Analysis and Progress Monitoring

GUIDANCE	SCORE SUMMARY	RAW SCORE
2.2a	The materials do not include instructional assessments that include a rationale for correct and incorrect responses.	1/3
2.2b	All criteria for guidance met.	1/1
2.2c	All criteria for guidance met.	2/2
2.2d	This guidance is not applicable to the program.	N/A
2.2e	All criteria for guidance met.	1/1
_	TOTAL	5/7

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

On the IXL homepage under Analytics, by selecting Student Quickview, the platform provides teachers with guidance on identifying how many questions students have answered, how long they have spent on each question, how often they interact with the program, and their progress, both individually and as a group.

Within the Analytics reports, the materials provide scoring information and comprehensive guidance for interpreting student performance. Scores below grade level indicate areas where remediation is needed.

Quiz Analysis reports show performance on individual questions and allow teachers to examine student responses for common incorrect answers.

The materials do not provide rationales for correct or incorrect responses to instructional assessment questions.

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

The materials include guidance for the teacher in using assessment results to support the purposeful planning of tasks and activities for the appropriate grade level or course. The Flex Diagnostic overview tab provides teachers with a detailed breakdown of student performance, categorizing assessment questions into seven key areas: fractions, numbers and operations, algebraic thinking, geometry, measurement, statistics, and data analysis. Teachers receive recommendations for intervention support or advanced skills practice for each category. For instance, if a student scores low in the measurement section, teachers can assign remedial practice or utilize recommended instructional strategies for small-group intervention.

The material provides guidance on skill activities teachers can recommend for students based on their diagnostic performance. For example, the Flex Diagnostic Action Plan includes a detailed breakdown of student scores by strand and personalized skill recommendations. By visiting the Analytics tab and the Flex Diagnostic Strand Analysis, teachers can view specific low-performing skills for different groups of students. Small groups are formed based on students' performance in various areas.

The Trouble Spots reports identify material for whole-class review, small-group instruction, and one-on-one support. They also pinpoint sample questions for review.

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

Within the material, students have access to their Dashboard, which allows them to view skills assigned by their teacher, recent skills, and recommendations. They can also Step Into the Arena, see their action plan, and see their SmartScore results.

The materials include visual growth trackers, progress charts, and badges to celebrate milestones and encourage student engagement in their learning journey.

The materials include an educator dashboard that automatically compiles real-time student assessment data into graphs and reports, highlighting areas of strength and weakness. Within the educator dashboard, teachers can view the achievement summary, which shows the number of questions answered by students and their level of mastery for those skills.

## 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.

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

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

The materials include frequent checks for understanding at key points throughout each lesson or activity. They provide immediate, question-level feedback that is not just about right or wrong. When students answer, the system analyzes their response and adjusts the learning path in real time. The sequence of lessons or activities adapts based on the individual student's needs, ensuring they receive targeted support or advanced challenges precisely when needed.

Throughout grade-level skill practice and activities, students answer questions to check understanding at key points. Students receive continuous feedback that directly influences the learning experience. The

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### 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	Materials do not include explicit educator guidance for unfamiliar references in the text.	3/4
3.1c	All criteria for guidance met.	2/2
3.1d	The materials do not include digital materials that include accommodations, including content and language supports, and calculators that educators can enable or disable to support individual students.	1/3
3.1e	All criteria for guidance met.	2/2
_	TOTAL	9/12

## 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.

The IXL diagnostic pinpoints individual student understanding, and the material provides tailored skill recommendations to teachers, guiding their next instructional steps. When a student misses a problem, IXL delivers an immediate, detailed explanation that breaks down the solution process, guiding them toward a deeper understanding. Teachers direct students to embedded video tutorials and "Learn with an example" sections, explicitly demonstrating new concepts and modeling problem-solving strategies. Teachers assign additional Skill Practice and lessons, located within the Learning tab under Skills, to provide students with flexible options for demonstrating mastery.

Teachers assign Skills through Group Jam, enabling selected students to work on the same problems simultaneously and tailoring assignments to individual group needs. The online program's guidance on IXL's Homepage allows students to access isolated skills. The program's built-in adaptive lessons then provide students with content, practice problems, feedback, and support videos tailored to their current understanding. As students answer questions, the difficulty increases or decreases, adapting to their needs. They receive a detailed review through step-by-step explanations and Learn with an Example and Watch a Video options, ensuring comprehensive support for mastering each skill.

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

The materials include explicit educator guidance for language supports, providing both pre-teaching and embedded supports to develop academic vocabulary. For example, the Takeoff lesson "Relate Fractions and Decimals" includes "Additional supports" and "Think and Talk" activities, with teacher notes that provide guidance for pre-teaching and reinforcing vocabulary like *fractions*, *decimals*, and *tenths*. These structured activities give students frequent opportunities to use academic language with peers.

Additionally, the materials offer a library of short videos that provide specific guidance for teachers on how to utilize various platform features for language support. These resources detail how to leverage IXL's video tutorials, Lessons, Learn with an Example, and Explanations to introduce, reinforce, and provide just-in-time support for new vocabulary and concepts. This comprehensive guidance ensures teachers can effectively support all learners in understanding academic language in context.

The materials do not provide explicit educator guidance for unfamiliar references in the text.

## 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.

The materials provide educators with guidance on how the adaptive learning platform adjusts content based on student performance, offering problem sets that require deeper reasoning and critical thinking. The IXL Platform is adaptable, creating an individualized plan for each student. Teachers create targeted small-group instruction for advanced students by utilizing the Flex Diagnostic Strand Analysis, which places students, from remedial to advanced, into groups with skills that are either below, at, or above their current grade level.

The materials automatically provide advanced learning paths for students who have mastered the current content. The lessons include enrichment tasks designed to extend students' learning beyond grade level. Students explore extension activities for skills by utilizing the Learn with an Example or Watch a Video features to advance their skills. For example, in grade 4, if students master multiplying multi-digit whole numbers by one-digit numbers, they can advance to Grade 5, where they will work with three-digit numbers by two-digit numbers.

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

The materials allow educators to enable text-to-speech during assessments, Skills Practice, quizzes, diagnostic assessments, and Group Jams.

The materials do not allow educators to enable and disable content and language supports or calculators to support individual students.

## 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.

The materials include educator guidance on how to allow students to demonstrate understanding through various formats, such as written explanations, and drawing models. For example, the grade 4 lesson on place value includes teacher notes and guidance for students to estimate the pencils in the picture and their purpose.

The material provides options within Skill Practice for students to show their understanding in multiple ways. For example, students represent concepts visually, with strip diagrams, line plots, or graphs; perform calculations or manipulations; and express solutions through written responses. For example, in grade 4, students demonstrate their understanding by solving multi-step problems using visual tools, representing their thinking through interactive strip diagrams that model part-whole relationships, and expressing their understanding by selecting or entering accurate numerical solutions based on the models.

IXL's online games offer students engaging and interactive opportunities to practice math. These games allow students to perform mathematical tasks, represent concepts visually, and express their understanding through various response formats, effectively supporting diverse ways to show mastery.

#### 3.2 Instructional Methods

GUIDANCE	SCORE SUMMARY	RAW SCORE
3.2a	All criteria for guidance met.	5/5
3.2b	This guidance is not applicable to the program.	N/A
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	12/12

# 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.

The materials provide explicit prompts and guidance for educators to build students' knowledge effectively. For instance, in multiplication lessons, students activate prior knowledge by using partial products to solve two-digit by one-digit problems, and then extend this understanding to two-digit by two-digit multiplication. Teachers guide students to solve problems such as  $16 \times 32$  using partial products and area models. Students also engage in activities that require them to correct incorrect partial products and identify missing factors to match given products.

In the "Multiply by multiples of 10 using place value" Skill, the "Learn with an example" feature effectively reminds students of basic multiplication facts before introducing the new concept. It uses place value language and visual cues to anchor the key idea that the number of zeros affects magnitude, enabling students to connect previously learned facts to new patterns in place value.

The materials include videos that target specific skills, activate prior knowledge, anchor key ideas, and help students make connections through multiple means of representation.

In a division lesson on 15 divided by 3, the teacher provides counters and prompts students to recall their understanding of equal groups from multiplication. The teacher then asks, "How does the use of counters help solve the equation?" and "How many are in each group?" When presenting a problem like 17 divided by 3, the teacher leads a discussion asking, "Can the numbers be placed in equal groups? Why? Why not? Was it a mistake? How do you know?"

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

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

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

The materials include multi-tiered intervention methods that support various types of practice, including independent, guided, and collaborative modes. For example, students engage in independent Skill Practice through personalized "Recommendations," receive corrective feedback and reteaching when answering incorrectly, and participate in collaborative Group Jam activities led by the teacher.

The materials support multiple instructional structures, such as whole-group, small-group, and individual practice. For example, teachers use data from the Real-Time Diagnostic and Trouble Spots reports to pull small groups or offer targeted one-on-one support aligned to students' needs.

The materials include educator guidance to support the effective implementation of multi-tiered interventions. For example, the "Implementation Guide for Live Assessment" provides steps to plan, deliver, and adjust instruction in real time based on student progress, allowing teachers to monitor skill mastery and provide immediate support.

The materials adapt in real time, offering scaffolded explanations and routing students to prerequisite skills when persistent errors are detected, ensuring just-in-time support within the learning path.

The material enables teachers to assign targeted skills by domain, utilizing the Recommendations tool, Skill Plans, and Real-Time Diagnostic.

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

The materials provide enrichment and extension through Idea for Extension and Tip for Support in each lesson plan. For example, for students who have mastered identifying equivalent fractions and comparing fractions using models, the materials present lesson plan extension activities that involve more complex problems within those skills. As students consistently answer correctly, they move toward the Challenge Zone or Excellence. In this zone, problems become more intricate, involving larger numbers, multi-step thinking, or less direct visual aids. Additionally, in a Skill like "Add and Subtract Fractions with like Denominators," a proficient student will encounter problems that require simplifying the answer or adding three fractions instead of just two.

The materials provide a Real-Time Diagnostic that identifies students' strengths and areas for growth. For advanced students, it will display high proficiency levels in current grade-level skills and suggest higher-level skills on their personalized Recommendation Wall.

The materials include enrichment and extension methods that support various forms of engagement, along with guidance to help educators implement them effectively. The platform offers Division Challenge Puzzles that move beyond basic recall. For example, students receive a quotient and work backwards to

find missing dividends and divisors, or solve long division puzzles by filling in missing digits. Educators encourage students to create their own division word problems based on real-life scenarios (e.g., dividing snacks among friends, sharing supplies for a project) to extend learning.

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

The material offers Live Classroom and Group Jams features that display students' real-time responses. The educator can send a live message and receive prompts to support students.

The materials include teacher-facing notes and support tip boxes within each lesson, guiding when and how to offer feedback.

When students answer incorrectly during Skill Practice, the materials provide feedback and explanation.

The materials support timely, individualized feedback through embedded features and reports. For example, as students work on skills, they receive instant feedback with step-by-step explanations, and teachers can use SmartScore data and the Recommendations Wall to identify and address misconceptions during instruction.

#### 3.3 Support for Emergent Bilingual Students

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

GUIDANCE	SCORE SUMMARY	RAW SCORE
3.3a	This guidance is not applicable to the program.	N/A
	The materials do not include embedded linguistic accommodations for all	
3.3b	levels of language proficiency (as defined by the ELPS), which are designed	2/4
	to engage students in using increasingly academic language.	
	Materials do not include implementation guidance to support educators in	
3.3c	effectively using the materials in state-approved bilingual/English as a	0/1
	Second Language (ESL) programs.	
	Materials do not include embedded guidance to support emergent	
3.3d	bilingual students in making cross-linguistic connections through written	7/8
	discourse.	
3.3e	This guidance is not applicable to the program.	N/A
_	TOTAL	9/13

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.

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

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.

The materials do not include adaptive scaffolds to advance students through multiple English Language Proficiency Standards (ELPS) levels, though some lessons include educator guidance for language development. While supports exist for at least two levels of language proficiency, there is insufficient evidence of embedded accommodations that intentionally guide students through increasingly complex academic language across multiple proficiency levels.

The materials provide embedded linguistic accommodations primarily aligned to Beginning and Intermediate English proficiency levels, such as text-to-speech, translation tools, and sentence stems paired with visuals. These supports help students access content and build foundational academic language. However, the materials do not include features that promote advanced language use across multiple ELPS levels, such as complex sentence structures, evolving scaffolds, or peer discourse routines.

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

The materials do not include implementation guidance to support educators in effectively using the materials in state-approved bilingual/ESL programs. The materials include guidance in the IXL for English Language Learners information page on how the materials support emergent bilingual students; however, the information page does not provide guidance on how to implement the materials within bilingual/ESL programs.

## 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.

In the Interpret Remainders lesson, the Additional Support tab provides embedded guidance for teachers to support emergent bilingual students in developing academic vocabulary through written discourse by having students create graphic organizers with definitions, examples, and non-examples. The same activity also supports building background knowledge through written discourse as students review and record the distinguishing features of quadrilaterals. Students then create and share riddles with a partner, which provides opportunities for oral discourse that builds background knowledge and helps students practice and refine mathematical language, supporting developing academic vocabulary through oral discourse.

In the Understand Factors lesson, the Additional Support tab provides Spanish versions of key mathematical terms such as *base/base*, *exponent/exponente*, and *factor/factor*. Teachers are guided to review these terms with students before the lesson, supporting making cross-linguistic connections through oral discourse and building background knowledge through oral discourse. The guidance also recommends highlighting the power of 10 visually, which helps emergent bilingual students increase comprehension through oral discourse.

Visual aids such as graphic organizers and note cards further support students in developing academic vocabulary through written discourse by reinforcing designated math terms. When used alongside discussion, these tools also provide opportunities for oral discourse that increases comprehension and, when paired with bilingual terms, help students make cross-linguistic connections.

The online program features short, interactive written exercises where students reinforce academic vocabulary by dragging and dropping terms into definitions or matching vocabulary with images. For Texas Instructional Materials Review and Approval (IMRA) Cycle 2025 Final Report 11/01/2025 IXL Learning, Inc., Supplemental English Mathematics, 4, IXL Math Grade 4

example, activities for describing the coordinate plane and understanding decimals in words support developing academic vocabulary and increasing comprehension through written discourse. When students encounter unfamiliar words or phrases, the platform also provides bilingual translations into over 100 languages, supporting making cross-linguistic connections through written discourse.

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.

The materials provide varying complexity levels, including basic identification of place value positions, skill application—how much place value is worth, and strategic thinking—putting numbers in order using place value knowledge.

Students work through a scaffolded progression of addition and subtraction practice opportunities, starting with two-digit operations and gradually increasing to three-digit practice opportunities (e.g., base-ten models, number lines, partial sums) strategies.

The materials provide personalized Skill Plans that use formative and diagnostic data to create quizzes. Students follow these plans to work through a scaffolded progression of addition and subtraction. They begin with two-digit operations and practice with base-ten models, number lines, and partial sum strategies before advancing to three-digit operations. After practicing, students take a quiz to demonstrate their understanding of the skill.

## 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.

The materials offer a variety of tiered-level questions through Skill Plans organized by TEKS. The content follows a logical progression. For example, grade 4 students learn to identify place value up to the thousands, determine the value of digits, and then apply this knowledge to solve word problems.

The IXL Diagnostic gives students an individualized starting point to work on skills aligned with their current understanding. The materials automatically adapt to student performance through the IXL SmartScore, gradually increasing in difficulty by intentionally increasing the rigor and complexity of questions to achieve grade-level and above-grade-level proficiency. For example, the Skill Plan for 4.3A starts with students understanding fractions using fraction bars and area models, then progresses to

students showing fractions with fraction bars and area models, then students match fractions to models, then students use number lines to represent fractions, and finally students engage in graphing fraction on a number line.

Enrichment and extension materials increase in rigor and complexity through adaptive features and advanced content. For example, as students demonstrate proficiency, IXL presents more challenging tasks, such as multi-step problems and mastery-level questions, and offers targeted skills to extend learning beyond grade level via the Student Dashboard and teacher-assigned enrichment pathways.

### 4.2 Coherence of Key Concepts

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

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

The materials provide lessons to support students with the big ideas and prepare them for the Skill Practices, which connect concepts horizontally. For example, in grade 4, fractions as numbers tie directly to visual models, decimals, and equivalence. The materials provide lessons to help students with the big ideas and prepare them for the Skill Practices, which build upon each other.

Students use number lines and fraction bars to represent and model equivalent fractions. Online Skill Practice uses interactive problems to build upon how to find equivalent fractions.

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

The materials demonstrate strong vertical coherence across concepts and grade bands, specifically connecting patterns, big ideas, and relationships from kindergarten through grade 6. This is evident through the consistent progression and extension of key mathematical models and concepts. For example, ten frames are initially introduced for counting in kindergarten and then strategically extended for addition and subtraction in grade 1, illustrating a foundational pattern for number sense.

Additionally, cube trains are utilized for counting, addition, and subtraction in kindergarten, continuing for these operations in grade 1, and then further developed for measuring length in grades 1–2, showcasing how a single manipulative supports evolving mathematical ideas. Number lines serve as a consistent model throughout grades 1–6 for ordering, modeling, and operations. Their use gradually extends from whole numbers to fractions, decimals, and integers, culminating in their application on the coordinate plane, demonstrating a clear progression of relationships.

Furthermore, in grade 6, percents are modeled with strips and area models, directly connecting to and building upon the representations of fractions and decimals introduced in earlier grades, highlighting the relationship between these related concepts.

Area is introduced and connected to multiplication in grade 3, and subsequently, area models are consistently used throughout grades 4–6 to model multiplication and division with whole numbers,

fractions, decimals, and variable expressions, showcasing a coherent development of a big idea across multiple grade levels and increasing complexity.

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

The materials demonstrate coherence across lessons by connecting students' prior knowledge to new concepts. For example, in the grade 4, Add Fractions with Models lesson, students begin with a warm-up activity that reviews foundational concepts like decomposing fractions and fractions of a group. The materials further build on this connection by guiding the teacher to relate the new skill of adding fractions on a number line to students' previous knowledge of adding whole numbers on a number line, ensuring a seamless progression of learning.

#### 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.

The materials provide a Skill Plan that allows students to revisit foundational number sense skills, such as place value, and addition and subtraction, throughout the year as they work on more complex tasks, including multi-digit addition and multiplication.

The material provides a SmartScore that encourages students to revisit and practice previously learned skills. The teacher can personalize a Skill Plan for individual students. Students also receive support with previously learned practice within the Work It Out section of the skill.

The material is adaptive and organized by topic and concept. As students move through skills and topics, they revisit core concepts and increase complexity based on their conceptual understanding.

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

The materials present a series of problems that involve addition, subtraction, multiplication, and division of numbers. For example, in Real-time Mode, teachers can view students' work through problems within their Skill Plan. The Real-time Mode feature adapts to their skill level. It prompts them to choose the most efficient strategy to solve the math word problems, incorporating more concepts, such as money, time, input/output tables, and bar graphs.

Real-time mode for students learning multiplication requires the use of addition to enhance their ability to understand multiplication as repeated addition, which then allows for the teaching of division as the opposite of multiplication, separating into equal groups (division) rather than combining groups.

The diagnostic recommends more challenging skills for students who have mastered a concept, drawing on related, but more complex, applications of what they already know.

### 5. Balance of Conceptual and Procedural Understanding

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

### 5.1 Development of Conceptual Understanding

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

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

Students analyze and demonstrate their understanding through various methods, including interactive visual models, drawing diagrams, and engaging in problem-solving games. For instance, the grade 4 lesson plan instruction for Interpret Bar Graphs prompts students to identify key elements in bar graphs, analyze and compare data on multiple graphs, and draw conclusions based on visual representations of the data.

The materials provide opportunities to interpret, analyze, and evaluate models and representations using number lines, strip diagrams, graphs, and word problems that utilize real-world scenarios. For example, the lesson plan instruction for Graphing Numbers on a Number Line provides educators with information on facilitating the interpretation, analysis, and evaluation of real-world scenarios, such as the Basketball Shooting Contest and Olympic Medals.

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

The materials provide students with opportunities to create concrete models and pictorial representations of mathematical situations. For example, in the grade 4 Skill Plan, students use interactive tools to drag and drop squares to form arrays and shade parts of a grid to represent products or quotients on area models. These activities enable students to replicate the hands-on creation of place value, base-ten block pictorials, and fraction models.

Students construct picture and bar graphs by inputting data within various learning pathways, demonstrating their ability to generate pictorial representations of mathematical information.

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

The materials provide teachers with instructional lessons enabling students to apply conceptual understanding to new problems and contexts. Math lessons seamlessly combine Skill Practice with built-in explanations, examples, and real-world applications. The materials first frame a concept and then guide students through progressively complex problems, explicitly requiring them to apply learned concepts in new ways. For example, students apply their knowledge of addition and subtraction to multistep problem scenarios. A student might encounter a problem like: "Sharon made pies to sell at a local coffee shop. She spent \$98.75 on baking supplies. Sharon sold her pies and ended with a profit of \$148.98. How much money did she receive from selling pies?"

The Skill Plan provides students with opportunities to expand their understanding of money and time through real-life scenarios. Students extend their knowledge of addition and subtraction by solving problems in real-life contexts. For example, students solve the following problem: "On Benson Bus Lines, Greta can usually check two bags for \$24. Unfortunately, today, Greta's two bags exceeded the weight limit, so she had to pay \$4.80 extra for each bag. How much money did Greta pay to check each bag?"

#### 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.

The materials provide Skill Practice that supports automaticity by helping students develop speed and accuracy with math facts and operations required for the grade level. For example, in the "Multiplication facts to 12" skill, students get repeated timed practice with multiplication facts in preparation for multidigit multiplication and division later in the materials.

The "Multiply by multiples of 10, 100, and 1,000" skill supports procedural fluency by reinforcing place value understanding and efficient multiplication strategies. Students practice using patterns in base ten to multiply quickly and accurately.

The materials provide a Skill Plan in which students complete timed, adaptive drills to build their automatic recall of multiplication facts. As students demonstrate accuracy and speed, the program gradually increases in difficulty.

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

The materials promote flexibility by presenting multiple solution strategies and representations, encouraging students to choose and explain different procedures. In "Multiply Using the Distributive Property," students use area models, partial products, or traditional algorithms to solve multiplication problems.

The Skill adaptive activities naturally progress in difficulty, allowing students to encounter and evaluate increasingly efficient strategies as they advance. For instance, in the Analyze Division Problems Using Strip Diagrams skill, students first solve division problems by repeated subtraction or by drawing individual units within a strip diagram. Then, students solve them using strip diagrams.

The material supports accuracy by embedding immediate feedback, scaffolding, and opportunities for error correction within practice tasks.

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

The materials guide students toward selecting increasingly efficient approaches to solving mathematics problems. The Recommendations Wall presents students with various mathematical representations, models, and strategies (such as visual models, numeric shortcuts, and standard algorithms), encouraging them to evaluate the quickest and most adaptable approach for the task.

In the "Feed Me Fractions—Adding Fractions" activity, students engage in "Think and Talk" to discuss, "Did Liam correctly combine the fractions to grow the monster? How do you know?" Students must evaluate whether Liam's problem-solving for adding fractions was correct and explain their reasoning.

The material provides students with a SmartScore that directly reflects accuracy. A dropping SmartScore or prolonged struggle in a skill signals to the student (and teacher) that their current understanding or method is not consistently leading to accurate solutions. This feature prompts them to reevaluate their approach to achieve a higher score.

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

The materials provide Skill Practice activities with progressively increasing difficulty levels built into each skill, allowing students to encounter and evaluate increasingly efficient strategies as they advance naturally. As students answer correctly, the questions become more complex. In the Multiply by 10 Skill, students transition from repetitive multiplication or skip counting to using place value patterns.

The materials include the Recommendations Wall, which allows students to encounter multiple strategies (e.g., visual models, numeric shortcuts, standard algorithms), encouraging them to select the quickest, and most adaptable approach for each task.

#### 5.3 Balance of Conceptual Understanding and Procedural Fluency

GUIDANCE	SCORE SUMMARY	RAW SCORE
5.3a	Materials do not explicitly state how the conceptual and procedural	0/2
J.3a	emphases of the TEKS are addressed.	0/2
5.3b	All criteria for guidance met.	3/3
5.3c	All criteria for guidance met.	6/6
_	TOTAL	9/11

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

The materials do not explicitly state how the conceptual and procedural emphasis of the TEKS are addressed; however, the materials guide students through a clear understanding progression, from concrete manipulation to abstract application.

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

Within the Skill Practice, students use concrete models to answer questions and complete tasks. For example, in the "Create rectangles with a given area" skill, students manipulate square tiles to create rectangles to match the given area. In the "Create line plots with fractions" skill, students construct line plots to match the provided data.

Within the Skill Practice, students use pictorial representations to answer questions and complete tasks. For example, in the Elapsed Time Skill, students use pictorial models of analog clocks to answer elapsed time questions. In the "Place value model" skill, students enter the standard form of the value of the base-ten model.

Within the Skill Practice, students use abstract models to answer questions and complete tasks. For example, in the "Decompose fractions into unit fractions" skill, students add unit fractions to complete the equation. In the "Addition: fill in the missing digits" skill, the materials present students with an addition problem solved in standard form, and students enter the missing number to make the equation true.

## 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.

In the Takeoff lesson about factors, students connect factor trees to area models, and then to factors and factor pairs. Students engage in creating different models and comparing the different methods.

In the "Multi-step problems involving two-digit numbers" lesson, students create diagrams and estimation models to plan and justify their solving strategies. They also explain how their self-generated representations relate to multi-digit computations and algorithms.

The materials prompt students to create pictorial representations, such as strip diagrams, to solve word problems before using abstract models to solve.

#### 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	Materials do not include embedded guidance to anticipate a variety of student answers, including exemplar responses to questions and tasks.	1/2
_	TOTAL	7/8

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

The materials include lessons on understanding factors that provide opportunities for students to develop academic mathematical language. The materials utilize visuals, such as charts and tables, which serve as a foundation for students to grasp and articulate multiplication concepts. Through these visual aids, students actively engage with and use academic mathematical language, including terms like *factors* and *products*, to describe multiplication relationships. For example, students use the term *factor* to identify the numbers in a multiplication equation. Students verbally describe these relationships.

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

The materials include embedded educator guidance through Think and Talk and Show and Talk sections. These prompts, strategically placed within Takeoff lessons, guide teachers to encourage student discussion using targeted academic vocabulary while students explain their reasoning or strategies. For example, in a grade 4 lesson about comparing fractions to benchmarks, a Think and Talk prompt asks: "What do you notice about the numerators and denominators of the fractions greater than 1/2? What about the fractions less than 1/2?" Teachers facilitate dialogue where students use precise terms like *numerator*, *denominator*, *fraction*, and *benchmark number* in context.

Language Tips are integrated into the materials, providing explicit teacher guidance to scaffold and support the use of vocabulary when communicating with peers. For instance, in a grade 4 Takeoff lesson about Place Value, a Language Tip advises introducing the phrase times as much and suggests providing the sentence frame: "\_\_ is \_\_ times as much as \_\_."

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

The materials include embedded guidance to support student application of appropriate mathematical language and academic vocabulary in discourse. In a grade 4 lesson on comparing fractions using benchmarks, students apply key vocabulary like *benchmark fractions*, *greater than*, and *less than* within their discussions. The lesson utilizes visual models and explicit prompts that encourage students to explain their reasoning by comparing fractions to benchmarks such as 0, 1/2, and one. For instance, an embedded prompt directs teachers to "have students discuss the relationship between the numerators and denominators in the fractions they marked." Students use precise academic language (*numerator*, *denominator*) to justify their comparisons in discourse, moving beyond simple answers to articulate their mathematical understanding.

The grade 4 lesson on classifying triangles includes specific sentence stems designed to support students in applying academic vocabulary and engaging in structured mathematical discourse. Examples of these stems include: "An acute triangle has \_\_ angles," "A right triangle has (1 right) angle," and "An obtuse triangle has \_\_ angles." These scaffolds ensure students accurately use terms like *acute*, *right*, and *obtuse* when describing and classifying triangles.

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

The materials provide embedded guidance to facilitate mathematical conversations, allowing students to hear, refine, and use math language with peers. For example, the Takeoff lesson plan about factors includes open-ended questions and prompts encouraging students to explain their reasoning and justify their answers in peer discourse. Students work collaboratively in pairs or small groups to find factor pairs for a given number. As groups find and record all factor pairs, they share and discuss how they know they have found all factors.

In the compare fractions using benchmarks lesson plan, the materials provide embedded guidance specifically designed to facilitate mathematical conversations using sentence frames. For example, students use frames such as: "\_\_ is less/greater than 1/2 because two copies of \_\_ is less/greater than a whole." Teachers also guide students in "Think and Talk" sessions with questions like: "What do you notice about the numerators and denominators of the fractions greater than 1/2? What about fractions less than 1/2?"

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

The Skill problems provide immediate feedback when students submit incorrect answers. Embedded guidance, with a step-by-step rationale, follows incorrect student responses. For example, in a grade 4 Skill on identifying numbers in standard form, when a student provides an incorrect answer, the platform displays a visual place value chart with the digits entered and the explanation: "You write one hundred as 100." This feedback helps solidify understanding by connecting the abstract number to its visual representation.

The material includes Skill problems that provide immediate feedback when students submit incorrect answers. Each incorrect response is followed by embedded guidance, including a step-by-step rationale, which helps students understand their mistake and redirect their thinking. The platform also provides exemplar responses for correct answers, helping students recognize accurate mathematical reasoning and language. For example, in a grade 4 Skill on identifying numbers, when a student is redirected, the platform displays a place value chart with the digits entered, along with the explanation: "You write one hundred as 100." This feedback helps solidify understanding by connecting the abstract number to its visual representation.

The materials do not include embedded guidance to anticipate a variety of student answers, including exemplar responses to questions and tasks. The materials include one exemplar response to questions and tasks in the Takeoff lessons.

#### 5.5 Process Standards Connection

GUIDANCE	SCORE SUMMARY	RAW SCORE
5.5a	All criteria for guidance met.	1/1
5.5b	Materials do not include a description of how process standards are incorporated and connected throughout the learning pathways.	0/2
5.5c	All criteria for guidance met.	1/1
_	TOTAL	2/4

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

The materials integrate the process standards into the materials appropriately. For example, the lesson about solving multi-step word problems integrates the 4.1A, applying mathematics to problems in everyday life, process standard. During the lesson students engage in complex, multi-step word problems that require them to interpret scenarios and solve using appropriate mathematical strategies, directly reflecting real-life problem-solving.

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

The materials do not include an overview of the TEKS process standards incorporated into each lesson. The Skill Plan lists lessons for each of the process standards, but it does not describe how they connect throughout the learning pathways.

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

In the Skill Plan section, the materials list and link all the process standards and include the lessons that align with each process standard. For example, 4.1A lists 43 skills that incorporate this standard.

The materials categorize the content under each process standard. For example, 4.1B aligns with content skills of place value, addition and subtraction, multiplication, division, identifying reasonable answers, money, time, perimeter and area, and data and graph.

### 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.

In the Types of Quadrilaterals lesson, students think mathematically using a protractor to measure angles and understand the multiple starting points. This task also requires students to persevere by finding exact angle measures that must sum to 180 degrees. The materials further promote sense-making by asking students to analyze and justify a mistake, such as in the problem: "Explain Kelsey's mistake and find the correct measure."

Additionally, the materials include open-ended prompts that push students to think mathematically and make sense of mathematics by having them explain their reasoning, as seen in a separate prompt that asks, "Sandra states that every number has one as a factor. Do you agree? Why or why not?"

The materials support students in thinking mathematically, persevering through problems, and making sense of mathematics by embedding rigorous prompts and challenges. An example is the open-ended writing prompt in a number patterns lesson, which asks students to explain their reasoning: "What do you notice about all of the numbers in the pattern? Would that still be true if the pattern continued? How do you know?" Students make sense of the mathematics by justifying their observations.

The Challenge Zone provides higher-order problems that push students to persevere and think mathematically beyond basic recall. For example, the materials require students to engage in multi-step reasoning and a flexible application of mathematical concepts by presenting addition and subtraction equations with four addends.

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

The materials support students in understanding, explaining, and justifying that there can be multiple ways to solve problems and complete tasks through explicit guidance for teachers and structured activities for students. For example, in a lesson on number patterns, the "Teacher Notes" state, "There is

more than one correct answer for each pattern. Consider having some students share their responses and how they know that their statement will be true for every number in the pattern." This guidance prompts teachers to facilitate discussions on alternative approaches and the justification for each.

In a lesson on division, the materials present and compare multiple methods, such as partial quotients, estimation, and area models. Students solve a word problem using both partial products and an area model and compare the methods by answering questions like, "What does an area model for 978 divided by 3 look like?" and "How would it be similar or different from partial products?"

In a lesson on adding fractions, students represent fractions using number lines and pictorial models, using their prior knowledge of decomposing fractions in various ways.

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

The materials provide embedded guidance and routines to facilitate mathematical conversations. For example, in the Measure and Draw Angles lesson, the Compare and Talk prompt directs students to discuss, "Look at the protractor. How is it like a ruler? What makes it better for measuring angles?"

Students are required to write about their mathematical thinking. For example, in a division lesson, a prompt asks students to "Write a word problem you could solve with this area model." Similarly, in a number theory prompt, students must justify their reasoning by responding to the statement, "Sandra states that every number has 1 as a factor. Do you agree? Why or why not?"

Students do math through a variety of problem-solving tasks. The materials guide teachers in having students apply different strategies and break down complex problems. For example, in a division lesson, teachers have students compare the problems and explain how they know the answer is the quotient.

#### **6.2 Facilitating Productive Struggle**

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

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

The materials support educators in guiding students to share and reflect on their problem-solving approaches, including explanations, arguments, and justifications, through explicit discussion prompts, teacher-facilitated questioning, and structured routines. For example, in a Takeoff lesson on area and perimeter, teachers are prompted to have students "share how they found the area and perimeter" and to "ask students what steps they can break the problem into."

In a division lesson, teachers guide student sharing and reflection through embedded prompts. These prompts encourage students to compare different division problems, discuss why an answer cannot be the quotient or the remainder, and explain how they know the answer is the quotient.

In a lesson on dividing with partial products, students are given a completed problem and asked, "Is he correct? If yes, explain why? If not, explain his mistake and how to fix it?" Students construct a mathematical argument and justify their conclusions about a peer's work.

In a lesson on interpreting the remainder, students solve a multi-step word problem and are asked, "How do you know?" This requires them to reflect on their solution and provide a clear explanation for their interpretation of the remainder within the problem context.

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

The materials include digital quizzes that provide immediate scoring and personalized feedback. Upon entering incorrect responses, the materials immediately include the rationale and a video for remediation of the skill. For example, when students enter the wrong answer for the problem, "Which factors multiply together to make 72?", the answer rationale will state, "Your answer is incorrect; look in the box for factors of 72. What two numbers from the box can you multiply to get 72?"

The materials include prompts and guidance to support educators in providing explanatory feedback based on student responses and anticipated misconceptions. This is accomplished through various features, including explicit teacher notes, "Tips for Support," and embedded guidance for student errors.

The Tips for Support feature in a lesson on dividing with partial quotients provides guidance for teachers in providing explanatory feedback. For example, it suggests, "if students struggle . . . have them divide using an area model. Then help them show their work with partial quotients using their area model as a guide."

In a lesson on multi-step word problems, the teacher notes prompt educators to guide students in identifying "hidden questions." The notes explicitly break down the two-step process—addition followed by subtraction—which directly addresses the common misconception of trying to solve the problem in a single step.

The materials prompt teachers to address student errors by having them analyze incorrect work. For instance, in a lesson on comparison word problems, students are tasked with identifying and explaining a mistake made by a character named Henry, which requires them to articulate and justify their reasoning, thereby reinforcing their understanding of the underlying concepts.