

IMRA Review Cycle 2024 Report



Publisher Name	Program Name
Kiddom	IM360 Texas Math Powered by Kiddom
Subject	Grade Level
Mathematics	Kindergarten

Texas Essential Knowledge and Skills (TEKS) Coverage: 100%
English Language Proficiency Standards (ELPS) Coverage: 100%
Quality Review Overall Score: 220 / 227

IMRA Reviewers

Flags for Suitability Noncompliance 8

Indicator	Count of Flags
1. Prohibition on Common Core	8
2. Alignment with Public Education’s Constitutional Goal	0
3. Parental Rights and Responsibilities	0
4. Prohibition on Forced Political Activity	0
5. Protecting Children’s Innocence	0
6. Promoting Sexual Risk Avoidance	0
7. Compliance with the Children’s Internet Protection Act (CIPA)	0

Flags for Suitability Compliance 0

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

Alleged Factual Errors 3

Public Feedback

Flags for Suitability Noncompliance 0

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

Alleged Factual Errors 0

Public Comments 0

Quality Review Summary

Rubric Section	Quality Rating
1. Intentional Instructional Design	52 / 53
2. Progress Monitoring	25 / 28
3. Supports for All Learners	31 / 32
4. Depth and Coherence of Key Concepts	23 / 23
5. Balance of Conceptual and Procedural Understanding	64 / 66
6. Productive Struggle	25 / 25

Strengths

- 1.1 Course-Level Design: Materials include a scope and sequence outlining the TEKS, ELPS, concepts, and knowledge taught in the course, with suggested pacing guides for various instructional calendars, explanations for the rationale of unit order and concept connections, guidance for unit and lesson internalization, and resources to support administrators and instructional coaches in implementing the materials as designed.
- 1.3 Lesson-Level Design: Materials include comprehensive lesson plans with daily objectives, questions, tasks, materials, and assessments to meet content and language standards, along with overviews that outline suggested timing, list necessary materials, and provide guidance on using materials for extended practice.
- 2.2 Data Analysis and Progress Monitoring: Materials provide guidance on using the included tasks and activities to address student performance trends, and include tools for students to track their own progress and growth.
- 3.1 Differentiation and Scaffolds: Materials include teacher guidance for differentiated instruction, activities, and scaffolded lessons for students who have not yet reached proficiency, pre-teaching or embedded supports for unfamiliar vocabulary and references in text, and guidance for differentiated instruction, enrichment, and extension activities for students who have demonstrated proficiency in grade-level content and skills.
- 3.2 Instructional Methods: Materials include prompts and guidance to support teachers in modeling, explaining, and directly and explicitly communicating concepts to be learned. They provide teacher guidance and recommendations for effective lesson delivery using various instructional approaches and support multiple types of practice with guidance on recommended structures, such as whole group, small group, and individual settings, to ensure effective implementation.

- 4.1 Depth of Key Concepts: Materials provide practice opportunities and instructional assessments that require students to demonstrate depth of understanding aligned to the TEKS, with questions and tasks that progressively increase in rigor and complexity, leading to grade-level proficiency in mathematics standards.
- 4.2 Coherence of Key Concepts: Materials demonstrate coherence across courses and grade bands through a logically sequenced scope and sequence, explicitly connecting patterns, big ideas, and relationships between mathematical concepts, linking content and language across grade levels, and connecting students' prior knowledge to new mathematical knowledge and skills.
- 4.3 Spaced and Interleaved Practice: Materials provide spaced retrieval and interleaved practice opportunities with previously learned skills and concepts across lessons and units.
- 5.1 Development of Conceptual Understanding: Materials include questions and tasks that require students to interpret, analyze, and evaluate various models for mathematical concepts, create models to represent mathematical situations, and apply conceptual understanding to new problem situations and contexts.
- 5.2 Development of Fluency: Materials provide tasks designed to build student automaticity and fluency for grade-level tasks, offer opportunities to practice efficient and accurate mathematical procedures, evaluate procedures for efficiency and accuracy, and include embedded supports for teachers to guide students toward more efficient approaches.
- 5.4 Development of Academic Mathematical Language: Materials provide opportunities for students to develop academic mathematical language through visuals, manipulatives, and language strategies, with embedded teacher guidance for scaffolding vocabulary in context, supporting mathematical conversations, and using exemplar responses to refine students' math language skills.
- 5.5 Process Standards Connections: Materials integrate process standards appropriately, providing descriptions of how they are incorporated and connected throughout the course, within each unit, and in each lesson.
- 6.1 Student Self-Efficacy: Materials provide opportunities for students to think mathematically, persevere through problem-solving, and make sense of mathematics, while supporting them in understanding multiple ways to solve problems and requiring them to engage with math through doing, writing, and discussion.
- 6.2 Facilitating Productive Struggle: Materials support teachers in guiding students to share and reflect on their problem-solving approaches, including explanations and justifications, and offer prompts and guidance for providing

feedback based on student responses and anticipated misconceptions.

Challenges

- 1.2 Unit-Level Design: Materials do not include comprehensive unit overviews that provide the academic vocabulary to effectively teach the concepts in the unit.
- 2.1 Instructional Assessments: Diagnostic, formative, and summative assessments are not TEKS-aligned.
- 3.3 Support for Emergent Bilingual Students: Materials do not include

teacher guidance on providing linguistic accommodations for various levels of language proficiency [as defined by the ELPS.

- 5.3 Balance of Conceptual Understanding and Procedural Fluency: Materials do not explicitly state how the conceptual and procedural emphasis of the TEKS is addressed.

Summary

IM360 Texas Math powered by Kiddom is a Mathematics K–2 program that offers a problem-based curriculum that immerses students and teachers in the experience of "doing math." The grade K program includes eight comprehensive units with lessons within the digital platform that cover mathematical practice standards in a coherent progression and standard lesson design structure. The online materials contain embedded supports for students and teachers, including digital manipulatives and tools, language supports, and downloadable resources.

Campus and district instructional leaders should consider the following:

- The materials provide a comprehensive scope and sequence aligned with TEKS and ELPS, including pacing guides, detailed lesson plans, and differentiation strategies to meet diverse student needs. The resources promote coherence across grade levels, integrate process standards, and facilitate productive struggle, empowering students to engage deeply with mathematics. Teachers may benefit from additional support with implementation given that some areas of guidance are less explicit than others.
- The materials may need to be supplemented with additional resources and guidance for academic vocabulary and linguistic accommodations for emergent bilingual students.

Intentional Instructional Design

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

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

Evidence includes, but is not limited to:

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

- The materials include a Scope and Sequence located within the Course Guide Materials under the Pacing Guide and Dependency Diagram sections within the online platform. The Scope and Sequence lists TEKS and ELPS by unit of instruction. The document lists the process standards and states, "Process Standards are integrated throughout all units." The Scope and Sequence also includes Lesson Titles and Lesson Targets outlining the concepts and knowledge taught in the course.
- Each unit within the scope and sequence is organized into sections and learning goals that describe the concepts and knowledge taught. For example, the Unit 1 overview begins by stating, "In this unit, students explore mathematical tools and notice numbers and quantities around them, while teachers gather information about students' counting skills and understanding of number concepts."

Materials include suggested pacing (pacing guide/calendar) to support effective implementation for various instructional calendars (e.g., varying numbers of instructional days–165, 180, and 210).

- The materials include a detailed pacing guide located under the Course Guide section of the online platform. The pacing guide outlines suggested pacing for eight units over 34 instructional weeks, including the number of days per unit and the number of weeks per unit. The materials provide options within the Dependency Diagram of the pacing guide to adjust the timeline of units by including 15 optional lessons spread across the 34 instructional weeks.
- The Texas Scope and Sequence for grade K includes supporting information to implement various instructional calendars. The calendar day suggestion is 172 days. To shorten the number of instructional days, the materials state, "To reduce the number of instructional days, omit the 13 lessons noted as optional. This will reduce the number of instructional days to 130 days."

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

- Units within the materials connect concepts throughout the units. For example, Unit 4 states, "Previously, students counted forward by one and ten within 100 in the Choral Counting routine...Here, as they count and group quantities, students generalize the structure of two-digit numbers in terms of the number of tens and ones," highlighting the connection between the concepts. The scope and sequence provide a narrative explaining the big ideas of the units and lists the titles of all eight units.
- Materials include an explanation of how the concepts to be learned connect throughout the course. Materials include dependency diagrams on the online platform under Course Guide, Pacing Guide, and Dependency Diagram, which visually outline the flow of units taught via arrows in the diagram. The chart also indicates when a previously taught concept is revisited in future units. The coherent progression section, found in the online resource under Design Principles, describes the intentional organization of mathematical ideas to support a coherent progression of knowledge and skills that span units and grade levels.

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

- The materials include guidance, protocols, and/or templates to support unit and lesson internalization. For example, the PLC Structure section under Course Overview, Teacher Guide, and Key Structures, provides guidance for unit internalization through the Professional Learning Community (PLC) process.
- Materials include a Section Level Planning Guide that supports teachers during lesson internalization. Each section-level planning guide includes five sections to support lesson internalization: (1) Explore, Play, and Discuss, (2) Deep Dive, (3) Synthesize and Apply, (4) Ongoing Practice, and (5) Anytime Resources.
- Materials include guidance for unit and lesson internalization in a section of the Teacher Guide, How to Use These Materials. Guidance for lesson internalization describes the function

of narratives within lessons and lesson activities. A description of the three phases of a classroom activity provides implementation guidance for teacher actions during each phase. A Center Overview provides information about center implementation at the lesson and unit levels. The Design Principles section provides guidance for unit internalization through explanations of unit, lesson, and activity structure. Units begin with an introductory lesson, then instructional lessons, and end with a culminating lesson.

- The Scope and Sequence provides a lesson to focus on during PLCs for each section of each unit. For example, at the end of Unit 3: Flat Shapes All Around Us, Section A, Exploring Shapes in our Environment, the materials indicate PLC: Lesson 5, Activity 2, Triangle Sort.
- The Key Structures In This Course section, found within the Teacher Guide, contains a PLC Structure section with bullet points for teachers to follow before, during, and after a PLC. The materials state, "The suggested structure is categorized as pre-, during-, and post-lesson to offer teachers the opportunities to experiment with instruction during both planning and the classroom enactment by collectively discussing instructional decisions in the moment."

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

- On the Support page of the Kiddom website, there are 19 articles available for administrators and instructional coaches that provide information and resources to help navigate Kiddom for their school or district. Categories for resources and guidance include Teaching With Kiddom, Features, Customizing Kiddom, Grading & Reporting, Kiddom Integrations, Students and Families, and Troubleshooting. For example, the article titled "What are Admin Assignment View Reports?" provides administrators with guidance on the student achievement report. Specifically, Assignment View reports "equip school and district leaders, like you, with tools and data to make better instructional decisions and resource allocation decisions."
- Materials include resources to support administrators and instructional coaches with implementing the materials as designed. The "Teacher Guide," located in the Course Overview, provides resources for administrators and instructional coaches to support the implementation of the materials. The "Typical IM Lesson" subsection explains the four phases of a typical lesson: warm-up, instructional activities, lesson synthesis, and cool-down. The How to Use These Materials subsection further breaks down the three phases of a typical activity: launch, student work time, and activity synthesis.
- The materials include resources to support administrators and instructional coaches, such as video training. The materials state, "As part of Kiddom's NEW Admin Insights Reporting Package, we now offer Usage Reports! These reports allow district and school leaders to gain insight into Kiddom activation and usage across schools. This video link provides materials that include resources and guidance to support administrators and instructional coaches in implementing the materials as designed."

Intentional Instructional Design

1.2	Unit-Level Design	3/4
1.2a	Materials include comprehensive unit overviews that provide the background content knowledge and academic vocabulary necessary to effectively teach the concepts in the unit.	1/2
1.2b	Materials contain supports for families in both Spanish and English for each unit with suggestions on supporting the progress of their student.	2/2

The materials include comprehensive unit overviews that provide the background content knowledge necessary to effectively teach the concepts in the unit. Materials do not include comprehensive unit overviews that provide the academic vocabulary to effectively teach the concepts in the unit. Materials contain supports for families in both Spanish and English for each unit with suggestions on supporting the progress of their student.

Evidence includes, but is not limited to:

Materials include comprehensive unit overviews that provide the background content knowledge and academic vocabulary necessary to effectively teach the concepts in the unit.

- Each of the eight units contains a detailed narrative that includes an overview and background content knowledge. For example, Unit 1 states, "In this unit, students explore different ways to compose and decompose numbers within 10 and to represent the compositions and decompositions. Previously, students counted and compared groups and images of up to 10 objects. They solved addition and subtraction story problems and wrote expressions to represent the problems. Here, they use those experiences to compose and decompose numbers within 10. (The terms "make" or "break apart" are used with students.)"
- Materials include a glossary of terms and refer to academic vocabulary in lessons but do not provide the academic vocabulary necessary to effectively teach concepts identified within the units. Under Glossary Terms is a slide deck with key vocabulary terms found in the units throughout the year. The slide deck includes "a complete grade-level list including word, definition, and picture for all vocabulary words introduced in the IM Math Curriculum."

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

- The materials include an English and Spanish version of the Family Supported Materials section that gives an overview with visuals of each section within the unit. For example, Unit 1, Section A states "In this section, students add and subtract within 10 while working in pairs at centers."
- The Course Overview, located in the Teacher Guide includes guidance in English for families wanting to support the progress of their student. The material links to videos that support families by reteaching the concepts.

- The materials conclude with a "Try it at Home!" segment that includes a description of the unit and questions to ask students.
- For example, in Unit 1, the materials state, "Near the end of the unit, ask your student to count a given number of objects around your home."

Intentional Instructional Design

1.3	Lesson-Level Design	34/34
1.3a	Materials include comprehensive, structured, detailed lesson plans that include daily objectives, questions, tasks, materials, and instructional assessments required to meet the content and language standards of the lesson.	30/30
1.3b	Materials include a lesson overview outlining the suggested timing for each lesson component.	1/1
1.3c	Materials include a lesson overview listing the teacher and student materials necessary to effectively deliver the lesson.	2/2
1.3d	Materials include guidance on the effective use of lesson materials for extended practice (e.g., homework, extension, enrichment).	1/1

The materials include comprehensive, structured, detailed lesson plans that include daily objectives, questions, tasks, materials, and instructional assessments required to meet the content and language standards of the lesson. Materials include a lesson overview outlining the suggested timing for each lesson component. Materials include a lesson overview listing the materials necessary to effectively deliver the lesson. Materials include guidance on the effective use of lesson materials for extended practice (e.g., homework, extension, enrichment).

Evidence includes, but is not limited to:

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

- Each unit contains multiple comprehensive, structured, and detailed lessons. Each lesson has a narrative, learning goals, and daily objectives aligned to meet the content and language standards of the lesson.
- The materials provide Unit Narratives and learning goals for the teacher to internalize the lesson. Teachers are provided with a pre-assessment to check for student readiness, a mid-unit assessment, and an end-of-unit assessment. All assessments include multiple ways for students to show their learning.
- The materials include a lesson narrative, learning goals, and student-facing learning targets. A list of required materials and a description of the required preparation for the upcoming lesson is included in the material. The lessons provide clear descriptions of how to launch tasks, advance students' thinking, and how to engage the class in an activity synthesis.
- Each lesson contains a Cool Down "(also known as an exit slip or exit ticket) to be given to students at the end of the lesson. This activity serves as a brief check-in to determine whether students understood the main concepts of that lesson. Teachers can use this as a formative assessment to plan further instruction." Each unit includes an end-of-unit assessment that serves as a summative assessment for the unit.

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

- Within the downloadable teacher guide, each lesson has a lesson timeline that outlines the timing of each lesson component. The materials provide suggested timing for the lesson cycle's Warm-up (e.g., 10 minutes), Activity (e.g., 15 minutes), and Cool-down components. The lesson activity is further broken down to allocate the 15 minutes according to the smaller tasks within the lesson. For example, the materials specify 10 minutes for partner work time and three minutes for partner discussion.
- The materials include a lesson overview with subsections titled Lesson Narrative, Learning Goals, and Required Materials. The lesson narrative provides an overview of the lesson, which includes descriptions of student and teacher actions.

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

- The materials include a Required Materials section within the lesson overview that includes the materials needed to teach the lesson. The materials include Materials to Gather and Materials to Copy sections within the Center component of the lesson cycle. Each includes the materials needed for the lesson.
- At the lesson level, the materials provide a list of materials needed to support the lesson's objectives in the Teacher Guide. The guide includes a "Materials Needed" section that lists the lessons, materials to gather, and materials to copy. The "Materials to Copy" section mentions the number of copies required for the students; for example, in Lesson 4, the "Materials to Copy" section states, "Geoblocks Stage 2 Cards (1 copy for every 8 students): Activity 2." Additionally, in Unit 1, Lesson 1, Explore Connecting Cubes, the lesson includes a section for "Required Materials, Materials to Gather" and lists the following: Chart paper: Lesson, Connecting cubes: Warm-up, Activity 1.
- The materials include a "Required Preparation" section. In Unit 1, Lesson 11, the section states, "Each group of 4 students needs at least 8 pencils." In this lesson, the purpose of the activity is for each student to get enough pencils for each group of students. The "Activity" tells students to work together with their group to get enough pencils so that everyone in the group has one pencil. After two minutes students put their group of pencils on the table. Students count the number of groups and discuss.

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

- Each unit component includes a Section Level Planning Guide that provides guidance on the use of materials for extended practice. For example, the Ongoing Practice section lists practice problems and centers.
- The Anytime Resources section includes suggestions for explorations, IM Talking Math, and resources for virtual mathematical tools.

- Each Unit contains one to two sets of practice problems. In the section How to Use These Materials, the materials state, "Teachers may decide to assign practice problems for homework or extra practice in class."
- The materials state, "Centers are intended to give students time to practice skills and concepts that are developed across the year." The materials also state, "In kindergarten and grade 1, center time is built into lessons so that students have a chance to spend more time on topics that require more time to develop understanding."

Progress Monitoring

2.1	Instructional Assessments	20/24
2.1a	Materials include a variety of instructional assessments at the unit and lesson level (including diagnostic, formative, and summative) that vary in types of tasks and questions.	12/12
2.1b	Materials include the definition and intended purpose for the types of instructional assessments included.	2/2
2.1c	Materials include teacher guidance to ensure consistent and accurate administration of instructional assessments.	2/2
2.1d	Diagnostic, formative, and summative assessments are aligned to the TEKS and objectives of the course, unit, or lesson.	2/6
2.1e	Instructional assessments include standards-aligned items at varying levels of complexity.	2/2

The materials include a variety of instructional assessments at the unit and lesson level (including diagnostic, formative, and summative) that vary in types of tasks and questions. Materials include the definition and intended purpose for the types of instructional assessments included. Materials include teacher guidance to ensure consistent and accurate administration of instructional assessments. Diagnostic, formative, and summative assessments are aligned with the objectives of the course, unit, or lesson. Diagnostic, formative, and summative assessments are not aligned TEKS. Instructional assessments include standards-aligned items at varying levels of complexity.

Evidence includes, but is not limited to:

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

- The Teacher Guide names pre-assessments and pre-unit practice problems in the Formative Assessment Section. The materials include pre-unit practice problems in each section of the course. These problems can be used as a diagnostic to identify unfinished learning that can be addressed during that section of the unit. Diagnostic practice problems within each section of the curriculum allow for a pre-assessment to be conducted multiple times during a unit, thus allowing for a more focused and scaffolded approach. The materials contain several opportunities for formative assessments, such as practice problems and cool-downs, which can be used "as a formative assessment to plan further instruction."
- The Assessment guide found in Course Materials indicates there are a variety of assessment types found across the course, including structured pre-assessments, warm-ups, cool downs, summative and end of course assessments. This system of assessments is applied across each unit and lesson in Kindergarten. For example, the summative assessments include varying types of questions, including open-ended responses. The materials also state, "Problem types include multiple-choice, multiple-response, short answer, restricted constructed response, and extended response. Problems vary in difficulty and depth of knowledge."

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

- The Teacher Guide contains a section for assessments. Some subsections include Learning Goals and Targets, How to Assess Progress, Pre-unit Practice Problems, Cool-downs, and Summative Assessments. Each subsection gives the intended purpose of the materials and how to use them for assessment. The materials state summative assessments "are intended to gauge students' understanding of the key concepts of the unit while also preparing students for new-generation standardized exams."
- When describing the formative and summative assessments, the materials state, "Some things are purely formative, but the tools that can be used for summative assessment can also be used formatively," giving the teachers the flexibility to adjust when appropriate.
- Within the assessment section, the materials define the various types of assessments.

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

- The Assessment Guide found in the Course Materials provides guidance for teachers on how and why to use the variety of instructional assessments in the course. For example, under "Formative Assessment Opportunities, it states, "Each instructional task is accompanied by commentary about expected student responses and opportunities to advance student thinking so that teachers can adjust their instruction depending on what students are doing in response to the task. Often there are suggested questions to help teachers better understand students' thinking."
- The assessment tab has two subsections labeled Formative Assessment Opportunity and Summative Assessment Opportunity. In the Summative Assessment Opportunity section, the materials provide guidance on administering the assessment by stating, "Each unit (starting in Kindergarten, Unit 2) includes an end-of-unit written assessment that is intended for students to complete individually to assess what they have learned at the conclusion of the unit. In K–2, the assessment may be read aloud to students, as needed." The materials also state, "Teachers may also decide to make changes to the provided assessments to better suit their needs."
- Additionally, at the item level, teachers are provided with "Notes for Evaluating Responses" so that they know how and what students should be representing in their responses to demonstrate proficiency with the learning objective.

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

- When referring to summative assessments, the materials state that "each unit (starting in Kindergarten, Unit 2) includes an end-of-unit written assessment intended for students to complete individually to assess what they have learned at the conclusion of the unit."

- As described in the Assessment section, the Cool-downs allow the teacher to "assess whether students understood the work of that day's lesson." Practice problems within each lesson are another opportunity for students to be formatively assessed.
- As indicated in the Lessons by Standard section within the Course Guide, there is evidence of alignment between formative and summative assessments and the objectives of the course, unit, or lesson. For example, Unit 3, Lesson 5, Activity 1 includes two questions about circles or triangles. This aligns with the learning goal or lesson objective: "Identify, describe, and compare circles and triangles."
- There is no evidence that diagnostic, formative, and summative assessments are aligned to the TEKS.

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

- Instructional assessments found within the materials included questions and tasks at the knowledge, application, and synthesis levels of depth and complexity. For example, questions and tasks state that students will identify, understand, analyze, and respond to various prompts and tasks.

Progress Monitoring

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

The instructional assessments and scoring information provide guidance for interpreting and responding to student performance. Materials provide guidance for the use of included tasks and activities to respond to student trends in performance on assessments. Materials include tools for students to track their own progress and growth.

Evidence includes, but is not limited to:

Instructional assessments and scoring information provide guidance for interpreting and responding to student performance.

- Within the Formative Assessment Opportunities section, the materials include information for teachers to interpret and respond to student responses as specified. The materials state, "Each instructional task is accompanied by commentary about expected student responses and opportunities to advance student thinking so that teachers can adjust their instruction depending on what students are doing in response to the task. Often, there are suggested questions to help teachers better understand students' thinking."
- The materials provide suggested points for assessment questions as indicated in the cool-down within the given lesson of a particular unit.
- The materials include a Notes for Evaluating Responses section that provides guidance for interpreting student responses.
- Each assessment within the curriculum includes an answer key to interpret student performance. For example, Unit 3 contains an End-of-Unit Assessment that provides the value of each question and expected student responses.

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

- As stated in the Assessment section of the *Teacher Resource Guide*, "Multiple choice and multiple response problems often include a reason for each potential error a student might make." In the *Teacher Resource Guide*, next to each question on the End-of-Unit Assessment, the materials list the standard being assessed, the solution to the problem, and a "Narrative" for teacher reflection. The Narrative includes teacher guidance on which skill is being

assessed and possible reasons why students may have selected each incorrect answer choice. Below the End-of-Unit Assessment Guidance chart, several specific Center activities are given to respond to trends in performance assessments.

- In the Assessment Guidance Section provided in the course overview, materials provide guidance for how to respond to trends that demonstrate a lack of prerequisite skills after completing the diagnostic pre-unit assessments. The example provided states, "What if a large number of students can't complete the same pre-unit assessment problem? Address prerequisite skills while continuing to work through the on-grade tasks and concepts of each unit instead of abandoning the current work in favor of material that addresses only prerequisite skills. Look for opportunities within the upcoming unit to address the target skill or concept in context or with a center."
- The sections titled "A Typical IM Lesson" and "How to Use These Materials" provide guidance on how to use tasks and activities. The materials state, "Each instructional task is accompanied by commentary about expected student responses and opportunities to advance student thinking so that teachers can adjust their instruction depending on what students are doing in response to the task with suggested questions to help teachers better understand students' thinking."

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

- Materials provide guidance using online tools. The materials provide a comprehensive data dashboard for students. Materials provide students a personalized dashboard that tracks their progress in each class based on specific standards and assignments. The tool offers individualized reports showing students' strengths and areas needing improvement. Hovering over a standard provides more information, and clicking the standard reveals the number of assignments. The tool allows students to navigate to relevant assignments, view any associated attachments, check their grades, and read teacher comments or feedback.
- The online support article describes how students will receive notifications regarding assignments, grade notifications, and teacher comments. In the article "Student Help: How Do I Check My Grades and Feedback?" the materials state that students will receive an e-mail notification and an in-app notification when the teacher assigns a grade to a completed assignment. The materials state that students can review graded assignments and teacher feedback in their online accounts. Feedback may include general comments on the overall assignment performance or connections to specific questions. Materials provide question-specific feedback to enable students to navigate to those questions to better understand teacher feedback.

Supports for All Learners

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

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

Evidence includes, but is not limited to:

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

- The materials include a Design Principles section that states the "materials offer guidance to support students in meeting the learning goals. This guidance falls into one of two categories, next-day support or prior-unit support, based on the anticipated student response." For example, within the Response to Student Thinking section, the materials provide a summary of ways teachers can adjust their lessons. The materials state, "These suggestions range from providing students with more concrete representations in the next day's lessons to recommending a section from a prior unit with activities that directly connect to the concepts in the lesson."
- In the A Typical IM Lesson section, the materials state, "Next day supports, such as providing students access to specific manipulatives or having students discuss their reasoning with a partner, are recommended for cool-down responses that should be addressed while continuing on to the next lesson."
- Within the Advancing Student Thinking section, the materials state, "This section offers look-fors and questions to support students as they engage in an activity. Effective teaching requires being able to support students as they work on challenging tasks without taking over the process of thinking for them." The first Advancing Student Thinking is found in Unit 1, Lesson 7, where the following guidance is provided: "If students find groups of objects that are too large to subitize, consider identifying a group of 1–4 objects and asking: "How many _____ are there? How do you know?"

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

- The Course Overview contains a Glossary for the course that contains vocabulary words with related images.
- The materials address references to familiar and unfamiliar vocabulary within the Lesson Narrative of the Units. For example, in Unit 4, Lesson 1, the materials state, "The language 'add,' 'adding,' and 'put together' is used throughout the lesson. Students are not expected to produce this language until later in the unit...Students need time to see and hear teachers using this notation and other addition language before they can understand the more abstract language of 'plus' or an expression ' $____ + ____$ ' which will be introduced in a later section."
- Each lesson includes a slide deck that corresponds to the daily lesson. The slide deck contains key vocabulary for the lesson; for example, within the deck in Unit 1, Lesson 1, a slide defines the word tool.

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

- The How to Use These Materials section includes information about practice problems and states, "Each practice problem set includes exploration questions that provide an opportunity for differentiation for students ready for more of a challenge."
- The Section Level Planning Guide provides an overview of student learning objectives, multiple suggestions for activities, and a chart that outlines the levels of learning. The levels are identified as Explore, Play, and Discuss, Deep Dive, Synthesize and Apply, and Ongoing Practice. There are lessons and activities aligned to each level.
- The materials provide a Centers section after each lesson. For example, Unit 4 Lesson 1 Activity 2 states, "The purpose of this activity is for students to choose from activities that offer practice composing, decomposing, and comparing numbers."

Supports for All Learners

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

The materials include prompts and guidance to support the teacher in modeling and communicating the concept(s) to be learned explicitly. Materials include teacher guidance and recommendations for effective lesson delivery and facilitation using a variety of instructional approaches. Materials support multiple types of practice (e.g., guided, independent, collaborative) and include guidance for teachers and recommended structures (e.g., whole group, small group, individual) to support effective implementation.

Evidence includes, but is not limited to:

Materials include prompts and guidance to support the teacher in modeling, explaining, and communicating the concept(s) to be learned explicitly (directly).

- Each lesson includes a warm-up and activities for students that prompt and guide the teacher in modeling the concepts to be learned explicitly. For example, the Warm-up section states, "As students count, point to the number posted so that students can follow along."
- Prompts and guidance for the teacher can also be found in the Activity Narrative and Activity Synthesis sections, where the materials provide explicit prompts for the students and guidance for the teachers when modeling the concepts. For example, in Unit 8, Lesson 8 Activity 1, the teacher states, "I'm going to give you a prompt like, 'Find someone who has purple hair.' Your job is to walk around and talk to different partners until you find someone who has purple hair and ask them to write their name on your sheet."
- Each unit includes a downloadable Teacher Guide that serves as a detailed overview of the entire unit. Within the guide, there is evidence of prompts and guidance to support the teacher in communicating the concepts to be learned explicitly. For example, Lesson 11, Activity 1 tells the teacher to "create a data display for students to generate questions around and then answer them. Read the Student Section Summary."
- The materials provide prompts or guidance to support the teacher in explaining the concepts to be learned explicitly in the About These Materials section.

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

- In the A Typical IM Lesson section, the materials provide a detailed description of lesson components and how to facilitate them. For example, the Lesson Synthesis section states, "Teachers can use this time in any number of ways, including posing questions verbally and calling on volunteers to respond, asking students to respond to prompts in a written journal, asking students to add on to a graphic organizer or concept map, or adding a new component to a persistent display like a word wall." This suggestion gives the teacher guidance and recommendations for effective lesson delivery and facilitation using a variety of instructional approaches.
- The materials include three phases of each lesson in the How to Use These Materials section of the Teacher Guide. Each of the phases, Launch, Student Work Time, and Activity Synthesis, have different approaches to instruction and provide students with multiple opportunities to learn the concept.
- Each lesson contains guidance and recommendations for effective lesson delivery using a variety of instructional approaches. In Unit 1, Lesson 12, students start with concrete objects in Activity 1, then transition to hand gestures in Activity 2, and conclude with story books in Activity 3.

Materials support multiple types of practice (e.g., guided, independent, collaborative) and include guidance for teachers and recommended structures (e.g., whole group, small group, individual) to support effective implementation.

- The materials provide opportunities for the students to practice the concepts learned independently, collaboratively, or during guided practice. The Teacher Guide Design Principles section states that "each activity starts with a launch that gives all students access to the task. This is followed by independent work time that allows them to grapple with problems individually before working in small groups."
- The materials provide suggestions such as "The launch for an activity frequently includes suggestions for grouping students. This gives students the opportunity to work individually, with a partner, or in small groups."
- Within the Teacher Guide, the Design Principles section provides the teachers with detailed guidance on implementing the material effectively. For example, "In all these roles, teachers must listen to and make use of student thinking, be mindful about who participates, and continuously be aware of how students are positioned in terms of status inside and outside the classroom." The materials go on to state, "Teachers also guide students in understanding the problem they are being asked to solve, ask questions to advance students' thinking in productive ways, provide structure for students to share their work, orchestrate discussions so students have the opportunity to understand and take a position on the ideas of others, and synthesize the learning with the whole class at the end of activities and lessons."

Supports for All Learners

3.3	Supports for Emergent Bilingual Students	10/11
3.3a	Materials include teacher guidance on providing linguistic accommodations for various levels of language proficiency [as defined by the English Language Proficiency Standards (ELPS)], which are designed to engage students in using increasingly more academic language.	1/2
3.3b	Materials include implementation guidance to support teachers in effectively using the materials in state-approved bilingual/ESL programs.	1/1
3.3c	Materials include embedded guidance for teachers to support emergent bilingual students in developing academic vocabulary, increasing comprehension, building background knowledge, and making cross-linguistic connections through oral and written discourse.	8/8
3.3d	If designed for dual language immersion (DLI) programs, materials include resources that outline opportunities to address metalinguistic transfer from English to the partner language.	Not scored

The materials include teacher guidance on providing linguistic accommodations for one level of language proficiency [as defined by the English Language Proficiency Standards (ELPS)]. Materials do not include teacher guidance on providing linguistic accommodations for various levels of language proficiency [as defined by the English Language Proficiency Standards (ELPS)]. Materials include implementation guidance to support teachers in effectively using the materials in state-approved bilingual/ESL programs. Materials include embedded guidance for teachers to support emergent bilingual students in developing academic vocabulary, increasing comprehension, building background knowledge, and making cross-linguistic connections through oral and written discourse.

Evidence includes, but is not limited to:

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

- Kiddom’s Approach to English Language Proficiency in Texas Math document aligns the MLRs to the ELPS but does not provide linguistic accommodations for the various levels of language proficiency as defined by the ELPS. The document states that "Teachers should use their professional judgment about which routines to use and when, based on their knowledge of the individual needs of students in their classroom."
- The Supporting Diverse Learners section states, "To support students who are learning English in their development of language, this curriculum includes instruction devoted to fostering language development alongside mathematics learning, fostering language-rich environments where there is space for all students to participate."

- The Course Guide explains that MLRs are "instructional routines that provide structured but adaptable formats for amplifying, assessing, and developing students' language." While the Course Guide provides general guidance about the various MLRs, it does not provide specific guidance for leveling supports based on student needs. For example, the Course Guide states that teachers can "Adapt these flexible routines to support students at all stages of language development in improving their use of English and disciplinary language." Still, it does not explicitly provide the teacher guidance on how to make these adaptations. It also states, "Use the MLRs, as needed, and phase them out as students develop understanding and fluency with the English language," but does not guide how to evaluate if a student is ready to have decreased language support.
- Each lesson in the Teacher Guide lists an MLR. For example, Unit 5 Lesson 1 lists the following guidance for Access to English Learners, "MLR8 Discussion Supports: Display and encourage students to use the following sentence frames: "I have ____ cubes in my hand", "I have ____ cubes on my desk," and "I have ____ cubes altogether." Advances: Speaking, Reading, Representing."

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

- The materials provide Mathematical Language Routines (MLRs) that are "grounded in four design principles that promote mathematical language use and development." The materials define MLRs as "instructional routines that provide structured but adaptable formats for amplifying, assessing, and developing students' language."
- The materials include a section titled Supporting Diverse Learners that supports teachers in effectively using the materials. The materials state, "Embedded MLRs are described in the teacher notes for the lessons in which they appear." They continue to state "MLRs are written into each lesson, either as an embedded structure of a lesson activity in which all students engage, or as a suggested optional support specifically for English learners."

Materials include embedded guidance for teachers to support emergent bilingual students in developing academic vocabulary, increasing comprehension, building background knowledge, and making cross-linguistic connections through oral and written discourse.

- The Key Structures In This Course section provides opportunities for students to develop background knowledge through embedded guidance for teachers to support emergent bilingual students through journal writing. The materials include writing prompts such as, "When students are asked to write about ways in which the math, they learned in class that day was connected to something they knew from an earlier unit or grade, they are explicitly connecting their prior and new understandings."
- In Unit 2, Lesson 1, Activity 2, the materials provide guidance for supporting emergent bilingual students in increasing comprehension through oral discourse. The materials state "Invite students to chorally repeat numbers in unison 1–2 times. Use gestures to emphasize

connections between the displayed numeral and the number of fingers. Advances: Speaking, Representing."

- In Unit 7, Lesson 15, Activity 1 of the Access for English Learners section, the materials include embedded guidance for teachers to support emergent bilingual students in developing academic vocabulary, increasing comprehension, and making cross-linguistic connections through oral and written discourse. For example, the materials state, "MLR8 Discussion Supports: During group work, invite students to take turns sharing their responses. Ask students to restate what they heard using precise mathematical language and their own words. Original speakers can agree or clarify for their partner."

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

- The materials are not designed for dual language immersion (DLI) programs or that materials include resources that outline opportunities to address metalinguistic transfer from English to the partner language.
- The Supporting Diverse Learners section includes resources that outline opportunities to address support for emergent bilingual students. "To support students who are learning English in their development of language, this curriculum includes instruction devoted to fostering language development alongside mathematics learning, fostering language-rich environments where there is space for all students to participate."
- The How to Use These Materials states "MLRs are written into each lesson, either as an embedded structure of a lesson activity in which all students engage, or as a suggested optional support specifically for English learners."

Depth and Coherence of Key Concepts

4.1	Depth of Key Concepts	3/3
4.1a	Practice opportunities over the course of a lesson and/or unit (including instructional assessments) require students to demonstrate depth of understanding aligned to the TEKS.	1/1
4.1b	Questions and tasks progressively increase in rigor and complexity, leading to grade-level proficiency in the mathematics standards.	2/2

The materials include practice opportunities over the course of a lesson and/or unit (including instructional assessments) that require students to demonstrate depth of understanding aligned to the TEKS. Materials include questions and tasks that progressively increase in rigor and complexity, leading to grade-level proficiency in the mathematics standards.

Evidence includes, but is not limited to:

Practice opportunities over the course of a lesson and/or unit (including instructional assessments) require students to demonstrate depth of understanding aligned to the TEKS.

- Each unit contains a Section Level Planning Guide. This guide explains the practice opportunities for demonstrating depth of understanding throughout the progression of the unit.
- The publisher provides a separate document linking each unit to a list of TEKS that are covered within the lesson. For example, the materials provide practice opportunities over the course of a lesson and/or unit, including instructional assessments, that require students to demonstrate depth of understanding aligned to the TEKS. For example, in Unit 3, Lesson 1, Activity 3, students practice concepts learned throughout the lesson during centers. The lesson learning goal is to "use informal language to describe shapes." During center time, students practice naming and describing the shapes found in a picture book, which requires them to demonstrate depth of understanding.
- The grade K, Unit 4 End of Unit Assessment provides opportunities for students to practice the concepts from throughout the unit.

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

- Each unit has a unit narrative that includes evidence of tasks progressively increasing in rigor and complexity, leading to grade-level proficiency in the mathematics standards. For example, the Unit 7 Unit Narrative states, "In an earlier unit, students investigated two-dimensional shapes... Here, students distinguish between flat and solid shapes before focusing on solid shapes... This work prepares students to identify defining attributes of shapes and to use flat and solid shapes to create composite shapes in grade 1."

- The Unit 5 Section Planning Guide outlines the progression of learning throughout the unit, including an increase in rigor and tasks. For example, at the beginning of Unit 5, students work with physical objects to demonstrate ways to make and break apart numbers. As the unit progresses, students engage in composing and decomposing numbers using various strategies and generate equations to represent the decompositions. At the end of the unit, students solve story problems where the addends are unknown.
- The Coherent Progression section explains how the questions and tasks within the materials progressively increase in rigor and complexity, leading to grade-level proficiency in the mathematics standards. The materials state that "narratives describe decisions about the organization of mathematical ideas, connections to prior and upcoming grade-level work, and the purpose of each lesson and activity." The materials further describe how content is designed to support all learners as they move through the mathematics progression based on standards and research-based practices.

Depth and Coherence of Key Concepts

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

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

Evidence includes, but is not limited to:

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

- The materials contain a scope and sequence that lists the eight units with a narrative describing the prior knowledge from previous units. For example, Unit 5 states, "Previously, students counted and compared groups and images of up to 10 objects. They solved addition and subtraction story problems and wrote expressions to represent the problems." In Unit 5, the students will describe and compare different ways to decompose numbers.
- The materials contain a Dependency Diagram outlining instructional concepts for each grade. The diagram illustrates how the concepts within the scope and sequence connect within and across grade levels, visually representing the connections between concepts throughout the grade levels.
- The About These Materials section contains a chart that outlines the "progression of a topic across grade levels, note key connections among standards, and discuss challenging mathematical concepts."

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

- The scope and sequence include a narrative describing the big ideas for grade K. The big ideas in the materials for grade K instruction are representing and comparing whole numbers, understanding and applying addition and subtraction, and describing shapes and space.
- The scope and sequence list the eight units and includes a narrative for units 1–7. The titles and narratives of each unit convey the coherence across the grade level. For example, the Unit 6: Numbers 0–20 narrative states, "Previously, students have counted, composed, and decomposed numbers up to 10" using various manipulatives, including 10-frames. In Unit 6, students continue to use 10-frames to organize larger groups with 11–19 objects and images.
- The narrative for Unit 5 in the scope and sequence explains that in this unit, "Special attention is given to composing and decomposing 10, as it is the basis of place value in our number system. To support their reasoning, students use their fingers and a 10-frame created by putting together two 5-frames. They use these tools to think about pairs of numbers that make 10." The materials make connections between fingers, 10-frames, and, later, equations.

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

- The materials include a Dependency Diagram to demonstrate how units connect across grade levels. For example, the diagram provides a pathway for teachers to follow when planning future units for students who have mastered current content.
- The Unit 8 narrative connects concepts in the current course to the following grade-level course concepts. For example, the narrative begins with the following overview of current course concepts, "In this unit, students revisit major work and fluency goals of the grade, applying their learning from the year." The materials continue by connecting to concepts in the following grade-level course by stating that the content within the unit serves as the foundation for adding and subtracting fluently within 10, counting and comparing larger quantities, and recognizing 10 as a unit in the base-ten system in grade 1.
- In Section D of the Unit 8 Section Level Planning Guide, the materials describe how current grade-level concepts prepare students for the concepts in the next grade level. The materials state that students begin to work with numbers between 10 and 20 in preparation for adding within 20 in grade 1.

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

- The materials take into consideration any prior knowledge students may have, given the non-compulsory nature of early childhood schooling. For example, the Unit 1 narrative explains, "In this unit, students explore mathematical tools and notice numbers and quantities around

them...Students enter kindergarten with a range of counting experiences, concepts, and skills. This unit is designed to be accessible to all learners regardless of their prior experience."

- The materials include guidance for student mastery to accommodate the various experiences before kindergarten. The materials explain that students working with expressions for the first time are not expected to demonstrate independent mastery at this stage in the unit.
- Unit 2 learning goals aim for students to understand the relationship between a number and quantity by drawing upon procedures learned in prior units, such as counting and making connections between quantities and spoken numbers.

Depth and Coherence of Key Concepts

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

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

Evidence includes, but is not limited to:

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

- The materials provide information about the opportunities for previously learned skills and concepts to be integrated across lessons and units. In Unit 1, Lesson 6, the students will subitize to communicate quantities on their fingers and say number words. Additionally, students will learn "two new counting routines that will be used throughout the year."
- In Unit 6, students use the 10-frame to organize groups of 11–19 objects and images and represent numbers with their fingers, objects, drawings, expressions, and equations using the tools and strategies from previous units.
- The Unit 2 narrative section states, "In this unit, students continue to develop counting concepts and skills, including comparing while learning to write numbers." The materials then describe how the previously learned skills and concepts will be spiraled into other units through the introduction of new centers that support the work of this unit.

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

- In Unit 4, the Unit Narrative describes the concepts and skills learned throughout the lessons within the unit. For example, the materials describe the opportunities students continue to solve story problems of two types — Add To, Result Unknown, and Take From, Result Unknown by acting them out, drawing, using numbers, or using objects to represent them.
- The Throughout The Unit section of Unit 8 describes an interleaved practice opportunity by guiding students to centers that have been introduced throughout the year. The materials state that students can work at any previously introduced stages of the centers as no new centers are introduced in this unit.
- In the Unit 6 narrative, the materials state that students use 10-frames, fingers, objects, and drawings as they apply counting concepts such as one-to-one correspondence, keeping track of what has been counted, and conversion of numbers to larger numbers from previous units.

Balance of Conceptual and Procedural Understanding

5.1	Development of Conceptual Understanding	18/18
5.1a	Questions and tasks require students to interpret, analyze, and evaluate a variety of models and representations for mathematical concepts and situations.	12/12
5.1b	Questions and tasks require students to create a variety of models to represent mathematical situations.	2/2
5.1c	Questions and tasks provide opportunities for students to apply conceptual understanding to new problem situations and contexts.	4/4

The materials include questions and tasks that require students to interpret, analyze, and evaluate a variety of models and representations for mathematical concepts and situations. Questions and tasks require students to create a variety of models to represent mathematical situations. Questions and tasks provide opportunities for students to apply conceptual understanding to new problem situations and contexts.

Evidence includes, but is not limited to:

Questions and tasks require students to interpret, analyze, and evaluate a variety of models and representations for mathematical concepts and situations.

- Unit 2 provides students opportunities to interpret, analyze, and evaluate a variety of models and representations as they create representations of numbers using pictorial models and connecting cubes, practice sequencing numbers, and explain numbers that are one more and one less.
- Unit 4, Lesson 1 Warm-Up includes an opportunity for students to analyze models and representations by prompting students to carefully analyze and compare different arrangements of objects. A possible outcome of analysis includes noticing that the group of objects is composed of smaller parts in different ways.
- The Instructional Routines section of the Course Guide includes a variety of routines that support interpreting, analyzing, and evaluating. For example, the description of the card sort activity states "A card sorting task gives students opportunities to analyze representations, statements, and structures closely, and make connections."

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

- In Unit 2, Lesson 20 Activity 1, students have an opportunity to create models to represent mathematical situations. During this activity, students explore different ways to represent numbers from 1 to 10. The materials state that "Students write the number, use objects to create groups, and draw groups of images."

- In the Unit 5, Lesson 10 Warm-Up, students engage in making and using 10-frames. Teacher guidance provides prompts for students to count to ten using their fingers and then transition to representing numbers using a 10-frame.
- Throughout the materials, there is evidence of questions and tasks that require students to create a variety of models to represent mathematical situations. For example, in the End-of-Unit Assessment for Unit 4, students are given a word problem and asked to show their thinking "using drawings, numbers, words, or objects."
- The Unit 4 Section C Practice Problems provide opportunities for students to represent mathematical situations. For example, question number three asks students to find the value of each expression and show their thinking using objects, drawings, numbers, or words. Similarly, question one, part B, requires students to "select the expression that matches the story problem."

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

- The materials include questions and tasks for students to apply conceptual understanding. In the Unit 6 Lesson 6 lesson synthesis, teacher guidance prompts students to apply their understanding of 10-frames. For example, materials include the following scenario for students: "Today we showed numbers on fingers and 10-frames. If you were working alone and had to show the number 15, would you use fingers or a 10-frame to show the number? Why would you choose to show 15 this way?"
- The materials include questions and tasks for students to apply conceptual understanding in Unit 6, Lesson 6 Warm-Up. During this task, the teacher asks guiding questions for students to answer and justify their responses, such as "'How can I show 11 on my fingers?' (You don't have enough fingers. You could work with a friend.)"
- Throughout Unit 6, "students have counted, composed, and decomposed numbers up to 10, using tools such as counters, connecting cubes, 5-frames, 10-frames, drawings, and their fingers." Students are encouraged to use these tools and strategies to solve new problems. For example, students are expected to explain whether they would use their fingers or a 10-frame to show a number and to justify their reasoning.

Balance of Conceptual and Procedural Understanding

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

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

Evidence includes, but is not limited to:

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

- In the A Typical IM Lesson section, the materials provide teachers with instructional routines intended to spiral tasks designed to build fluency with grade-level skills. For example, each lesson begins with a warm-up activity that "helps students get ready for the day's lesson or gives students an opportunity to strengthen their number sense or procedural fluency." Unit 2, Lesson 1 Warm-Up provides students the opportunity to build automaticity and fluency by counting chorally to ten with their fingers.
- In Unit 6, Throughout the Unit section, the materials include opportunities for students to build their number fluency and automaticity during the Choral Count routine where "students practice counting on from a given number, with particular focus on counting on from 10 to 20 to gain familiarity with numbers 11–20."
- The Center Overview section describes how centers are incorporated throughout the unit to build towards the content in a lesson or section, thus developing fluency across the grade level.

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

- In Unit 1, Lesson 11 Activity 1, the materials provide an opportunity for students to practice applying mathematical procedures by representing a story in various ways. Teacher guidance prompts teachers to encourage students to act out the story using concrete objects or pictures.
- The Unit 2 Section Planning Guide outlines the opportunities students have throughout the unit to practice the application of mathematical procedures. According to the materials, "In this section, students count to answer 'how many' questions and develop their understanding of the connection between quantities and spoken number words." Students use their fingers to count, as well as mathematical tools like counting mats and five-frames. As the unit progresses, opportunities continue for students to apply their knowledge of counting using pictorial representations and move into subitizing.
- The Throughout the Unit section describes how Unit 5 provides opportunities for students to explore different ways to compose, decompose, and represent numbers within 10 and use math tools, expressions, and equations to describe and compare different ways to decompose numbers. In this unit, students also continue to practice counting and using mental strategies to identify patterns.

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

- In Unit 5, Lesson 9 Activity 2, students have the opportunity to create and share addition or subtraction story problems with a partner to solve using objects or pictures. Then, the materials provide an opportunity for the pair to create an expression to accompany the story problems based on the drawing or objects used.
- The materials include evidence of questions and prompts for students to evaluate procedures and processes. For example, in Unit 4, Lesson 1 Activity 1, opportunities for students include sharing how they found the total number of pattern blocks with their teacher and peers. During this task, the teacher prompts students to evaluate procedures and processes by asking them to show more than one peer how they figured out how many pattern blocks they had, how they counted them, and how they know they have accounted for all of them.
- The online materials include teacher prompts for questioning that provide opportunities for students to evaluate processes for efficiency, flexibility, and accuracy. For example, in Unit 4, Lesson 2 Activity 1, the teacher prompts students to "reason together about the relative position of numbers on the number line" and work together to revise the placement of their numbers to be more precise. During this task, teachers support the evaluation process by asking questions such as "How did you decide where to place your number on the number line?" and "What revisions do we need to make to the number line? Why?"

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

- In Unit 5, Lesson 10 Activity 1, the materials provide explicit guidance that outlines student actions. For example, the materials state, "Students cut out and put together 5-frames to create a representation of a given number. The images in the student responses look like 10-frames, but students may put the 5-frames together in creative ways or take parts of more than two 5-frames. Students may choose to use one 5-frame and draw additional circles to form the number. In the activity synthesis, students see and discuss a 10-frame for the first time. If needed, the 5-frames can be cut out for students before the activity."
- In Unit 5, Lesson 10, the Lesson Narrative provides an overview explaining how previous knowledge of the structure of the 5-frame helps students understand numbers six through nine in relation to 5. Similarly, during lesson 10, guidance prompts students to create a 10-frame and explore numbers one through nine in relation to 10. "This lesson also connects the 10-frame with fingers on two hands. With repeated experience, students may be able to recognize quantities on a 10-frame without counting or by counting on from 5."
- The online materials include evidence of embedded supports for teachers to guide students towards increasingly efficient approaches. For example, each unit contains unit narratives and learning goals that explain the skills that students will learn throughout the lessons, including prompts and questions that teachers can use throughout the lessons.

Balance of Conceptual and Procedural Understanding

5.3	Balance of Conceptual Understanding and Procedural Fluency	14/16
5.3a	Materials explicitly state how the conceptual and procedural emphasis of the TEKS are addressed.	0/2
5.3b	Questions and tasks include the use of concrete models and manipulatives, pictorial representation (figures/drawings), and abstract representations.	6/6
5.3c	Materials include supports for students in connecting, creating, defining, and explaining concrete and representational models to abstract (symbolic/numeric/algorithmic) concepts.	8/8

The materials do not explicitly state how the conceptual and procedural emphasis of the TEKS are addressed. Questions and tasks include the use of concrete models and manipulatives, pictorial representation (figures/drawings), and abstract representations. Materials include supports for students in connecting, creating, defining, and explaining concrete and representational models to abstract (symbolic/numeric/algorithmic) concepts.

Evidence includes, but is not limited to:

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

- The Scope and Sequence found in the Course Guide provides an overview of the conceptual and procedural skills students will develop in the course, but the materials do not explicitly state how the conceptual and procedural emphasis of the TEKS are addressed.
- In the Balancing Rigor section of the Design Principle, the materials state, "Access to new mathematics and problems prompts students to apply their conceptual understanding and procedural fluency to novel situations." The materials continue to explain that procedural fluency is developed over time through warm-ups, practice problems, centers, and other built-in routines. However, these lesson elements do not reference the TEKS.
- Each unit and lesson within the materials provides a learning goal that aligns with that unit and lesson. For example, Unit 1, Lesson 1 has the following learning goals: "Explore and use connecting cubes" and "Orally describe a mathematical idea." The materials do not connect the learning goals to the process standards.

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

- The materials include evidence of questions that require the use of concrete models and manipulatives, pictorial representations, and abstract representations. For example, Unit 5 Section A Practice Problems include questions that require students to use connecting cubes and analyze pictorial representations to help them decompose a number. Then, they are to write the expression connected to the process of decomposing the number as $__ + __$.

- The materials include evidence of tasks that require the use of concrete models and manipulatives, pictorial representations, and abstract representations. For example, Unit 5, Lesson 4 Activities, Composing and Decomposing Numbers, require students to use connecting cubes to decompose a number. In another lesson, students refer to pictorial representations to identify how numbers are being decomposed. Also, within that lesson, the teacher models writing the abstract representation of decomposing as $_ + _$.
- The materials include concrete representations of mathematical concepts in questions and tasks. The Scope and Sequence describes how students use concrete models and representations in centers to reinforce learning. For example, in Unit 4, Lesson 9 Activity 2, students are provided with a pictorial representation to use throughout the task. Materials direct students to then use two-color counters or counting cubes to show their thinking.

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

- The materials include evidence of supports for students in connecting and creating concrete and representational models to abstract concepts. For example, Unit 7, Lesson 7 includes activities where students create shapes with clay. In another activity, they sort shape cards according to attributes. In Activity 1 and the Lesson Synthesis, materials prompt students to use their words to compare a flat shape and a solid shape to connect their understanding between concrete models and abstract concepts. They then compare the shapes and discuss the differences in the attributes.
- The Unit 1 Narrative describes how students explore mathematical tools to notice numbers and quantities around them using the processes learned throughout the unit to count and identify a number in a group such as counting on their fingers. As the unit progresses, students begin to identify patterns helping them identify the number in a group without counting. Students are also introduced to counters and 5-frames to answer "how many of $_$ are there" questions.
- The Unit 4 Lesson 2 narrative states, "The purpose of this lesson is for students to count two groups of images to find the total, within 10." In the warm-up, students think about the question and then generate ways to determine how many students like summer. Students use the structure of a 5-frame to find the total number in two groups from a pictorial representation in Activity 1, which leads to students adding two groups together and finding the total. During Activity 2, students continue to use representational models and 10-frames to solve addition problems and transition to using connecting cubes to solve story problems in Activity 3.

Balance of Conceptual and Procedural Understanding

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

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

Evidence includes, but is not limited to:

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

- The Activity Synthesis section in Unit 3, Lesson 3 Activity 1 contains evidence of the opportunities available to support student development of academic mathematical language using visuals. For example, during this lesson, students use picture books to find shapes that are alike and different and use informal language to compare the shapes. The teacher prompts further development of students' academic language by prompting students to look through their picture book, choose a shape, and discuss how the two shapes are alike and different.
- In the Activity Synthesis section of Unit 3, Lesson 7 Activity 2, students use straws to create shapes. Once completed, the teacher will ask questions such as "What is alike about these shapes? What is different?" and monitor whether students can identify the shapes as triangles and describe the different lengths of the sides. "These allow opportunities for students to develop academic mathematical language while working with manipulatives and sharing their thinking with other students."
- The Unit 4 Unit Narrative contains evidence of the opportunities available to support student development of academic mathematical language using manipulatives. For example, as

students learn the foundational concepts of geometry, they "explore the differences in shapes and use informal language to describe, compare, and sort them." The use of manipulatives further supports the development of academic language as students also use pattern blocks to compose geometric figures, examine shapes in various orientations, and complete puzzles that contain shapes.

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

- The materials include embedded guidance for the teacher, addressing scaffolding student development and the use of academic mathematical vocabulary in context. For example, Unit 5, Lesson 1 Activity 1 provides discussion starters and sentence stems to scaffold the academic vocabulary throughout the activity, such as "I have ____ cubes in my hand," "I have ____ cubes on my desk," and "I have ____ cubes altogether."
- Each activity includes evidence of embedded guidance for teachers addressing scaffolding student development and academic math vocabulary. For example, Unit 5, Lesson 8 Activity 1 includes prompts with questions for the teacher to ask throughout the lesson, such as "Which drawing shows the story?" "What do we know about the fruit that Han squeezed?" and "What are we trying to figure out?"
- In Unit 4, Lesson 5, students practice the action of taking away. Glossary Terms provide a definition for the word *subtract* for the teacher. The teacher provides students with a synonym for *subtract* as take away and asks students what the difference is between subtraction and addition during the Lesson Synthesis. Additionally, the materials provide exemplary student responses.

Materials include embedded guidance for the teacher to support the application of appropriate mathematical language to include vocabulary, syntax, and discourse to include guidance to support mathematical conversations that provide opportunities for students to hear, refine, and use math language with peers and develop their math language toolkit over time as well as guide teachers to support student responses using exemplar responses to questions and tasks.

- The materials include evidence of embedded guidance for teachers to support and provide opportunities for students to hear, refine, use, and develop math language with peers. Each activity includes prompts for discussions and the use of sentence frames to help students interact with their peers. For example, in Unit 8, Lesson 2 Activity 1, students count their collection of objects and share how they organized their objects. The prompts and questions provided include, "What is the same about how the objects are organized?" "What is different?" and "How did ____ know there were __ objects in their collection?"
- The materials include evidence of embedded guidance for teachers to support students' use of exemplar responses to questions and tasks. Throughout the lessons, there are several questions, task prompts, and sample responses as guides. For example, in Unit 8, Lesson 9 Activity 1, the students take a walk to look for the math around the school. The question/prompt states, "What math questions do you have about our school?" and the Note

for Evaluating responses includes sample responses such as "How many doors are there in the school?" and "Which is longer: the hallway to the cafeteria or the hallway to the gym?"

- In Unit 4, Lesson 2 Activity 1, the materials offer a set of discussion questions. This guidance focuses on preparing for and facilitating strong student discourse without restricting student responses. The guidance also directs students toward exemplary answers to questions and tasks using their developed mathematical language. For instance, students are prompted to share with a partner what happened in the story problem. They then use color counters to visually represent the events from the story and then explain how the counters show what happened in the story.

Balance of Conceptual and Procedural Understanding

5.5	Process Standards Connections	6/6
5.5a	Process standards are integrated appropriately into the materials.	1/1
5.5b	Materials include a description of how process standards are incorporated and connected throughout the course.	2/2
5.5c	Materials include a description for each unit of how process standards are incorporated and connected throughout the unit.	2/2
5.5d	Materials include an overview of the process standards incorporated into each lesson.	1/1

The materials contain process standards that are integrated appropriately into the materials. Materials include a description of how process standards are incorporated and connected throughout the course. Materials include a description for each unit of how process standards are incorporated and connected throughout the unit. Materials include an overview of the process standards incorporated into each lesson.

Evidence includes, but is not limited to:

Process standards are integrated appropriately into the materials.

- The materials include a How to Use These Materials section that contains The Math Process Standards Chart. The chart outlines the TEKS process standards that are integrated in the materials.
- The materials include evidence of the process standards within the Activity Narrative description of each lesson. The mathematics process standards aligned to the lesson are in parentheses at the end of the description.

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

- The How to Use These Materials section describes how process standards are incorporated and connected throughout the course. It states, "The Math Process Standards describe the types of thinking and behaviors students engage in as they are doing mathematics." For example, "Students have an opportunity to explore the tools before they are asked to use them to represent mathematical situations in later lessons."
- The online materials include evidence of a description of how process standards, or mathematical practices, are connected throughout the course. In the How to Use These Materials section of the Teacher Guide, there is a Math Process Standards Chart section that states, "Teachers will notice that some instructional routines are generally associated with certain mathematical practices." Following, there is a description of how instructional

routines throughout the course align with mathematical practices. The chart also demonstrates how process standards connect throughout the course.

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

- The materials include a description for each unit of how process standards are incorporated and connected throughout the unit. In the How to Use These Materials section, there is a Math Process Standards Chart. This chart correlates the process standards present in each unit of the materials and each lesson.
- The materials include a Process Standards Integration Document for the TEKS and illustrate how the process standards build and connect throughout the units by connecting the student expectation with a narrative description of how the process standard(s) are represented in the units.

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

- The materials include a description for each unit of how process standards are incorporated in the lessons. In the How to Use These Materials section, there is a Math Process Standards Chart. This chart provides a useful overview of how the process standards are incorporated into each lesson.
- Mathematical Process Standards are found in the warm-up activity of every lesson throughout the units. In the A Typical IM Lesson section, the materials state that the warm-ups "place value on students' voices as they communicate their developing ideas, ask questions, justify their responses, and critique the reasoning of others."

Productive Struggle

6.1	Student Self-Efficacy	15/15
6.1a	Materials provide opportunities for students to think mathematically, persevere through solving problems, and to make sense of mathematics.	3/3
6.1b	Materials support students in understanding, explaining, and justifying that there can be multiple ways to solve problems and complete tasks.	6/6
6.1c	Materials are designed to require students to make sense of mathematics through doing, writing about, and discussing math with peers and teachers.	6/6

The materials provide opportunities for students to think mathematically, persevere through solving problems, and to make sense of mathematics. Materials support students in understanding, explaining, and justifying that there can be multiple ways to solve problems and complete tasks. Materials are designed to require students to make sense of mathematics through doing, writing about, and discussing math with peers and teachers.

Evidence includes, but is not limited to:

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

- In the A Typical IM Lesson section, the materials describe how students are provided with opportunities to think mathematically, persevere through solving problems, and make sense of mathematics. For example, the narrative for the warm-up states, "The warm-ups provide opportunities for students to bring their personal experiences as well as their mathematical knowledge to problems and discussions. They place value on students' voices as they communicate their developing ideas, ask questions, justify their responses, and critique the reasoning of others."
- The materials provide opportunities for students to persevere through problem-solving. In the Design Principles section, for example, the materials state, "A problem-based instructional framework supports teachers in structuring lessons, so students are the ones doing the problem-solving to learn the mathematics." The section continues to describe how activities and routines are designed to present opportunities for students to demonstrate their knowledge and for teachers to respond by prompting and guiding them toward the attainment of the knowledge without giving students the answers.
- There is evidence of students being given opportunities to persevere through problem-solving within the materials. For example, in Unit 4, Lesson 10 Activity 1, students are given a word problem and asked to show their thinking using drawings, numbers, words, or objects. Students receive two minutes of independent work time, and then teachers ask guiding questions that help clarify and guide students' thinking.

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

- The materials support students to justify multiple ways to solve problems and complete tasks. For example, students use story problems to represent and solve problems involving putting together, taking apart, and both addends unknown components. In Unit 5, Lesson 15, the Lesson Narrative supports multiple ways to solve problems. According to the materials, "In the second activity, materials prompt students to find all possible solutions and use reasoning based on patterns explored in previous lessons (MP8)."
- The materials support students in understanding, explaining, and justifying that there can be multiple ways to complete tasks. For example, in Unit 5, Lesson 3 Activity 2, students decompose numbers in more than one way, including working independently to decompose a number using connecting cubes and comparing their methods to those of a partner. During their work together, the teacher prompts students with questions such as, "Did you both show the same ways to break apart each number?" "Which tool(s) did you use to help you find different ways to break apart numbers into two parts?" and "How did each tool help you?"
- Unit 6 Lesson 9 Activity 1 provides opportunities for students to understand, justify, and explain that there are multiple ways to solve problems. For example, the materials guide teachers to give each group of students a set of cards and ask them to work with their group to "organize the cards in a way that makes sense to you." Students discuss what they notice about the way the numbers and expressions are arranged.

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

- The Learning Mathematics by Doing Mathematics section states that the materials include "A problem-based instructional framework that supports teachers in structuring lessons, so students are the ones doing the problem solving to learn the mathematics." In this model, teachers serve roles such as facilitator, synthesizer, and questioner in support of student-driven learning.
- The materials provide opportunities for students to write about math with their teachers and peers. In grade K, Unit 8, Lesson 10 Activity 2, the materials state, "Think of a story problem that you can tell about our school. You can record your story problem with drawings, numbers, or words." The teacher monitors what the students write, and later in the lesson, the students share their problems with their partner.
- The materials provide opportunities for students to do and discuss math with the teacher through warm-up routines. For example, in Unit 1, Lesson 9 Warm-Up, students read the story together and then act out the story as a class using "either concrete objects or pictures."

Productive Struggle

6.2	Facilitating Productive Struggle	10/10
6.2a	Materials support teachers in guiding students to share and reflect on their problem-solving approaches, including explanations, arguments, and justifications.	6/6
6.2b	Materials offer prompts and guidance to assist teachers in providing explanatory feedback based on student responses and anticipated misconceptions.	4/4

The materials support teachers in guiding students to share and reflect on their problem-solving approaches, including explanations, arguments, and justifications. Materials offer prompts and guidance to assist teachers in providing explanatory feedback based on student responses and anticipated misconceptions.

Evidence includes, but is not limited to:

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

- The materials provide opportunities for students to reflect on and justify mathematical approaches. For example, in Unit 2, Lesson 20, students are asked to conduct a gallery walk to review their classmates' work. The materials describe how students go on a gallery walk and observe two charts showing different numbers made by classmates. Students discuss the numbers shown and compare them using the words *more*, *less*, and *the same*. Later in the lesson during the lesson synthesis, the students are asked, "During the gallery walk, how did you figure out which number was more? What things did other students include on their posters that helped you compare the numbers?"
- The materials provide opportunities for students to share their problem-solving approaches. For example, in Unit 4, Lesson 14 Activity 1, the students are given time to quietly reflect on how the expression shows what happens in the story problem. Students then discuss with a partner and share responses aloud. Later in the activity, students are asked to "Show your thinking using drawings, numbers, words, or objects."
- The Unit 5 Lesson 2 Warm-Up supports teachers in guiding students to share and reflect on their problem-solving approaches, including explanations and justifications. During the warm-up, students compare four objects and determine which one does not belong. Students explain their reasoning for why it does not belong to a partner.

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

- Materials offer prompts to assist teachers in providing explanatory feedback based on student responses and anticipated misconceptions. As stated in the Assessment section of the *Teacher Resource Guide*, "Each instructional task is accompanied by commentary about expected student responses and opportunities to advance student thinking so that teachers

can adjust their instruction depending on what students are doing in response to the task. Often, there are suggested questions to help teachers better understand students' thinking."

- For example, in Unit 5, Lesson 8 Activity 1, as students explore story problems and discuss their thinking with partners, teachers follow prompts that assist them in giving feedback to students based on their responses, such as "If students identify either Clare or Diego's drawings as showing the story but not both, consider rereading the story problem and asking: What do we know about the fruit that Han squeezed? What are we trying to figure out? What is the same and what is different about Clare and Diego's drawings?"
- Materials offer guidance to assist teachers in providing explanatory feedback based on student responses and anticipated misconceptions. As stated in the A Typical IM Lesson section of the *Teacher Resource Guide*, "Next-day supports, such as providing students access to specific manipulatives or having students discuss their reasoning with a partner, are recommended for cool-down responses that should be addressed while continuing to the next lesson. Teachers are directed to appropriate prior grade-level support for cool-down responses needing more attention."
- For example, in Unit 4, Lesson 14 in the Advancing Student Thinking section, the materials state, "If students match the second story problem with an expression other than $8-3$, consider asking questions such as 'Can you tell me what is happening in the story problem?', 'Is something being added or taken away in the story problem?' and 'How can that help you figure out which expression matches?'" There is no guidance to support teachers in providing explanatory feedback.
- As stated in the Assessment section of the *Teacher Resource Guide*, "When appropriate, guidance for unfinished learning, evidenced by the cool-down, is provided in two categories: next-day support and prior-unit support. This guidance is meant to provide teachers ways to continue grade-level content while giving students the additional support they may need."