

IMRA Review Cycle 2024 Report



Publisher Name	Program Name
Kiddom	IM360 Texas Math Powered by Kiddom
Subject	Grade Level
Mathematics	2

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 9

Indicator	Count of Flags
1. Prohibition on Common Core	9
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 0

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. Support 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
- 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 2 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 the 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 section 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 overview for Unit 1 begins by stating, "In this unit, students begin the year-long work to develop fluency with sums and differences within 20, building on concepts of addition and subtraction from grade 1."

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 nine 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 30 optional lessons spread across the 34 instructional weeks.
- The Texas Scope and Sequence for grade 2 includes supporting information to implement various instructional calendars. The calendar day suggestion is 180 days. To shorten the number of instructional days, the materials state, "To reduce the number of instructional days, omit the 27 lessons noted as optional. This will reduce the number of instructional days to 155 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 7 states, "Previously, students counted added and subtracted within 100 using methods such as counting on, counting back, and composing a ten. Here, they apply the methods they know and their understanding of place value and three-digit numbers to find sums and differences within 1,000." This highlights the connection between the concepts. The scope and sequence provides a narrative explaining the big ideas of the units and lists the titles of all nine 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 that 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 the Design Principles section, 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. One such example can be found in the PLC Structure section under Course Overview, Teacher Guide, Key Structures, which provides guidance for unit internalization through the Professional Learning Community (PLC) process.
- Materials include a Section Level Planning Guide that will support 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 1: Adding, Subtracting, and Working with Data, Section A: Add and Subtract Within 20, the materials suggest PLC: Lesson 2, Activity 2, Sums of 10.
- 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 academic vocabulary. 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, the Unit 1 narrative states "In this unit, students begin the year-long work to develop fluency with sums and differences within 20, building on concepts of addition and subtraction from grade 1."
- 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."
- There is no evidence of academic vocabulary necessary to effectively teach concepts identified within the units.

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 B states, "Students learn to represent and interpret data on these graphs, and they ask and answer questions based on the data."
- The materials conclude with a "Try it at Home!" segment that includes a description of the unit and questions to ask students.

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 teacher and student 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.
- Questions are presented throughout the lesson, most prominently found in the Activity Synthesis.
- Each lesson description contains a list of required materials, though it does not specify whether the materials are for teachers or students.
- 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 three minutes for independent 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 objective in the Teacher Guide. The guide includes a "Materials Needed" section that lists the lessons, materials together, and materials to copy for each lesson. 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, "How Close Stage 1 Recording Sheet (1 copy for every 1 student): Activity 1."

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 grades 1 and 2, there is a center day at the end of each section of each unit. In grade 2, these lessons are optional. In these lessons, new centers are introduced and students also have time to choose between previously introduced centers that reinforce content from the unit or build grade-level fluencies."

Progress Monitoring

2.1	Instructional Assessments	21/24
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.	3/6
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 grade 2. 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. There are subsections that 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."
- The materials describe the formative and summative assessments, stating, "some things are purely formative, but the tools that can be used for summative assessment can also be used formatively," giving the teachers flexibility to make adjustments when appropriate.
- Within the assessment section, the materials provide a definition for 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 that is 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 the 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 2, Cool-down includes a question about measuring in centimeters. This aligns with the learning goal or lesson objective, "Measure length in centimeters." The End-of-Unit Assessment aligns with those objectives.
- 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	2/4
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 pre-teaching or 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."
- The task complexity section provides 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. For example, the materials state, "Mathematical tasks can be complex in different ways, with the source of complexity varying based on students' prior understandings, backgrounds, and experiences. In the curriculum, careful attention is given to the complexity of contexts, numbers, and required computation, as well as to students' potential familiarity with given contexts and representations. To help students

navigate possible complexities without losing the intended mathematics, teachers can look to warm-ups and activity launches for built-in preparation, and to teacher-facing narratives for further guidance."

- Units 1–4 include an Adaptation Guide that states, "In the first half of the unit, the adaptation focuses on building students' understanding of addition and subtraction strategies based on place value and properties of operations. This work equips students with strategies that will allow them to build fluency with addition and subtraction within 20."

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. Additionally, each lesson contains relevant vocabulary words from the Grade 2 Glossary Terms Deck.
- 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, "In this lesson, students learn about the number line, a diagram that represents numbers as lengths from 0 using equally spaced tick marks or points, and learn how to locate and represent whole numbers on the number line. Students are introduced to the idea of using a point to represent specific numbers on the number line."

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." differentiated instruction, enrichment, or extension activities for students who have demonstrated proficiency in grade-level content and skills.
- 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 at the conclusion of each lesson. For example, Unit 4, Lesson 14 in grade 2 states, "This lesson is optional because it is an opportunity for extra practice that not all classes may need."

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, in Unit 2, Lesson 2, in the Activity 2 section, the materials state, "Display the problem about bookmarks...The blank box is where the 3 goes since that is the answer to the question."
- 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. The materials state, "Show students a tower of 10 cubes. Put the tower behind your back. Break off 4 cubes and display the rest of the tower. How many cubes are behind my back? How do you know? (4 because there are 6 and 4 more makes 10. I know because $10-4=6$.)"
- 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, in Unit 1, Lesson 1 tells the teacher to "Give each group 10 connecting cubes." Then, ask, "We are going to play a game you may have played in first grade called What's Behind My Back?"
- 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. For example, in the Unit 2 Lesson 7 Activity 2 Warm-up, students engage in a think-pair-share activity. During this activity, they explain what they notice and justify and explain their reasoning. Later in the lesson, during Activity 2, students subtract a two-digit number from a two-digit number using their preferred strategy.

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.

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 1, Lesson 14, Activity 1 guidance is provided for supporting emergent bilingual students in developing academic vocabulary, increasing comprehension, building background knowledge, and making cross-linguistic connections through oral and written discourse. For example, the materials state, "Display words and phrases used to compare data such as *fewer*, *less*, *least*, *greater*, *more*, and *most*. During the synthesis, invite students to suggest ways to update the list: "What are some other comparison words or phrases we should include?" Invite students to borrow language from the display as needed."

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.
- 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 section 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 unit’s progression. The TEKS guide for units ensures the lessons are aligned to the Texas Essential Knowledge and Skills (TEKS).
- 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 standards. For example, in Unit 7, Lesson 4 Activity 1, students practice concepts learned throughout the lesson during center time. The learning goal for the activity is to "add and subtract numbers within 1,000 using strategies that do not include composing or decomposing tens or hundreds." In Activity 1, the materials provide practice opportunities to solve subtraction problems using a number line. This practice opportunity directly connects to the lesson’s learning goal.
- The grade 2, Unit 2 End of Unit Assessment provides students with opportunities to practice the concepts from throughout the unit at the depth required by the TEKS.

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, In the online materials, 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 6 Unit Narrative states, "In this unit, students transition from place value and numbers to geometry, time, and money...students look at ways to partition shapes and create equal shares. They extend their knowledge of halves and

fourths...Later, students use their understanding of halves and fourths (or quarters) to tell time."

- The Unit 2 Section Planning Guide outlines the progression of learning throughout the unit, including an increase in rigor and task complexity. Initially, students focus on finding the value of unknown addends. As the unit progresses, students engage with different representations of subtraction and ultimately apply their knowledge to solve story problems.
- 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 nine units with a narrative describing the prior knowledge from previous units. For example, the materials describe how students have previously used methods such as counting on, counting back, and composing or decomposing a ten to add and subtract within 100. In Unit 7, they "apply the methods they know and their understanding of place value and three-digit numbers to find sums and differences within 1,000."
- 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 includes a narrative that describes the big ideas for grade 2. The big ideas in grade 2 are the base-ten number system, building fluency with addition and subtraction, standard units of measure, and describing and analyzing shapes.
- The Unit 4 narrative connects the concepts of addition and subtraction on the number line, connecting to previous learning about measuring length with rulers to support students in this unit.
- The Unit 5 narrative describes the connection between mathematical concepts. For example, students use their understanding of addition and subtraction within 1,000 and use methods such as counting on, counting back, and composing or decomposing a ten to work on "place value and three-digit numbers to find sums and differences within 1,000."

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 the concepts that have been learned throughout the year to content to be learned in future grade levels. For example, students develop an understanding of equal groups, building on their experiences with skip-counting and finding the sums of equal addends to serve as the foundation for multiplication and division in grade 3.
- In Unit 3, the materials describe how previous grade-level content has prepared students for current learning. Students use tape diagrams to add, subtract, and determine the relationship between two quantities by applying what they know about diagrams with discrete partitions.

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.

- Unit 3, Lesson 1 describes how students leverage their prior knowledge of concepts and procedures from the prior grade level. The materials state, "This lesson helps students practice adding and subtracting with 20 and apply their fluency within 10 in preparation for their work with addition and subtraction in grade 2."
- The Lesson Narrative section in Unit 5, Lesson 8, describes how concepts and procedures are connected at the lesson level. For example, in this lesson, "Students revisit the structure of the number line and use what they know about place value and counting by 10 and 100 to locate three-digit numbers on a number line."
- Unit 1 demonstrates coherence by connecting students' prior knowledge of procedures to new mathematical knowledge and skills. The materials state that students learned the

concepts of adding and subtracting, collecting, organizing, and representing data in grade 1. The warm-up activities throughout this unit are designed to spiral further practice on addition and subtraction within 10 in preparation for the addition and subtraction within 20 at the end of grade 2.

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. For example, the Unit 1, Lesson 7 lesson narrative states, "In this lesson, students collect data about the question 'How do we get to school?'" which will extend to interpreting and representing data using picture and bar graphs later in the unit.
- In Unit 7, the materials describe how students work on composing and decomposing numbers that require them to use previously learned place value strategies.
- Throughout Unit 4, students engage in warm-up activities that support fluency in operations within 100, including subtraction using place value strategies through number talks. Students previously worked with adding and subtracting numbers in Units 1 and 2 and are using that prior knowledge to build fluency in these skills.

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

- The materials provide practice opportunities for previously learned skills and concepts. For example, in Unit 3, students are introduced to standard units of lengths in the metric and customary systems and solve one- and two-step story problems involving addition and subtraction of lengths throughout the unit using previously learned place value strategies.
- The Throughout The Unit section of Unit 9 describes the use of warm-up activities to provide interleaved practice opportunities by identifying warm-ups in the unit that "provide an invitation for students to revisit topics from throughout the unit such as "Fluency within 20, numbers to 1,000, and story problems."
- In Unit 7 Section B, the materials state, "Students learn that shapes can be partitioned into two, three, or four equal pieces called halves, thirds, and fourths or quarters." The concept of

partitioning a circle in half progresses in later lessons within the same unit when students use their understanding of fourths and quarters to tell time."

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.

- The materials include questions and tasks that require students to interpret, analyze, and evaluate a variety of models and representations. For example, the Unit 5 Lesson 3 Warm-Up contains a Number Talk instructional routine that asks students to interpret, analyze, and evaluate a model and discuss the following questions: "What did you notice about the sums? How could you explain why the third and fourth have the same value?"
- The Instructional Routines section of the Course Guide includes a variety of routines that help describe how the various activities support interpreting, analyzing, and evaluating. The description in the Number Talk states that the materials "encourage students to look for structure and use repeated reasoning to evaluate expressions and develop computational fluency."
- Throughout Unit 8, students develop an understanding of equal groups, laying the foundation for multiplication and division. They also have opportunities to analyze even and odd groups, use and describe array models, and transition from working with arrays to building rectangular array models.

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

- The materials include questions and tasks for students to represent mathematical concepts through models. In Unit 5, Lesson 1 Activity 1, students are prompted to use base-ten blocks to compose numbers. During this lesson, students represent the following scenario: "Andre

was using base-ten blocks to represent numbers. How many do you see? How do you see them?"

- The materials include questions and tasks for students to represent mathematical concepts through models. In Unit 5, Lesson 1 Warm-Up, students answer questions involving subitizing by looking at sample ten-frames and identifying the quantity through a pictorial model.
- Throughout the materials, there is evidence of questions and tasks that prompt students to create a variety of models to represent mathematical situations. For example, in Section A, Practice Problems in Unit 1, students are asked to "Find the number that makes each equation true" and to show their thinking using drawings, numbers, or words." Similarly, in the cool-down in Unit 1, Lesson 4, Student-Facing Task Statement, students work to find the value of expressions and show their thinking using drawings, numbers, or words.

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 5 Lesson 1 lesson synthesis, the students are asked to apply their understanding of place value to a story problem involving the representation of hundreds in different ways. Students use base-ten diagrams as they complete the following statements with a partner: "___ ones is the same as one hundred. ___ tens is the same as one hundred."
- The materials include questions and tasks for students to apply conceptual understanding. In Unit 5, Lesson 1 Warm-Up, the teacher provides the students with guiding questions for students to justify their responses or answers. "What is a number we could place in the fourth row? Use a pattern we discussed to explain how you know your number would belong."
- In the Unit 1 Lesson 15 lesson synthesis on the grade 2 online platform, students have an opportunity to apply conceptual understanding to new problem situations and contexts. Students compare diagrams representing story problems. "Which diagram shows that you are looking for the bigger number? How do you know?"
- "The Unit 5 Unit Narrative states "In this unit, students extend their knowledge of the units in the base-ten system to include hundreds." Students complete tasks such as, "Students write expressions and equations based on the base-ten blocks and base-ten drawings that they see."

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." In Unit 1, Lesson 5 Warm-Up, students add a one-digit number to a two-digit number, which helps students develop the fluency needed when adding within 50.
- The materials include tasks that provide opportunities to build the automaticity and fluency necessary to complete grade-level tasks. For example, the Unit 1 Unit Narrative states, "In this unit, students begin the year-long work to develop fact fluency with sums and differences within 20, building on concepts of addition and subtraction from grade 1." Similarly, the purpose of Lesson 2 is for students to add and subtract fluently within 20 to find unknown addends.
- 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. For example, grade 2 center structures allow students time to choose between previously introduced centers that reinforce content from the unit or build grade-level fluencies.

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 5 includes centers for the students to work on previously taught skills using frequently utilized tools to reinforce their learning throughout the year. The materials state, "Students add or subtract using a method they prefer. Teachers will monitor for different methods used to find the value of $17-9$. For example, adding on to make 10 ($9+1=10$, $10+7=17$, $1+7=8$); decomposing one number to get to 10 first ($17-7=10$, $10-2=8$)."
- The Unit 4 Section Planning Guide outlines the opportunities students have throughout the unit to practice the application of mathematical procedures. According to the materials, students can determine the effectiveness and efficiency of strategies while analyzing various representations of a difference on the number line using their understanding of place value and the properties of operations. The unit provides opportunities for students to "utilize various flexible strategies to solve addition and subtraction problems using a number line."
- The Throughout the Unit section describes how Unit 5 provides opportunities for students to extend their knowledge of the units in the base-ten system to include hundreds, connect their prior knowledge of counting and numbers to new concepts, and extend their understanding of the sequential order of numbers and place value relative to three-digit numbers.

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 9, Lesson 9 Activity 1, students have the opportunity to sort story problems into categories and share their strategies with peers. They then solve problems using previously learned strategies and tools such as tape diagrams, base-ten diagrams, and equations. Materials direct students to evaluate procedures and solutions by sharing their methods and solutions with their peers.
- The materials include evidence of questions and prompts for students to evaluate procedures and processes. For example, Unit 4, Lesson 3 Activity 1 asks students to "locate each number on the number line and mark it with a point. Be ready to show your partner how you know you located the numbers and how you know they are in the right spots." Similarly, Unit 4, Lesson 5 Activity 1 asks students to estimate the number represented by a point on the number line and justify their reasoning before comparing their answer and process with a partner.
- Materials provide opportunities for students to use their knowledge of place value to count large collections of objects. In the Unit 5 Lesson 14 Lesson Narrative, students are given a task titled "Hundreds of Objects," where they investigate the advantages and disadvantages of different methods of counting a large number of objects. The task provides an opportunity for students to choose a method to use, critique the reasoning of others, and model with mathematics.

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

- In the Unit 4 Section B narrative, the materials provide explicit guidance that outlines student actions and thinking. For example, the materials describe how students reason about sums and differences on the number line and demonstrate different methods students could use to subtract on a number line. The materials state, "As students analyze various representations of a difference on the number line, they consider when certain strategies may be more efficient than others."
- The Key Structures in this Course section titled "K5 Representations" offers embedded supports that outline the power of mathematical representations and provides guidance for the purpose and development of mathematical tools such as array models, number line diagrams, and tape diagrams.
- The 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 questioning 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 5, Lesson 1 has the following learning goal: "Recognize that each hundred is composed of 100 ones or 10 tens." 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, in the Unit 8 narrative, students use array models and pictorial representations to create and solve equations with equal groups. Within the Scope and Sequence, the materials state that

students use base-ten blocks to represent larger numbers and a number line to compose and decompose numbers.

- The materials include evidence of tasks that require the use of concrete models and manipulatives, pictorial representations, and abstract representations. For example, Lesson 1 Activity 1 in Unit 5, Numbers to 1,000, requires students to use base-ten blocks to represent numbers. Students then describe pictorial representations by answering questions such as "How many do you see?" and "How do you see them?" Students also draw pictorial representations and describe them as so many hundreds, so many tens, and so many ones.
- Unit 5 Section A Practice Problems include questions that require students to use base-ten blocks to make numbers, create models to answer questions about representations, and use words to describe how many tens and ones exist in a standard form number.

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

- The materials provide opportunities for the students to connect the concrete models to abstract concepts. For example, Unit 1, Lesson 1 Activity 1 describes how students use two-color counters to create numerical expressions. The materials describe how students write subtraction expressions and use counters or cubes to represent the subtraction. The teacher is guided to ask students questions that help them connect the concrete model to algorithmic concepts.
- The materials provide robust support for students as they connect concrete and representational models to abstract mathematical concepts. For example, the Unit 2 Section Level Planning Guide outlines a progression for students that begins with students completing addition and subtraction problems using diagrams and connecting cubes. As the unit unfolds, students delve into the structure of base-ten blocks, enhancing their problem-solving skills and deepening their understanding of place value. By the conclusion of the unit, students apply their knowledge by solving problems using a strip diagram.
- In Unit 8, Lesson 4 Warm-Up, two expressions are displayed for students to explain how they are the same. In Activity 1, a problem stem is posted, and students use counters to "figure out different ways the students could share their cookies." Students are encouraged to use equations to show the groups. Similarly, in Activity 2, students decompose numbers into equal addends. Throughout both activities, students are expected to explain their reasoning.

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.

- In grade 2, Unit 6, Lesson 1, the Lesson Narrative "Identify and Sort Shapes," students develop their academic mathematical language using visuals, manipulatives, and other language development strategies. For example, students identify and define a shape by the number of sides and corners it has, then sort the shapes into examples and non-examples using the correct terms to name shapes. "Throughout the lesson, students have opportunities to think about how to clearly describe the attributes of shapes to others and consider the precision of their language (MP6)."
- Unit 6, Lesson 1 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 cards that display different shapes. With a partner, they sort picture cards into categories. The teacher prompts students to answer questions, such as, "How did you sort these shapes?" and "Can you explain how you decided where to put each shape?" providing an opportunity for students to use their academic mathematical vocabulary.

- Unit 3, Lesson 1 Activity 2 contains evidence of the opportunities available to support student development of academic mathematical language using manipulatives. For example, students use centimeter cubes and connecting cubes to measure objects. Then, "they discuss why each group's measurement is the same, or nearly the same, after they measure with the cubes." With this prompt, students can discuss their thinking with others and practice their mathematical language while working with manipulatives.

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

- In grade 2, Unit 6, Lesson 1 Activity 2, the materials provide sentence stems to scaffold the development and use of academic vocabulary. The materials guide teachers to "Select students to ask a question. If the card does not belong to the category, respond with: 'No. It is not a _____ because it has __ sides and __ corners.'" Teachers can reference the words and images included in the glossary to support this task.
- Each activity includes embedded guidance for teachers addressing scaffolding student development and academic math vocabulary. For example, Unit 8, Lesson 7 Activity 1 includes prompts for the teacher to say throughout the lesson, such as, "The red counters are arranged in rows, but it is not an array. How could we rearrange the counters to make an array like image B?" and "Another way to describe this array is to say there are 2 rows with 3 counters in each." This embedded guidance helps teachers scaffold student thinking and use of mathematical language during discussions.
- The materials provide discussion starters, and sentence stems to scaffold the academic vocabulary throughout the activity. In Unit 8, Lesson 7 Activity 2, students discuss real-world examples of items they have seen in an array to connect to the learning. During the discussion, the teacher prompts them to respond using the following sentence frames: "There are _____ rows in the array." "There are _____ counters in each row." "There are _____ counters in all."

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 provide explicit embedded guidance for the teacher to support student responses using exemplar responses to questions and tasks. For example, in Unit 7, Lesson 4 Activity 1, the materials contain detailed prompts for the teacher to ask students to connect models to abstract concepts, such as "Mai and Lin were asked to find the value of $500 - 387$. Here is their work. Display the images of Mai and Lin's work. What is the same and different about the methods they used to find the difference? (They both represented it with equations, but Mai also used a number line. Mai showed using addition with a missing addend. They both broke apart the second number. They both got 113 as the answer.)" The students then discuss with a partner in support of developing mathematical conversations.

- Each activity includes prompts for discussions and the use of sentence frames to help students interact with their peers. In Unit 9, Lesson 5 Activity 1, students work in groups and discuss collections of base-ten blocks to determine composing and decomposing numbers. There are teacher prompts/questions throughout the lesson that guide teachers to provide support for students as they discuss with their peers. Some of those prompts and questions include, "We are going to represent numbers in different ways. Start with base-ten blocks, but you may use diagrams, symbols, or other representations to show your number" and "How could this group represent their number in another way?"
- The materials include evidence of embedded guidance for teachers to support student responses using exemplar responses to questions and tasks. Throughout the lessons, there are several questions and task prompts included which include sample responses as guides. In Unit 9, Lesson 11 Activity 2, the prompt guides teachers to direct students to write and solve a story problem that the diagram could represent. The Note for Evaluating Responses section includes sample responses such as, "Elena has 63 cents. She has 26 cents more than Kiran. How many cents does Kiran have? $63-20=43$, $43-3=40$, $40-3=37$ " and "Jada has 48 songs on her playlist. She adds 35 more songs to her playlist. Han has 27 songs on his playlist. How many more songs does Jada have on her playlist than Han? $48-27=21$, $21+35=56$."

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 opportunities for students 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 also describes 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 knowledge without giving students the answers.
- The materials contain evidence of opportunities for students to make sense of mathematics. In Activity 1 in Unit 6, Lesson 12, for example, students work with partners to tell the time on analog clocks and sequence their cards in time order. Materials provide prompts for students to think independently and discuss questions such as "How did you decide where to place each clock?" and "How can you use the position of the hour hand to tell if your clocks are in the right order?" with a partner.

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

- The materials provide support for students to understand that there are multiple ways to solve problems and complete tasks. For example, students use their knowledge of concrete models, tens, and addition to subtraction in Unit 1 Lesson 4, as they add and subtract within 20 in a way that makes sense to them.
- The lessons have been designed for students to analyze various methods and explain the rationale behind their chosen method. For example, in Unit 5, Lesson 3, the lesson narrative explains that "Students have opportunities to revise how they explain their own and others' methods and consider how representations of their own thinking (for example, drawings or equations) can help them explain or interpret their work (MP3, MP6)."
- The materials provide support for students to justify multiple ways to solve problems and complete tasks. In Unit 9, Lesson 13, the Lesson Narrative also supports the multiple ways to solve and justify problems by explaining that "Throughout the lesson, students explain how they solved story problems and represented their thinking. Then they consider ways they can revise their explanations and representations for clarity (MP3, MP6)."

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.
- Unit 9, Lesson 13 Activity 1 provides opportunities for students to make sense of math by doing tasks with their peers and teachers. The materials prompt teachers to provide students with materials to make posters with their partner. The teacher then gives the following prompt: "Today, you are going to solve your story problem and then make a poster that shows your story problem and how you solved it. Share your poster with your partner and make revisions if needed." The activity synthesis follows the activity and prompts students to share their findings with the class as the teacher records responses and monitors students' work.
- Unit 6 Lesson 5 Activity 2 provides an opportunity for students to understand mathematics by discussing it with their teachers and peers. In this activity, students collaborate with a partner to identify and draw shapes that have a specific number of sides and corners, as well as specific side lengths.

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.

- Unit 2 Lesson 5 Activity 1 describes how the materials support teachers in guiding students to share and reflect on their problem-solving approaches. The materials state, "The purpose of this activity is for students to subtract in a way that makes sense to them. Students use a method of their choice and share their methods with one another."
- Lessons include prompts for the teacher to guide students to share their problem-solving approaches. For example, in Unit 5, Lesson 11 Activity 1, students select a problem-solving method to compare numbers and are "invited to explain or show their thinking in any way that makes sense to them." The materials include prompts and questions to help students share their approaches with their peers, such as, "How did you know your statement is true?" and "How could you use the base-ten diagram or number line to help you show whether your statement is true or false?"
- The materials include supports for teachers in guiding students to reflect on their problem-solving approaches through explanations, arguments, and justifications. In Unit 5, Lesson 11 Activity 2, students compare numbers with a partner and then reflect on the respective methods they chose. In the Activity Synthesis, the prompts such as "I noticed that partners had different comparison statements for the same numbers. How can they both be true?" help teachers guide students to reflect on their approaches.

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 3, Lesson 2 Activity 2, the materials offer prompts to assist teachers in providing feedback based on student responses. For example, as students explore and discuss measurement with their partners, the materials provide prompts such as "If students use centimeter cubes to measure longer reptile lengths, consider asking: How did you decide which tools to use to measure the ____? How could you use the 10-centimeter tool to measure the next reptile? How could you use both tools to measure?"
- 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, Unit 4 Lesson 1 Activity 1 provides evidence of teacher prompts to provide explanatory feedback based on student responses. In the activity, students learn the features of a number line and make sense of and use the features of a number line to locate and represent whole numbers. The Advancing Student Thinking section provides the teacher with the prompt, "If students draw a point in a location other than a number greater than 6 or less than 9, give students a ruler. Consider asking: 'Looking at this ruler, what is a measurement that is longer than 6 cm?' and 'How could you show that number on the number line?'"
- 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."