# MIND Education

English Mathematics, 2

InsightMath Texas Grade 2

| MATERIAL TYPE | ISBN | FORMAT | ADAPTIVE/STATIC |
|---|---|---|---|
| **Full-Subject, Tier-1** | **9781606653715** | **Both Print and Digital** | **Static** |

## Rating Overview

| TEKS SCORE | ELPS SCORE | ERROR CORRECTIONS (IMRA Reviewers) | SUITABILITY NONCOMPLIANCE | SUITABILITY EXCELLENCE | PUBLIC FEEDBACK (COUNT) |
|---|---|---|---|---|---|
| 100% | 100% | 0 | Flags Not in Report | Flags in Report | 0 |

## Quality Rubric Section

| RUBRIC SECTION | RAW SCORE | PERCENTAGE |
|---|---|---|
| 1. Intentional Instructional Design | 28 out of 28 | 100% |
| 2. Progress Monitoring | 25 out of 26 | 96% |
| 3. Supports for All Learners | 27 out of 27 | 100% |
| 4. Depth and Coherence of Key Concepts | 19 out of 19 | 100% |
| 5. Balance of Conceptual and Procedural Understanding | 41 out of 41 | 100% |
| 6. Productive Struggle | 22 out of 22 | 100% |

## Breakdown by Suitability Noncompliance and Excellence Categories

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

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

# IMRA Quality Report

## 1. Intentional Instructional Design

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

### 1.1 Course-Level Design

| GUIDANCE | SCORE SUMMARY | RAW SCORE |
|---|---|---|
| 1.1a | All criteria for guidance met. | 4/4 |
| 1.1b | All criteria for guidance met. | 2/2 |
| 1.1c | All criteria for guidance met. | 2/2 |
| 1.1d | All criteria for guidance met. | 2/2 |
| 1.1e | All criteria for guidance met. | 2/2 |
| — | **TOTAL** | 12/12 |

#### 1.1a – Materials include a scope and sequence outlining the TEKS, ELPS, and concepts taught in the course.

In the *Program Overview Guide*, the "Standards" section contains "Texas Essential Knowledge and Skills Content Standards" and "Texas Essential Knowledge and Skills Mathematical Process Standards" sections that organize the TEKS into Algebraic Reasoning, Data Analysis, Geometry, Number Operations, and Personal Financial Literacy. It outlines the TEKS and concepts taught in each unit throughout the instructional year. Additionally, there is an "English Language Proficiency Standard" section that organizes the ELPS into Listening, Speaking, Reading, and Writing and outlines the ELPS taught in each unit throughout the instructional year.

The materials include a yearlong *Scope and Sequence* of concepts for instruction, showing the order these concepts occur throughout the grade level from Unit 0 through Unit 10.

#### 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).

In the *Program Overview Guide*, the "Pacing Details" section in the "Pacing" section outlines the concepts and the suggested pacing for each unit. It includes a drop-down menu that further breaks down the pacing of each component. The materials provide a varied number of instructional days, between 168 and 179.

The grade 2 "Pacing Suggestions" include a 165-day pacing calendar to accommodate a modified school year while still fully covering each unit.

### 1.1c – Materials include an explanation for the rationale of unit order as well as how concepts to be learned connect throughout the course.

In the "Mathematics" section for each unit, the "Conceptual Understanding" section provides explanations about the logic behind unit progression and how students use previously learned skills to build on their understanding. For example, in Unit 8, the "Conceptual Understanding" section notes that "Students build on their prior work with counting, skip counting by 2, 5, and 10, and composing and decomposing numbers to develop a deeper conceptual understanding of equal grouping structures."

The "Mathematics" section also contains a "Coherence" section that outlines what students learned previously, what they will learn in the current unit, and how the concepts will be used in future units. For example, in Unit 8, the "In the Future" section notes that "Students will apply their understanding of equal groups and arrays to develop multiplicative reasoning."

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

At the beginning of each unit, the "Schema Building" section explains the "Big Ideas" within the unit with corresponding guidance for unit and lesson internalization. For example, in Unit 6, the "Schema Building" section clarifies that "This unit extends students' place value schema for adding and subtracting three-digit numbers. Students' understanding of multi-digit addition and subtraction deepens as they develop strategies to compose and decompose large numbers flexibly, including into their place value components."

Each lesson contains questions, an overview, objectives, vocabulary, preparation for the lesson, standards, differentiation ideas, and a preview of the lesson slides. For example, in Unit 1: Lesson 6, the "Differentiation" section supports content understanding of connecting representations by using the "color and explicit annotations to connect the tokens to the decomposed addends; the decomposed addends to the partial sums; and the tokens to the partial sums and the final equation."

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

The Digital Help website includes leader-specific documents focused on leading implementation across a campus, as well as planning ongoing professional development.

The "Supporting Teachers" section provides resources for effective implementation of the program and explains how to use the resources.

The "Support for District Level Leaders" section provides guidance for effective implementation of the program and explains how to structure the timeline to ensure instructional leaders understand the materials and are prepared for implementation.

The help desk contains various links for teachers, school leaders, and district leaders. For example, the help desk has articles to support teachers, students, and rostering.

## 1.2 Unit-Level Design

| GUIDANCE | SCORE SUMMARY | RAW SCORE |
|---|---|---|
| 1.2a | All criteria for guidance met. | 2/2 |
| 1.2b | All criteria for guidance met. | 2/2 |
| — | **TOTAL** | 4/4 |

### 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.

In the "Mathematics" section, the "Coherence" section establishes connections between previously learned concepts and strategies. This section references where a topic was first introduced and outlines both the background knowledge teachers need to deliver the unit and what students need to understand it. For example, in Unit 7, the "Coherence" section clarifies that "In grade 1, students engaged in the four-step data investigation process, graphing up to three categories of data and asking and answering comparison questions based on the data. Foundational arithmetic skills were used in everyday contexts, such as tallying scores in games, comparing quantities at the grocery store, and sharing items with friends. This background supports students' ability to use addition and subtraction when analyzing data in this unit."

The materials provide the teacher with the academic vocabulary necessary to understand the concepts in each lesson within the unit. The academic vocabulary is listed in the intro of each lesson, below the questions, overview, and objectives. For example, in Unit 10: Lesson 5, the academic vocabulary is *attribute, category, cone, cube, cylinder, edge, face, rectangular prism, sphere, three-dimensional (3-D), triangular prism,* and *vertex* (plural: *vertices*).

### 1.2b – Materials contain supports for families in both Spanish and English for each unit with suggestions on supporting the progress of their student.

The *Family Guide* provides strategies and activities in both English and Spanish so families can support students' learning and development at home. In Unit 3, the *Family Guide* suggests using "Shopping Math" to create and solve math story problems using dollar amounts while out shopping as a family.

The *Family Guide* lists the objectives of the unit and provides suggestions for how families can support student progress and achievement. In Unit 3, the "Helpful Hints" section provides advice, such as "adding the tens and ones separately, then combining."

## 1.3 Lesson-Level Design

| GUIDANCE | SCORE SUMMARY | RAW SCORE |
|---|---|---|
| 1.3a | All criteria for guidance met. | 8/8 |
| 1.3b | All criteria for guidance met. | 3/3 |
| 1.3c | All criteria for guidance met. | 1/1 |
| — | **TOTAL** | 12/12 |

### 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 (aligned with the TEKS and the ELPS).

The lesson plans include daily learning and language objectives aligned to the TEKS and ELPS. For example, in Unit 8: Lesson 5, the content standards are "2.6A (model, create, and describe contextual multiplication situations)" and "2.6B (model, create, and describe contextual division situations)." The lesson objective states that students will create arrays to efficiently count objects using equal groups. ELPS.1.E—"Demonstrate listening comprehension from information presented orally during formal and informal classroom interactions"—aligns to the stated language objective, that students will "listen actively to comprehend oral explanations and discussions to clarify and explain their understanding of arrays, including why certain arrangements qualify or do not qualify as arrays, and how arrays can be used to find a total quantity."

The questions check for understanding of lesson objectives and promote the use of language to meet language objectives. The tasks to promote mastery of the lesson objectives. For example, in Unit 10: Lesson 5, the language objective is to "listen and demonstrate their understanding of sounds and intonation patterns by responding with accuracy to verbal instruction and actively participating during group discussions about classifying and sorting 3-D shapes based on their properties and attributes." The "Discourse Questions" within each lesson meet the stated ELPS, such as "Where did you put the [triangular prisms; blue rectangular prism]? Are those the only places they can go? Why or why not?" The "Discourse Questions" also check for understanding of the content objective to sort and classify 3-D shapes based on attributes.

The lesson plans include lists of materials to support instructional activities and a reference on how the teacher will assess mastery of the content standards. For example, in Unit 9: Lesson 2, the "Preparing for the Lesson" section lists the necessary materials, including pennies, nickels, dimes, quarters, an assigned game, "What is the value?" template, and "Practice Pages." The assessment is listed at the end of the lesson and includes "Look Fors" and "Discourse Questions" to assess understanding. In addition, the *Unit Guide* includes an "Assessment Guide" for "Diagnostic Assessments," "Summative Assessments," and "Formative Assessment Opportunities."

### 1.3b – Materials include a lesson overview listing the teacher and student materials necessary to effectively deliver the lesson, and the suggested timing for each lesson component.

The overview contains a list of teacher and student materials. For example, in Unit 1: Lesson 2, in the "Preparing for the Lesson" section, the "Prep Notes" section tells the teacher to prepare for half of the class to use centimeter cubes and half to use inch tiles during Slide E1. In addition, the guidance prepares the teacher on the required materials, game assignment, templates, and "Practice Pages."

The materials include suggested timing of lesson components, listed at the beginning of the lesson and within each section. For example, in Unit 7: Lesson 6, the suggested timing is 10 minutes for "Launch," 30 minutes for "Explore," five minutes for "Reflect and Connect," and 15-plus minutes for "Workshop Time."

### 1.3c – Materials include guidance on the effective use of lesson materials for extended practice (e.g., homework, extension, enrichment).

The materials offer strategies to adapt extended practice materials. The "Differentiation" section contains an "Extension" section with suggestions for extending the lesson on counting on from a numeral by challenging "students to explain why they can use addition to solve a subtraction equation. Provide small manipulatives so students can show how they know."

The "Explore" section provides tips on the effective use of lesson materials for extended practice. In Unit 8: Lesson 1, the "Extension" section in the "Explore" section challenges "students to tell, write, or draw a story about splitting items into two equal groups and determine what number of items could be used with no leftovers."

# 2. Progress Monitoring

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

## 2.1 Instructional Assessments

| GUIDANCE | SCORE SUMMARY | RAW SCORE |
|---|---|---|
| 2.1a | All criteria for guidance met. | 9/9 |
| 2.1b | All criteria for guidance met. | 2/2 |
| 2.1c | All criteria for guidance met. | 2/2 |
| 2.1d | All criteria for guidance met. | 6/6 |
| 2.1e | All criteria for guidance met. | 2/2 |
| — | **TOTAL** | 21/21 |

### 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.

"Diagnostic Assessments" with a variety of question types and tasks (including problem-solving tasks, concrete representation, fill-in-the-blank, and real-world application questions) determine students' readiness for new mathematical concepts. For example, in the Unit 6 "Diagnostic Assessment," students are expected to solve a real-world story problem using a pictorial representation and equation and then solve an additional equation by showing their own thinking and drawing the place pictorial. In addition, students are expected to fill in the missing numbers of three different number line solution representations for the same equation.

"Summative Assessments" are embedded within the unit and lessons to measure mastery of all skills taught. For example, the Unit 6 "Summative Assessment" assesses student understanding of solving addition and subtraction problems to 1,000 through a variety of tasks and questions. Students are expected to use place value to solve a given equation with three-digit numbers, estimate before solving, use a given number line to solve, represent on a number line to solve, complete equations with the unknown in different positions, and use making hundreds to solve an equation with four addends. In Unit 6: Lesson 4, students are expected to compose 10 to add three-digit numbers, and on the Unit 6: Lesson 4 "Practice Page," students compare three-digit numbers and use a number line to solve equations with two- and three-digit numbers and describe the strategy used.

"Formative Assessment Opportunities" assess a combination of skills from each lesson cluster within the unit. For example, in the Unit 8 "Assessment" section, "Formative Assessment Opportunities" are listed for the three lesson clusters. The "Formative Assessment Opportunities" come from different components within the clusters. The "Formative Assessment Opportunities" provide a variety of tasks and questions as well as what to look for during each activity. For example, students interpret data from

pictographs with different scales, create a pictograph, complete a bar or table graph, and interpret data on a scaled bar graph.

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

The materials clearly define "Diagnostic Assessments," "Formative Assessment Opportunities," and "Summative Assessments." Each unit has an "Assessment" section that provides information on each assessment type. A definition of the purpose of each assessment is at the beginning of each section. The guidance states that a "diagnostic assessment is an opportunity for students to show the foundational skills and knowledge they have previously mastered and to reveal areas in which they may need additional support to be successful in the unit."

The intended purpose is included for each assessment type and how they inform instruction, help educators and students adjust, identify misconceptions, gauge progress, and guide instructional decisions. For example, the guidance states, "The summative assessment provides an opportunity for students to demonstrate they have met the key learning objectives of the unit. The results of this assessment can provide information about successes to celebrate with students and areas where students are in need of further support. See Supporting Students after this unit for suggestions on ways to address unfinished learning."

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

Scripts ensure the assessments are administered consistently and across examiners. For example, in the Unit 4 "Summative Assessment," the teacher is expected to say, "You have learned a lot about math! These are problems for you to do by yourself so that I can see what you know. You cannot work with a partner or look at someone else's work. If you do not know how to do something, just try your best. I will read each problem aloud two times. If you want me to read it again, raise your hand."

Instructional assessments are supported by a guiding document, which gives an overview of the assessment, step-by-step guidance for administering each component of the assessment, and support for the teacher in understanding the assessments to ensure consistency and standardized administration across examiners. In the Unit 9 "Summative Assessment," the teacher directions include student seating guidance, directions to read aloud, how to help students locate the current problem, steps to ensure students are ready for the next question or to hear the second reading of the question, and which vocabulary words the teacher can provide support for. For example, the last step of the teacher directions is to provide guidance on written responses and to not assess spelling and grammar. In addition, the guidance notes that "students may dictate responses for you to record if they are still developing the necessary writing skills to express their thinking."

## 2.1d – Diagnostic, formative, and summative assessments are aligned to the TEKS and objectives of the course, unit, or lesson.

Alignment of "Diagnostic Assessments" with the TEKS for the course are included in the "Item Map" and "Supports" at the beginning of each "Diagnostic Assessment Guide" guide. For example, in the Unit 1 "Diagnostic Assessment Guide," the "Item Map" and "Supports" identify Item 1 aligns to the TEKS 2.9D and 2.9E. In addition, Item 1 aligns to the objective of comparing length that is addressed in Cluster 3 "Indirect Comparison of Length Measurements."

Alignment of "Summative Assessments" with the TEKS for the course are included, such as identifying the TEKS numbers in the "Item Map" and "Teacher Recording Sheet" at the beginning of each "Summative Assessment Guide." For example, in the Unit 4 "Summative Assessment Guide," the "Item Map" identifies that Item 1 on the "Summative Assessment" aligns to the TEKS 2.4B. In addition, Item 1 aligns to Cluster 1 "Using Decomposition and Grouping Strategies to Add" and Cluster 2 "Choosing Appropriate Models and Strategies to Add and Subtract."

Alignment of "Formative Assessments Opportunities" with the TEKS and objectives for the course, lesson, and unit are included. The Unit 3 guidance for "Formative Assessment Opportunities" can be found under the "Assessment" section and identifies the first "Formative Assessment Opportunity" from Lesson 1 "Adding or Subtracting Groups of 10 or 1 from 2-Digit Numbers." Activity E1 assesses students' ability to solve addition and subtraction equations in which they must add or subtract one or 10 multiple times and align to the objective to "add and subtract 10 or 1 multiple times from a two-digit number" and TEKS 2.7B.

## 2.1e – Instructional assessments include TEKS-aligned items at varying levels of complexity.

"Summative Assessments" aligned to the TEKS for the course assess at different levels of complexity and include procedural tasks, fill-in-the-blank and multiple-choice questions, and application of multiple skills to problems and tasks. For example, in the Unit 8 "Summative Assessment," the questions require students to circle yes or no, write equations to show equal groups, identify more than one correct solution from a given list, complete skip counting boxes, write to explain a solution, model equal groups through multiple choice and a representation, write an equation to match a given story problem, and use arrays with concrete and real-world models.

"Formative Assessment Opportunities" aligned to the TEKS for the course contain procedural, open-response items and application of multiple skills to problems and tasks. For example, in Unit 2: Cluster 2, the "Formative Assessments" require students to generate an equation to match a story problem by filling the given equations boxes, represent a solution using a number line, and solve a real-world story problem using a number line and equation.

## 2.2 Data Analysis and Progress Monitoring

| GUIDANCE | SCORE SUMMARY | RAW SCORE |
|---|---|---|
| 2.2a | All criteria for guidance met. | 2/2 |
| 2.2b | All criteria for guidance met. | 1/1 |
| 2.2c | Materials provide teacher tools to track student progress and growth. Materials include class goal-setting opportunities; however, the materials do not provide student-friendly tools for students to track their own data and progress throughout units. | 1/2 |
| — | **TOTAL** | 4/5 |

### 2.2a – Instructional assessments and scoring information provide guidance for interpreting student performance.

Teacher guidance is provided on how to interpret student performance on assessments and reflect on levels of understanding and/or proficiency. For example, the Unit 1 "Summative Assessment Guide" has the teacher record student responses in the following way: If the student's response matches the text in italics, they are to give a checkmark. If the student makes a mistake, they are to record the error. If the student makes a mistake and then corrects it, teachers will record the error and give a checkmark indicating a self-correction. Based on the students' responses, the teacher can then visit the "Supporting Students: After This Unit" link for suggestions on ways to address unfinished learning.

Scoring information about the student's strengths, weaknesses and gaps, and common misconceptions is included in the materials. For example, in the *Teaching Guide*, a "Formative Assessment Recording Log" allows the teacher to track mastery of cluster outcomes, barriers, and strengths and determine whether support is needed. Teachers can make notes about specific barriers and the type of support provided or needed in the future.

The "Summative Assessment Guide" contains examples of student responses to guide teachers in interpreting performance. For example, in the Unit 5 "Summative Assessment Guide," there are correct response examples provided for the assessed skill of showing two different ways to decompose 658. Teacher guidance states to "accept any combinations of numbers that show a sum of 658 represented in two different ways."

The grade 2 materials guide teachers on how to interpret student performance on assessments and reflect on levels of understanding and/or proficiency through the "Supporting Students: After This Unit" section. For example, Unit 5 says that "by the end of this unit students should be able to translate between different representations of numbers up to 1,200, have a conceptual understanding of how the place value system works with both standard and non-standard groupings, and compare numbers using place value understanding." In addition, the section then breaks down the different areas of struggle

students may have if they are not successful on the assessment, such as "placing points on a number line based on estimation and applying place value understanding to compare and order numbers."

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

In kindergarten, the materials include guidance that supports the teacher in utilizing results from "Diagnostic Assessments" to support the purposeful planning of tasks and activities for the appropriate grade level or course. This guidance is listed by item number and aligned TEKS within the "Diagnostic Assessment Guide." For example, in the Unit 3 "Diagnostic Assessment Guide," Item 1 assesses and provides guidance for supporting emerging students on composing 10 through various activities. One activity says to "have students make a ten stick using 5 cubes of one color and 5 of another color before breaking the ten stick and using the groups of five to determine the missing amount," which correlates to 2.4A.

Instructional guidance for tasks and activities to target various skills is included, as determined by "Summative Assessment" data. For example, in Unit 3 under the "Assessment" section, there is information for supporting students after the "Summative Assessment." If students are struggling to make 10 when adding across a decade, the guidance suggests to "highlight moments when students use make-a-ten strategies and discuss why this approach is more efficient."

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

Editable "Formative Assessment Recording Logs" allow teachers to customize and track the growth of individual students or the whole class throughout the unit. For example, the "Formative Assessment Recording Log" has an area for each student's name, whether the cluster objective was met, anecdotal notes, and if support was needed or provided.

Grade 2 materials include student-friendly class data discussions through "Our Thinking Path," which is embedded throughout units at the end of each cluster, allowing time for setting class goals recorded on chart paper to be referenced during the unit. Materials include class goal-setting opportunities; however, they do not provide student-friendly tools for students to track their own data and progress throughout units.

# 3. Supports for All Learners

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

## 3.1 Differentiation and Scaffolds

Guidance marked with a (T) refers to teacher-facing components. Guidance with an (S) refers to student-facing components.

| GUIDANCE | SCORE SUMMARY | RAW SCORE |
|---|---|---|
| 3.1a | All criteria for guidance met. | 3/3 |
| 3.1b | All criteria for guidance met. | 2/2 |
| 3.1c | All criteria for guidance met. | 2/2 |
| — | **TOTAL** | 7/7 |

### 3.1a – Materials include teacher guidance for differentiated instruction, activities, and paired (scaffolded) lessons for students who have not yet reached proficiency on grade-level content and skills.

The grade 2 materials guide teachers to support students' thinking within the lesson through differentiated supports, such as scaffolded questions to activate prior knowledge, sentence stems to aid students with their thinking, and visual aids and manipulatives to enhance comprehension. For example, in Unit 7: Lesson 8, there are sentence stems under the "Differentiation" section, such as "A statistical question helps me collect and answer questions about data because _____." In addition, the guidance suggests providing students with a paper copy of the graph and suggests having the student mark on the graph to show where each bar ends line up on the tick marks to help them make comparison statements.

In grade 2, the materials provide paired lessons for students who have not yet reached proficiency on grade-level content and skills. For example, in Unit 9: Lesson 3 *Teaching Guide*, there is a scaffolded lesson for students who are equating the size of a coin to the value. The guidance suggests creating a display showing each coin, name, and value and discussing the differences between the coins and to provide opportunities for the students to practice identifying the coins correctly.

### 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)

The materials include teaching academic vocabulary and symbols through hands-on experiences, manipulatives, or visuals. For example, in Unit 3: Lesson 4, the guidance suggests providing a visual when discussing tens and one jumps during the Explore section of the lesson.

Lesson activity guidance includes "Discourse Questions" that support student understanding of academic vocabulary and unfamiliar references in the lesson. For example, in Unit 1: Lesson 3, the "Workshop

Time" section provides "Discourse Questions" such as "What is this question asking you to do? What do you think you need to do to find the answer? Does this problem remind you of anything we have learned before?" The questions ensure students understand the question and the vocabulary to complete the assignment.

### 3.1c – Materials include teacher guidance for differentiated instruction, enrichment, and extension activities for students who have demonstrated proficiency in grade-level content and skill.

The materials include specific prompts for advanced questioning during discussions, such as asking students to justify their problem-solving strategies or compare different mathematical approaches. For example, in Unit 3: Lesson 4, under the Differentiation section, the "Extension" section suggests challenging students to explain their thinking beyond solving a problem using a number line. The students would then explain how adding and subtracting a 10's value on the number line is the same as or different from adding and subtracting a one-digit number on the number line.

The *Teaching Guide* suggests enrichment activities, such as a project-based learning activity, research project, or creative project that synthesizes content and student learning for students who have demonstrated proficiency in grade-level content and skills. For example, in Unit 3: Lesson 4, students are challenged to extend their learning from solving a problem on a number line to creating their own two-digit number equations that add or subtract a multiple of 10, then model the equation on a number line.

## 3.2 Instructional Methods

| GUIDANCE | SCORE SUMMARY | RAW SCORE |
|---|---|---|
| 3.2a | All criteria for guidance met. | 4/4 |
| 3.2b | All criteria for guidance met. | 2/2 |
| 3.2c | All criteria for guidance met. | 3/3 |
| — | **TOTAL** | 9/9 |

### 3.2a – Materials include explicit (direct) prompts and guidance to support the teacher in modeling and explaining the concept(s) to be learned.

Lesson materials include questioning strategies and discussion prompts that guide teachers in clearly explaining concepts and engaging students in deeper understandings. For example, in Unit 6: Lesson 4, students estimate the section of a number line in which the sum of an expression is located. "Discourse Questions" guide the discussion, such as "Could the sum be less than 300? Why or why not? Could the sum be greater than 500? Why or why not? Is the sum greater or less than 400? How do you know?"

In grade 2, materials include guidance to support the teacher in explaining and modeling, such as providing exemplar student responses to prompts and visuals to aid in teacher explanations. For example, in Unit 6: Lesson 4, the "Explore" section has 14 lesson slides that provide visuals that demonstrate jumps on a number line and equations. There are example student responses provided for the questions. For example, the question on Slide E1 asks, "What color section will the sum of 135 + 247 be located?" The answer key in the teacher guidance states, "The sum is located in section C."

### 3.2b – Materials include teacher guidance and recommendations for effective lesson delivery and facilitation using a variety of instructional approaches.

Lessons include teacher guidance and recommendations for effective lesson delivery using a variety of instructional approaches, such as: providing opportunities for student discourse, independent learning activities, incorporating written responses and explanations to justify thinking, incorporating hands-on explorations using math manipulatives, and connecting to real-world problems and scenarios to learn about mathematical concepts. For example, in Unit 2: Lesson 12, the materials provide an opportunity for students to explore comparison problems using real-world bar graphs on a number line. The materials provide "Discourse Questions" to facilitate student understanding of the concept. During the "Workshop Time," students work with a partner on a game. During the game, students write out their thoughts on a sticky note, use classroom manipulatives, or discuss their thinking with their partner. Later in the lesson, students apply their understanding of comparison problems using graphs on an independent practice page.

The grade 2 materials incorporate and provide guidance on more than one instructional approach, such as direct instruction, guided practice, inquiry-based learning, collaborative learning, and exploratory

learning. For example, in Unit 8: Lesson 4, students explore odd and even numbers using ten frames and magnets. Students discuss the different models and patterns they notice about even and odd numbers. The teacher uses this to facilitate a discussion on multiple representations patterns of even and odd numbers. Later in the lessons, students complete a *Playbook* page and discuss challenges with their partner.

### 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.

The grade 2 materials provide a variety of opportunities for students to practice and apply the concepts they learn, including individual, partnered, guided, whole-group, and small-group opportunities. For example, in Unit 5: Lesson 5, students complete three counting sequences as a whole group. Students do a guided exploration of representing four-digit numbers with zeros. During "Workshop Time," students play a game with partners and complete an independent "Practice Page" at the end of the lesson.

Lesson plans provide teachers with guidance on structuring and implementing multiple types of practice, including explicit instructions for guided practice, opportunities for independent application, and collaborative activities. Lesson plans include notes on each lesson component and whether the recommended grouping is whole group, partners, small group, or independent. For example, in Unit 2: Lesson 4, students work independently, with a partner and then as a whole group to demonstrate their understanding of using a number line. In the "Explore" section, students work as a whole class through a whole-group puzzle talk, guided practice, and "Discourse Questions." Students also work with a partner during "Workshop Time" before completing their independent "Practice Page."

## 3.3 Support for Emergent Bilingual Students

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

| GUIDANCE | SCORE SUMMARY | RAW SCORE |
|---|---|---|
| 3.3a | All criteria for guidance met. | 2/2 |
| 3.3b | All criteria for guidance met. | 1/1 |
| 3.3c | All criteria for guidance met. | 8/8 |
| 3.3d | This guidance is not applicable to the program. | N/A |
| — | **TOTAL** | 11/11 |

### 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.

The grade 2 materials detail ways that the teacher can build academic vocabulary as the unit progresses, including support after the unit. For example, in the Unit 7 *Teaching Guide*, the "Supporting Students" section after the unit provides differentiated ways to best support students. For example, if a student is struggling to identify the difference between statistical questions and non-statistical questions, the guidance states the teacher should, "Regularly expose students to examples of both statistical and non-statistical questions. In general discussions throughout the day, when students ask questions, explicitly name if they are statistical questions or non-statistical. Social studies topics in particular contain a wealth of statistical questions. Use group discussions and sorting activities to clarify the difference. Provide sentence frames or examples students can reference, and use think-aloud strategies to model how to identify and categorize different types of questions."

Lessons provide a "Differentiation" section that provides educators with guidance on incorporating multiple levels of support to help students build academic language, such as sentence stems, productive and expressive language support, and a list of words that need a visual or example. For example, in Unit 10: Lesson 4, the guidance for productive and expressive language support states, "Allow students to work with a partner who shares the same preferred language so they can discuss their thinking while using less working memory for language; this allows students to use more working memory for mathematical ideas." In addition, the materials provide sentence stems to support language development, such as "The shape has __ [faces; edges; vertices]. The shape has __ [faces; edges; vertices] because _____. I can identify a [face; edge; vertex] of a 3-D shape by _____. I can compose the shape from

_____. I can compose the shape from _____ because _____. I can use the attributes of a shape to help me identify the shapes that compose it by _____."

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

In grade 2, the materials provide embedded guidance for effective implementation through plans with specific language objectives and language supports provided through the differentiation section of each lesson. For example, in Unit 7: Lesson 13, the language objective is, "Students participate in exchanges of oral and written information about designing an investigation question and explaining their data collection method." In addition, the materials further support this objective with guidance to, "Allow students an alternative way of documenting their thinking (i.e., instead of written English, students may make an audio recording, video recording, screen recording with annotations, including using their preferred language, etc.)."

The materials provide resources on how to support language development and acquisition. For example, in the "InsightMath Help" section for *Addressing the Needs of Special Populations in Texas*, the guidance states that teachers should use the math language routines to guide discussion and support language acquisition. In addition, the guidance lists the math language routine steps, "Revoice student ideas to model mathematical language use by restating a statement as a question in order to clarify, apply appropriate language, and involve more students. Press for details in students' explanations by requesting for students to challenge an idea, elaborate on an idea, or give an example. Show central concepts multi-modally by utilizing different types of sensory inputs: acting out scenarios or inviting students to do so, showing videos or images, using gestures, and talking about the context of what is happening. Practice phrases or words through choral response. Think aloud by talking through thinking about a mathematical concept while solving a related problem or doing a task. Model detailing steps, describing and justifying reasoning, and questioning strategies."

### 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.

Throughout each lesson, materials provide opportunities for oral discourse through questions that develop academic vocabulary, increase comprehension, build background knowledge, and make cross-linguistic connections. For example, in Unit 10: Lesson 4, students build background knowledge by identifying which shape does not belong in the group of three shapes through oral discourse questions such as, "Why did you choose [option]? What type of shapes are these? How do you know?" Students then use oral "Discourse Questions" to support understanding of the word 3-D shapes and connecting them to shape attributes such as, "What shape attribute did you use to find each match? What do you notice about the faces of a [3-D shape]? What is different about a rectangular prism and cube?" As the

lesson progresses, there are oral discourse questions that check for increasing comprehension such as, "Which example shows [vertices; faces; edges]? How do you know? How many [vertices; faces; edges] does a rectangular prism have? How do you know? How do you know the shape was a cube? Do you think there are other ways to compose a cube? Why or why not?"

The materials include activities that require students to use written discourse to develop academic vocabulary, increase comprehension, build background knowledge, and make cross-linguistic connections. For example, in Unit 8: Lesson 1, students write their thoughts while playing an ST Math Game during "Workshop Time." The teacher uses "Discourse Questions" to support students with their thinking such as, "What do you see on the screen? What do you [notice; wonder]? What is this puzzle asking you to do? What do you think is going to happen when you use the Go button? What have you tried? Why did it [work or not work]? What did you learn from the animation after you used the Go button?" This allows students to use and develop academic vocabulary from the word wall and for the teacher to check for increasing comprehension. In addition, during the Investigation at the beginning of Unit 8, students write about how they were mathematicians and have the opportunity to build background knowledge before starting the lesson. Students are able to use the math word wall and make their own cross-linguistic connections through the open-ended "Discourse Questions," such as "How did making mistakes help you grow as a mathematician? When might you count objects organized like this?"

### 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.

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

# 4. Depth and Coherence of Key Concepts

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

## 4.1 Depth of Key Concepts

| GUIDANCE | SCORE SUMMARY | RAW SCORE |
|---|---|---|
| 4.1a | All criteria for guidance met. | 2/2 |
| 4.1b | All criteria for guidance met. | 1/1 |
| — | **TOTAL** | 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.

In grade 2, practice opportunities require students to demonstrate depth of understanding of place value throughout Unit 3 "Discovering Place Value Strategies." They begin with adding and subtracting groups of 10 or one from two-digit numbers before comparing numbers on a number line. This is completed before moving into using number lines and place value to solve word problems within 100. Students then move into open number lines and composing and decomposing 10s to add and subtract.

Instructional assessments require students to demonstrate depth of understanding aligned to the TEKS over the course. For example, the Unit 3 "Summative Assessment" requires students to demonstrate understanding of Unit 3 "Discovering Place Value Strategies" through a variety of tasks and questions. Examples of these tasks include using place value patterns to solve equations, representing place value on number lines and using the number line to solve real-world story problems, and using composing and decomposing 10s to solve problems.

### 4.1b – Questions and tasks progressively increase in rigor and complexity, leading to grade-level proficiency in the mathematics TEKS.

In grade 2, students work with understanding numbers in increasing complexity through the units.

Throughout the grade level, the materials are scaffolded by units as students use addition and subtraction within 20 on a number line; compose and decompose place value using ones and tens; explore addition and subtraction within 100; extend place value to 1,200 and compose and decompose thousands, hundreds, tens, and ones; use addition and subtraction within 1,000; use problem-solving to answer questions from the data represented in graphs; understand that numbers are even or odd based on equal groups; and apply counting strategies and problem-solving to financial literacy, shapes, and time.

In Unit 10 "Exploring Shapes and Time," students name and identify attributes of polygons before drawing a polygon from a given attribute and then more than one given attribute. Students identify, compose, sort, and then classify 3-D shapes.

## 4.2 Coherence of Key Concepts

| GUIDANCE | SCORE SUMMARY | RAW SCORE |
|---|---|---|
| 4.2a | All criteria for guidance met. | 1/1 |
| 4.2b | All criteria for guidance met. | 3/3 |
| 4.2c | All criteria for guidance met. | 4/4 |
| — | **TOTAL** | 8/8 |

### 4.2a – Materials demonstrate coherence across units by explicitly connecting patterns, big ideas, and relationships between mathematical concepts.

The "Unit Overview" describes connections to previous units where students obtained prior knowledge needed for the upcoming unit. The "Unit Overview" identifies previously learned "Big Ideas" and identifies how students will expand their knowledge of mathematical concepts. For example, in Unit 3 "Discovering Place Value Strategies," the "Unit Overview" notes that students will "expand their schema for using place value to solve addition and subtraction problems within 100. Their understanding of place value relationships develops as they move beyond simple counting strategies to apply strategic decomposition when adding or subtracting across decades. Students' schemas for mathematical representation grow as they connect concrete models to open number lines and equations, building a foundation for efficient computation through place value understanding."

In grade 2, the materials connect understanding how to represent addition and subtraction on a number line within 20 before expanding to story problems within 100. For example, in Unit 2, students represent story problems within 20 using a given number line and representing jumps forward or backward by ones. In Unit 3, students represent story problems within 100 on a number line by making jumps of 10s and ones.

### 4.2b – 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.

In grade 2, the "Coherence" section within the "Mathematics" section identifies previously learned concepts that will be used and developed in the current unit and how the concepts will be applied in the future. For example, in Unit 5 "Extending Place Value to 1,200," the "Coherence" section notes that students will use understanding of place value within 120 from kindergarten and grade 1—including representing, comparing, and using place value patterns—to expand their understanding of place value to numbers within 1,200. Students will apply their understanding of place value within 1,200 to solve addition and subtraction problems within 1,000 in Unit 6. Then, students will extend their number sense to include numbers to 100,000 in grade 3 and introduce the decimal value system in grade 4.

The materials use consistent vocabulary terms and tools year to year from kindergarten to grade 2. For example, in kindergarten, students are introduced to the terms *two-dimensional shapes* and *three-dimensional shapes*. Students sort and name the shapes. In grade 1, students continue to use the terms *two-dimensional shapes* and *three-dimensional shapes* and expand their vocabulary to identify the attributes using the terms *sides*, *vertices*, *faces*, and *edges*. In grade 2, students continue using the same vocabulary when identifying shapes, composing new shapes, and decomposing shapes.

### 4.2c – 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.

In grade 2, a lesson on comparing strategies for adding and subtracting three-digit numbers includes scaffolding questions that help students bridge earlier learning to current concepts. For example, questions such as, "Which two critters show numbers too small to be part of a pair to 500? How do you know? What other pairs of critters have a sum less than 500? How do you know? Which two critters did you circle? How do you know their sum is greater than 500 without actually adding them?" encourage students to apply previously learned strategies in new contexts.

At the lesson level, materials connect concepts and procedures from the prior grade level. The materials use previously learned concepts and procedures to support learning at the lesson level. For example, in Unit 7: Lesson 12 "Displaying and Explaining Collected Data About Book Preferences," students use their prior understanding of comparing data from kindergarten and grade 2 to draw their own conclusions and explain the data, including making comparisons between categories.

## 4.3 Coherence and Variety of Practice

| GUIDANCE | SCORE SUMMARY | RAW SCORE |
|---|---|---|
| 4.3a | All criteria for guidance met. | 4/4 |
| 4.3b | All criteria for guidance met. | 4/4 |
| — | **TOTAL** | 8/8 |

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

In grade 2, during the "Launch" section of Lesson 6 "Relating Skip Counting to the Array Structure," students use skip counting strategies to find the total amount in an organized group of objects before representing repeated addition with arrays.

In grade 2, students complete an investigation on extending magnitude before beginning Unit 6. The investigation requires students to use their prior understanding of place value and number lines to identify place value on a number rolling number line using the given numbers and represented problem before moving into the new concepts in Unit 6 "Extending Addition and Subtraction to 1,000."

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

In grade 2, students practice addition and subtraction within Unit 2 "Discovering Addition and Subtraction on the Number Line." This grouping is reiterated in subsequent units, with the complexity increasing by incorporating greater place values. Students use place value, number lines, equations, and number bonds to solve addition and subtraction problems and engage in problem sets that require understanding word problems. Students plan whether to use an addition or subtraction strategy.

Materials prompt students to apply previously learned concepts of problem solving and equations in Lesson 5 "Modeling and Solving Part–Part–Total Word Problems: Part Unknown." For example, in the "Explore" section, the teacher is prompted to ask, "What information do we [know; not know] in the word problem? What part of your [strip diagram; equation] represents each part of the word problem? What operation did you use? Why? Does the unknown have to come after the equal sign? [Why or why not]?"

# 5. Balance of Conceptual and Procedural Understanding

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

## 5.1 Development of Conceptual Understanding

| GUIDANCE | SCORE SUMMARY | RAW SCORE |
|---|---|---|
| 5.1a | All criteria for guidance met. | 3/3 |
| 5.1b | All criteria for guidance met. | 1/1 |
| 5.1c | All criteria for guidance met. | 1/1 |
| — | **TOTAL** | 5/5 |

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

In grade 2, students interpret how a number line with tick marks can be used to show place value in Unit 3: Lesson 3. The teacher shows the number line and asks students to show 16. Students model 16 with base ten blocks and determine how place value can help them show 16 on a number line. The teacher asks, "How did you use your base ten blocks to find the number? How could you show your thinking without base ten blocks? How did the number line help you compare the numbers?"

Students analyze if a number is even and odd in Unit 8: Lesson 4. The teacher displays ten frames representing numbers 11–20 for students to analyze to determine if a number is even or odd. The teacher then asks students, "How did you know which numbers were [even; odd]? What do you notice about the ten frames for all of the [even; odd] numbers? What do you notice about the digits in the [even; odd] numbers?" Students analyze the models and explain that the tens place stays the same and it is the number in the ones place that changes and is used to determine even and odd.

### 5.1b – Questions and tasks require students to create models to represent mathematical situations.

In grade 2, in Unit 4: Lesson 9, students choose a model to represent addition and subtraction story problems and then write an equation to match the model. The teacher asks the student, "What do you [know; not know] in this problem? How did you show that in your [equation; model]? How did your model help you solve?"

In Unit 5: Lesson 6, students represent and model numbers up to 1,200 using base ten blocks, number bonds, standard form, and expanded form. The teacher asks the student, "How did the blocks help you know what numbers to write?"

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

Lessons provide opportunities for students to apply conceptual understanding to new problem situations and contexts. For example, in Unit 8: Lesson 6, students use their previous understanding of an array and skip counting to apply skip counting strategies to an array. Students observe a set of four pictures with arrays and skip counting strips and discuss what they notice and wonder. Students then complete the tasks using skip counting. The teacher asks, "How did you know what to skip count by? What patterns do you notice when skip counting by [2; 5; 10]?"

Students engage in a problem about the total number of objects using four addends. Students apply addition strategies to solve the problem with more than two addends. After solving the problem, students engage in a discussion and discuss how students used addition strategies to help solve the problem. The teacher asks, "What did you do first to solve? Why? Did you add the addends in order from left to right? [Why or why not]? How can we group together numbers to make adding easier? Did you group the addends in the same way as [student]? Did you find the same sum? How do you know your answer is reasonable?"

## 5.2 Development of Fluency

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

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

During the "Launch" section, students practice automaticity by subitizing quickly to determine how many. For example, in Unit 3, Lesson 2, students use mental math to solve three related math problems. The problems build the understanding that adding 10 multiple times is the same as adding a multiple of 10. Students are able to practice mental math strategies using 10 in a variety of ways.

In grade 2, students build fluency using number lines. For example, in Unit 3, students complete an investigation on exploring magnitude. The investigation has students represent a number on a number line using place value jumps. Students then look at puzzles to determine if they are correct. For example, one puzzle has a jump of 10 compared to a jump of six and four ones. This investigation requires students to continue to use the skill of place value jumps but prepares them to begin using number lines to show addition and subtraction.

### 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.

In grade 2, Unit 6: Lesson 10, students solve two-step addition and subtraction word problems involving numbers within 1,000. The materials prompt students to use efficient strategies, such as decomposing using place value or adding and subtracting on a number line. Word problems include teacher guidance, such as asking students, "What is this question asking you to do? What do you think you need to do to find the answer? Does this problem remind you of anything we have learned before?" to support them in identifying methods that reduce cognitive load while maintaining accuracy.

In grade 2, lessons prompt students to choose a method, which encourages flexibility in selecting and applying strategies that make sense for different problem types. In addition, "Discourse Questions" allow students to explain their strategy and hear other students explain their strategies. For example, in Unit 6: Lesson 10, the "Discourse Questions" following a word problem ask, "How did you solve? What did you do [first; next]? Did you decompose any tens or hundreds to solve? [Why or why not]?"

### 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.

In grade 2, Unit 4: Lesson 14, students work with a partner to fill in missing pieces of a two-step situation involving additive comparison. The materials provide the teacher with questions to guide the students to evaluate a problem with a partner by asking, "How can you use a model to represent what you [know or do not know]? What strategy can you use to represent three fewer?"

Throughout Unit 8 "Counting in Groups," during independent practice, the *Teaching Guide* prompts the teacher to have students reflect on and evaluate their chosen strategy during independent practice. The teacher asks, "Are you confident in your answer? [Why or why not]? In what ways have you [already tried or not yet tried] to solve this problem?"

### 5.2d – Materials contain embedded supports for teachers to guide students toward increasingly efficient approaches.

In grade 2, Unit 6: Lesson 2, students are shown an equation with three different number line strategies to solve. Teacher guidance provides three argumenteers and their strategies. While discussing the argumenteers, the guidance allows the teacher to guide students to notice errors and less efficient strategies before having students model their own problem solving for a story problem.

During a "Formative Assessment Opportunity" in the "Explore" section of Unit 6: Lesson 4, students are estimating where the solution for 452 + 438 is located on a number line. Teacher guidance suggests supporting students to use place value as an efficient tool for estimating.

## 5.3 Balance of Conceptual Understanding and Procedural Fluency

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

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

The grade 2 materials provide an overview of the progression of procedural skills and fluency through the unit. For example, in Unit 6, the materials note that students will "develop multiple strategies for adding and subtracting within 1,000, including decomposition, sequential strategies, and compensation." In addition, the materials note that students will practice mental math strategies but not yet use standard algorithms. By the end of the unit, students should be fluently adding and subtracting within 100 using various strategies.

Each unit has a "Mathematics" section with a "Conceptual Understanding" section. For example, in Unit 6, the "Conceptual Understanding" section states, "This unit helps students deepen their place value understanding as they compose and decompose tens and hundreds when adding and subtracting three-digit numbers." Students will use place value tokens and models to visualize grouping and ungrouping, recognize that adding ones can create a new ten and adding tens can create a new hundred, and develop an understanding of estimation by exploring how place value can help determine reasonable ranges for sums and differences. In addition, throughout the unit, students will connect concrete models to symbolic notation to strengthen their understanding of the base ten system.

### 5.3b – Questions and tasks include the use of concrete models and manipulatives, pictorial representations (figures/drawings), and abstract representations, as required by the TEKS.

In grade 2, tasks include the use of concrete models, pictorial representations, and abstract representations, as required by the TEKS. For example, in Unit 5: Lesson 6, students use base ten blocks to represent a number before practicing determining the value of each group of base ten blocks. Students then represent a number using place value blocks and expanded form. Students then apply their understanding of the expanded form equation and place value representations to determine the missing numbers in the expanded form equation.

In grade 2, questions include the use of concrete models, pictorial representations, and abstract representations, as required by the TEKS. For example, in Unit 5: Lesson 2, students use manipulatives or drawings to represent a given number and then identify the digit in each place value. The task has

students manipulate the number by adding a new digit. The teacher asks the students, "How do we need to change our other representations to match?" Students then determine the digit in each place value from a given standard form number and add the digits to a place value chart. The teacher asks the students, "What place is [digit] in? What is its value?" Students then use a place value riddle and determine if it matches the given number. The teacher asks, "How do you know the critter's answer was incorrect? What mistake did the critter make?"

### 5.3c – Materials include supports for students in connecting, creating, defining, and explaining concrete and representational models to abstract (symbolic/numeric/algorithmic) concepts, as required by the TEKS.

In grade 2, materials include support for students in connecting and creating concrete models to abstract concepts as required by the TEKS. For example, in Unit 3: Lesson 1, students use base-ten blocks to represent a given equation. Students practice adding one or 10 using base ten blocks before moving on to solving an equation of one or 10 more using counting on. In addition, through modeling on the teacher slides and "Discourse Questions," the teacher guidance supports the students by defining and explaining the concepts. For example, during the "Explore" section of the lesson, the teacher guidance states, "Ask, 'What do you notice about the equations?' Students work in pairs to complete the page. Circulate, using the Discourse Questions to further student thinking.' How do your base ten blocks represent the equation? How did you count the blocks to find the [total / difference]? Did the ones digit or tens digit change? Why?"

In grade 2, materials include support for students in connecting and creating representational models to abstract concepts, as required by the TEKS. For example, in Unit 4: Lesson 4, students use a strip diagram to represent a story problem before writing an equation. In addition, through modeling on the teacher slides and discourse questions, the teacher guidance supports the students by defining and explaining the concepts. For example, during the "Explore" section of the lesson, the teacher guidance has the teacher allow the students to share how to represent the word problem on the slides. The teacher asks, "How will the numbers from the strip diagram fit into the equation? How do you know? What part is unknown? How can we find the unknown part of this problem? What strategies can you use to solve?"

## 5.4 Development of Academic Mathematical Language

| GUIDANCE | SCORE SUMMARY | RAW SCORE |
|---|---|---|
| 5.4a | All criteria for guidance met. | 3/3 |
| 5.4b | All criteria for guidance met. | 1/1 |
| 5.4c | All criteria for guidance met. | 6/6 |
| — | **TOTAL** | 10/10 |

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

In Unit 10: Lesson 8, the materials prompt students to partition a half of a half of a half and explain how many parts they have. After the student discussion, the teacher introduces the word *eighth*. In addition, during the lessons students look at examples and nonexamples of eighths. "Discourse Questions" include, "How did you fold your fourths in half? What happened to the number of parts of the whole? What happened to the size of the parts? Could we keep folding our parts in half forever? What would happen?"

Lesson materials include bolded words throughout the lesson that introduce academic mathematical language. In addition, students use visuals with manipulatives to discuss, explain, and model mathematical language. For example, in Unit 3: Lesson 8, visuals include an open number line representation. In addition, students use base ten blocks to see how the representation matches the open number line. "Discourse Questions" include "What did you do first on your open number line? How did you know where to start on the open number line? Which direction did you jump on the open number line? Why? How did you know how big to make your jumps on the open number line?"

### 5.4b – Materials include embedded teacher guidance to scaffold and support students' development and use of academic mathematical vocabulary in context.

The materials have embedded teacher guidance to scaffold and support students' development and use of academic mathematical vocabulary in context through the differentiation section within each lesson. For example, in Unit 6: Lesson 7, the "Differentiation" section provides additional vocabulary students may need visuals for, language support stems, and content support to address misconceptions with mathematical vocabulary. Additional mathematical terms students need to know are *about, true,* and *total*. Sentence stems support the understanding of addend, "The missing addend could be _____. The missing addend could be _____ because _____. I can use place value to help me find the missing addend by _____." For students who are struggling to understand inequality, the guidance suggests for teachers to "Review the meaning of the signs for less than (<) and greater than (>). Provide examples of true inequalities using familiar numbers, such as 2+3>4."

Grade 2 materials provide embedded support for scaffolding and supporting expressive and productive language development of mathematical vocabulary in context. For example, in Unit 2: Lesson 5, in the "Supporting Language" section of the "Differentiation" section, the guidance states, "Help students understand the meanings of between, before, and after with regard to numbers on a number line (e.g., 'The number 15 is between 10 and 20. 15 is after 10 and before 20'). Before and after can be confusing because in this context they refer to location rather than time. Provide opportunities for students to describe the relative locations of numbers on the number line using these terms."

**5.4c – Materials include embedded teacher guidance 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.**

Embedded teacher guidance supports student responses. Lesson materials provide lesson tasks on slides, "Discourse Questions" in the *Teaching Guide*, and exemplar responses for both questions and tasks. For example, in Unit 6: Lesson 4, the task on the slide asks students to look at an equation and number line to determine which section of the number line the sum would be located. The teacher guidance provides the following "Discourse Questions" to support the task: "Could the sum be less than 300? Why/why not? Could the sum be greater than 500? Why/why not? Is the sum greater or less than 400? How do you know?" The answer is "the sum is located in section C" and is provided in the *Teaching Guide*.

Sentence stems are provided to support students in using mathematical language. In addition, language supports are provided to support expressive, productive, receptive, and interpretive mathematical language use. For example, in Unit 6" Lesson 6, during the "Explore" section of the lesson, the language support states, "Ensure students understand that hid or hidden means that they cannot see the card but it has a digit printed on it. If necessary, act out a similar situation." In addition, the materials provide language support sentence stems, such as "The missing addend is _____. The missing addend is _____ because _____. When I add tens to make 100, I can find the missing addend by _____. The sum of _____ and _____ is _____. The sum of _____ and _____ is _____ because _____. I can make a hundred when I add two-digit numbers because _____."

During a grade 2 lesson on using grouping strategies to add four addends, teachers provide visual representation using both pictures and an equation to demonstrate regrouping. Students use "Discourse Questions" such as "What did you do first to solve? Why? Did you add the addends in order from left to right? [Why/Why not]? How can we group together numbers to make adding easier? Did we all need to group the addends in the same way to find the same sum? [Why/Why not]? How do you know your answer is reasonable?" This allows students to explain their reasoning.

## 5.5 Process Standards Connection

| GUIDANCE | SCORE SUMMARY | RAW SCORE |
|---|---|---|
| 5.5a | All criteria for guidance met. | 1/1 |
| 5.5b | All criteria for guidance met. | 2/2 |
| 5.5c | All criteria for guidance met. | 2/2 |
| 5.5d | All criteria for guidance met. | 1/1 |
| — | **TOTAL** | 6/6 |

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

In grade 2, in Unit 8: Lesson 8, students demonstrate 2.1.B by choosing skip counting or repeated addition to create an array and justify the solution for reasonableness. Students explain their thinking through "Discourse Questions," such as "How did you know if you made an array? How did you know you did not make an array? How many were in each row when you made [4; 6; 8] rows? Which parts of your equation represent the [number of rows; number in each row]?"

Materials provide guidance on how process standards are addressed within a lesson. For example, in Unit 5: Lesson 11, guidance for 2.1.G states, "Students use greater than and less than signs to compare three-digit and four-digit numbers (up to 1,200) represented by base ten blocks, coins, standard form, and expanded form. They explain how they know which number is greater by comparing the thousands place, then hundreds place, followed by the tens and ones if necessary (e.g., 4 hundreds is greater than 3 hundreds, so the first number must be greater than the second). They justify their conclusions using their understanding of place value."

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

The " Standards" section in the "Unit Overview" contains links for each unit and the progression of the process standards through the course. For example, in Unit 2, 2.1.C states, "Students select and use various tools to understand and use the number line, including connecting cubes, centimeter cubes, and inch tiles, to build number lines with equal spacing. They use estimation to locate numbers and plot points on partially labeled number lines, particularly when not every tick mark is labeled. Students also choose appropriate techniques, such as counting on from a reference point, using known facts (like doubles or making ten), or applying number sense to determine where numbers belong on the number line. As they solve problems, they select efficient strategies based on the numbers involved rather than relying solely on counting by ones." In Unit 5, the guidance demonstrates how students will continue to demonstrate the process standard 2.1.C. The guidance states, "Students select from a variety of tools to explore and solve problems involving numbers within 1,200. They use base ten blocks, place value mats, and pictorial models to visualize and manipulate place values when composing and decomposing numbers. As the unit progresses, students transition from concrete representations to more abstract

numerical forms, choosing appropriate techniques based on the context. Students develop mental math strategies for regrouping place values and employ estimation skills when placing numbers on number lines, demonstrating how flexible number sense helps them navigate larger number ranges efficiently."

In a grade 2 lesson on composing 100 to add three-digit numbers, the materials highlight how students apply TEKS 2.1.F by analyzing the place value of three-digit numbers while adding and regrouping tens to make a new hundred. The guidance describes how students will "use their prior knowledge of adding numbers that require making a new ten to make a new hundred."

### 5.5c – Materials include a description for each unit of how TEKS process standards are incorporated and connected throughout the unit.

A "Unit Overview" provides information about how process standards are connected through the unit. For example, in Unit 3, under the "Standards" section, the guidance for 2.1.A states, "Throughout this unit, students use addition and subtraction to solve real-world problems within 100. They see how math connects to daily life by working with familiar situations, such as arranging chairs in a cafeteria, counting flower petals, measuring ribbon, and tracking collections. These real-world scenarios help students see how strategic decomposition of numbers and efficient calculation methods are useful tools for solving problems in everyday life."

The materials include an overview of where each process standard is included in the lesson. For example, in Unit 3, under the "Standards" section, the guidance indicates that 2.1.C is incorporated into Lessons 10, 12, 14, and 15.

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

The "Lesson Overview" provides information about how process standards are incorporated through the lesson. For example, in Unit 7: Lesson 6, under the "Standards" section, the guidance for 2.1.C states, "Students select visual models as tools to answer questions about data (e.g., table, bar graph). They analyze the data and use number sense strategies to make conclusions."

The materials include an overview of each process standard included in the lesson. For example, in Unit 2: Lesson 4, under the "Standards" section, the guidance indicates that the lesson incorporates both 2.1.B and 2.1.D.

# 6. Productive Struggle

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

## 6.1 Student Self-Efficacy

| GUIDANCE | SCORE SUMMARY | RAW SCORE |
|---|---|---|
| 6.1a | All criteria for guidance met. | 3/3 |
| 6.1b | All criteria for guidance met. | 6/6 |
| 6.1c | All criteria for guidance met. | 3/3 |
| — | **TOTAL** | 12/12 |

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

Tasks gradually increase in difficulty, allowing students to build confidence before tackling more complex problems. For example, in Unit 8: Cluster 1, students determine even and odd by first making equal groups, then making pairs, and finally using skip counting by twos before using pictorial models and patterns to determine if a set of objects is even or odd.

The materials provide guiding questions when students encounter difficulties. Examples in Unit 2: Lesson 8 include "Discourse Questions" that ask, "What math do you see on the page? What is this problem asking you to do? What information do you know or not know? How can you use the information you know to find the information you do not know?" Such questions encourage students to think critically about their next steps.

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

In grade 2, the materials support students in understanding, explaining, and justifying multiple ways to represent problems. For example, in Unit 2, students represent two-step addition and subtraction problems using number paths, number lines, and equations. In addition, teacher guidance prompts students to explain and justify ways to represent a problem. For example, in Unit 2: Lesson 7, "Discourse Questions" prompt the students to answer, "How did you know which operation and numbers to put into the equation? How can these number lines match the same equation when they do not look the same? If you were adding 5+7, would you jump by seven or by ones? Why?"

Lessons support students in understanding, explaining, and justifying multiple ways to solve problems and complete tasks. For example, in Unit 6: Lesson 10, students solve problems and complete tasks using strategies such as decomposing by place value using tokens or by adding and subtracting sequentially on a number line. In addition, teacher guidance prompts students to explain and justify their solutions. For

example, "Discourse Questions" prompt the students to answer, "Are you confident in your answer? Why or why not? In what ways have you already tried or not yet tried to solve this problem?"

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

"Discourse Questions" provide opportunities for students to verbally express their mathematical thinking through discussion prompts, teacher-facilitated questioning, structured math talk routines, turn-and-talk activities, whole-class discussions, and partner sharing routines. For example, in Unit 5: Lesson 5, students have a whole-class discussion with prompts such as, "How does your work represent the value of each digit? How can you use one representation to help complete another?" In addition, students work with a partner to play a math game. The teacher facilitates questions during partner work time and prompts students to answer, "What do you see on the screen? What do you notice or wonder? What is this puzzle asking you to do? What have you tried? Why did it work or not work?"

In grade 2, the materials engage students in hands-on experiences with their peers. For example, in Unit 1: Lesson 10, during the "Explore" section of the lesson, students work with a partner to "complete a playbook page in which they choose which unit is best for measuring the length of parts of different animals. Students compare their answers with a partner, justifying how they chose each unit."

## 6.2 Facilitating Productive Struggle

| GUIDANCE | SCORE SUMMARY | RAW SCORE |
|---|---|---|
| 6.2a | All criteria for guidance met. | 6/6 |
| 6.2b | All criteria for guidance met. | 4/4 |
| — | **TOTAL** | 10/10 |

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

The materials include open-ended problems that allow students to use different strategies to find a solution. After solving the problems, students explain their reasoning through peer discussions. For example, in Unit 4: Lesson 9, students choose a strategy to solve word problems with different unknown values. The teacher facilitates a discussion by asking, "What do you know or not know in this problem? How did you show that in your equation or model? What equation did you write? How did you know what operation to use? How did your model help you solve?"

Lessons provide opportunities for teachers to guide students in reflecting on their problem-solving processes by considering alternative methods. For example, in Unit 8: Lesson 5, students choose a strategy to organize counters to find the total. The teacher facilitates a discussion for students to consider alternative methods for solving. "Discourse Questions" prompt students to think and answer, "How is this similar or different to how you organized your counters?"

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

In grade 2, the *Teaching Guide* provides guidance and prompts to support teachers with anticipated misconceptions. The *Teaching Guide* addresses common misconceptions and provides guidance on how to address the misconceptions. For example, in Unit 7, a common misconception is forgetting or misunderstanding titles and labels on graphs. Guidance suggests that if a student leaves "title boxes, numbered axes, and labels blank or writes incorrect titles and labels that do not relate to the graph," then the teacher should "explain to students that it is important for all data displays to have correct titles and labels so that anyone can read and understand the graph." In addition, the teacher should "ask students to name the title, categories, and numbered axis any time they see a completed graph and highlight students' work when they include labels and titles correctly."

Materials offer guidance and prompts to support teachers in providing explanatory feedback. Each lesson component has a list of "Look Fors" for teachers to use to identify specific skills and components needed to master the lesson content. For example, in Unit 10: Lesson 4, the teacher is looking for students who "say the shape they are trying to compose has 6 vertices, 9 edges, and 5 faces, explain why their predicted choices will compose the shape, explain [if; why] their predicted shapes were correct (e.g., I

predicted 1 rectangular prism because that is the shape of the bottom face, and 1 triangular prism to fit on top of it, but it did not work), say they know the shape was a triangular prism because two of the faces were triangles, connected by rectangles, and say if they think there are or are not other ways to compose a triangular prism." The teacher is provided prompts through "Discourse Questions" to guide students toward understanding the content and skills. For example, the "Discourse Questions" for the same lesson component state, "How do you know the shape was a triangular prism? Do you think there are other ways to compose a triangular prism? Why or why not?"