November 2020

Savvas enVision 3–5 Program Summary

Section 1. Texas Essential Knowledge and Skills (TEKS) and English Language Proficiency Standards (ELPS) Alignment

Grade	TEKS Student %	TEKS Teacher %	ELPS Student %	ELPS Teacher %
Grade 3	100%	100%	N/A	100%
Grade 4	100%	100%	N/A	100%
Grade 5	100%	100%	N/A	100%

Section 2. Concept Development and Rigor

- Materials concentrate on the development of the primary focal areas outlined in the TEKS.
- Materials provide a limited variety of the types of concrete models and manipulatives, pictorial representations, and abstract representations; they rely heavily on pictorial representations. Materials do not support teachers in developing students' progression along the CRA continuum.
- Materials support coherence and connections between and within content at the grade-level and across grade levels; resources build vertical content knowledge by accessing prior knowledge and understanding of concept progression.
- Tasks are of high-quality and engage students in the appropriate level of rigor and complexity as identified in the TEKS.
- Students have opportunities to apply mathematical knowledge and skills to solve problems in new contexts, including those arising in everyday life and society.

Section 3. Integration of Process Skills

- Materials develop students' abilities to use and apply a problem-solving model that is transferable across problem types and grounded in the TEKS.
- Students have some opportunities to develop their self-efficacy and mathematical identity by sharing strategies and approaches to tasks and some opportunities to select appropriate tools for the work, concept development, and grade (e.g., calculator, graphing program, virtual tools).

- Materials sometimes prompt students to effectively communicate and justify mathematical ideas, reasoning, and their implications in multiple representations.

Section 4. Progress Monitoring

- Materials include developmentally appropriate diagnostic tools; however, limited guidance is provided for teachers and students to monitor progress.
- Guidance is provided for teachers to respond to individual student needs; limited guidance is provided to teachers and administrators to analyze and respond to data, and administrators are not provided with the guidance or tools needed to support teachers.
- Materials include frequent, integrated formative assessment opportunities and routine progress monitoring opportunities.

Section 5. Supports for All Learners

- Materials include guidance, scaffolds, supports, and extensions that maximize student learning potential; targeted instruction and activities are provided for students who struggle with content mastery.
- Materials provide a limited variety of instructional methods to appeal to a variety of learning interests and needs.
- Materials include supports for English Learners (ELs) with sequenced and scaffolded linguistic accommodations commensurate with various levels of English language proficiency.

Section 6. Implementation

- Materials include a cohesive, year-long plan with practice and review opportunities that support instruction.
- Materials are designed in a way that allows Local Education Agencies the ability to incorporate the curriculum into district, campus, and teacher design and considerations. Guidance for implementation is provided that ensures the sequence of content is taught in an order that is consistent with developmental progression of mathematical concepts and skills.
- The visual design of student and teacher materials is neither distracting nor chaotic.

Section 7. Additional Information

- The publisher submitted the technology, cost, and professional learning support worksheets.
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Savvas enVision Grade 4

2.1 Materials concentrate on the development of the primary focal area(s) for the grade-level.

- Materials spend the majority of concept development of the primary focal areas for the grade-level as outlined in the TEKS.
- Materials strategically and systematically develop students' content knowledge as appropriate for the concept and grade-level as outlined in the TEKS.
- Materials provide practice opportunities for students to master the content.

Meets 4/4

The materials spend the majority of concept development on the primary focal areas, strategically and systematically develop students' content knowledge, and provide practice opportunities for students to master the content. The materials devote 14 of the 16 topics to addressing one or more focal areas. The materials strategically and systematically develop students' content knowledge by using rigorous problem solving that enables development in students' procedural fluency and conceptual understanding throughout the consistent three-part lesson plan format. The materials provide various practice opportunities for different settings and modalities by using hands-on or visual representations when they are developmentally appropriate. Tasks also combine independent and guided practice as well as games that can be played alone or with partners. The tasks are differentiated to meet the needs of diverse learners. The materials build upon previously taught concepts from other topics within the grade and from previous grades to increase rigor and ensure students master the full intent of the concept. Each lesson uses familiar tools and strategies to push students' thinking to new understanding and application.

Evidence includes but is not limited to:

The scope and sequence lists color-coded strands that correspond to the TEKS; a visual chart displays when the strand is introduced, practiced, and applied throughout grades K–5. Students revisit and share their background knowledge through a series of problems on a worksheet titled "Review What You Know" in the Student Edition (SE).

The "Topic Planner" describes the content of each lesson, listing the TEKS, ELPS, "Essential Understandings," materials, resources, and suggestions for professional development videos to

help teachers build their background knowledge of the content or their teaching skills. The professional development video library includes a video for each of the focal areas. The multiplication video explains that "different kinds of situations can be represented using multiplication but that each involves the joining of equal groups in some way." It then explains how the various models and joining strategies build into one another, including the repeated addition strategy introduced in second grade.

The materials devote a majority of lessons to the primary focal areas aligned with the grade-level TEKS. For example, in grade 4, at least one of the primary focal areas is addressed in 14 of the 16 topics. Arithmetic operations with whole numbers are addressed in 11 topics; angles are addressed in only one topic (with ten lessons); addition and subtraction of decimals and fractions are addressed in six topics. Topic 1, on place value, consists of 11 lessons. Topic 1 begins by covering numbers to the billions, place value relationships, comparing and ordering numbers, and rounding whole numbers in the first five lessons. The next five lessons cover place value as it relates to decimals (using money to understand decimals, decimal place value, fractions and decimals, decimals on a number line, comparing decimals). The topic concludes by covering problem-solving.

The materials include a "Correlations Guide" that breaks the TEKS into smaller objectives and lists both the SE and Teacher Edition (TE) pages that address those TEKS and objectives. Each objective is addressed in a formal lesson, and the materials offer a "Reteaching Set" with activities using related visuals and practice opportunities to master the skill. The Topic 1 Planner explicitly names the TEKS covered in each unit and the two process standards featured in the topic: "Analyze Information" and "Create/Use Representations." The planner then explains why this content matters: "The ability to compare and order numbers will be critical to students' success throughout their study of mathematics. Comparing and ordering numbers also are important life skills…. The tasks of comparing and ordering can be accomplished in different ways, depending on the manner in which the numbers are represented." In Topic 5 (Multiplying 2-Digit Numbers), the "Math Background" section lists two process standards with explanations. It explains that for "Formulate a Plan," students may have to answer hidden questions in multi-step problems. For "Connect," it reminds teachers to connect math to real life; materials provide an example about sharing the cost of a gift for a coach. Teachers are encouraged to ask students to share their personal examples.

The "Analyze Information" section explains that students may have to answer questions in multi-step problems and use multiplication models and number lines to explain their mathematical thinking. Materials develop and refine students' multiplication skills over four units in fourth grade. Skill coverage begins with multiplying by one digit and progresses to multiplying two digits by two digits. Multiplication is introduced in Topic 3, "Multiplying by 1 Digit"; Topic 4 is "Developing Proficiency Multiplying by 1-Digit Numbers"; Topic 5 is "Multiplying with 2 Digits"; Topic 6 is "Developing Proficiency Multiplying by 2 Digits." The material increases in complexity over the course of four chapters. Students start with visual representations of multiplication models and area models and progress to symbolic notation. Materials briefly note the use of manipulatives in interventions.

The materials build upon previously taught concepts from other topics within the grade and from previous grades to increase rigor and ensure students master the full intent of the concept. The "Content Guide" includes "Big Ideas in Math," a table that categorizes mathematical topics and lists the grades in which the topics are addressed. For example, "Estimation" is covered in three units in grade 3, six units in grade 4, and six units in grade 5. "Texas Focal Points," a one-page table, pinpoints the Texas Focal Points revised in 2013 and lists their location in the materials. "Scope and Sequence" is a table that shows each skill on a continuum and indicates when the skill is first introduced, when the skill is practiced, and when the skill advances to application. "Skills Trace," provided for each lesson and skill, shows the vertical alignment to TEKS in the previous and next grade level and connections to other lessons within the grade level. This alignment supports teachers in understanding the prior knowledge students should have, as well as the level of depth and rigor students need to be ready for the next grade level. For example, for the topic of fractions, students in third grade should have mastered fraction notation and various models, including a number line. They also should be able to compose and decompose fractions both with and without models. By the end of fourth grade, the Skills Trace shows that students add and subtract fractions and write them in their simplest form. In fifth grade, students add, subtract, multiply, and divide fractions with both like and unlike denominators. The use of models and correct terminology is reinforced throughout all fraction lessons in order to help students make connections between previous and new learning. The questions and tasks build in academic rigor to meet the full intent of the primary focal areas.

Topic 1 introduces place value through the billions. The lessons begin with the familiar models and relational thinking about multiples of tens and hundreds. A few lessons later, students use money and hundredths grids to develop a concrete model of decimals.

Multiplication skills are developed and refined over four units. Skill coverage begins with multiplying by one digit and progresses to multiplying two digits by two digits. Multiplication is introduced in Topic 3, "Multiplying by 1 Digit"; Topic 4 is "Developing Proficiency Multiplying by 1-Digit Numbers"; Topic 5 is "Multiplying with 2 Digits"; Topic 6 is "Developing Proficiency Multiplying by 2 Digits." The material increases in complexity over the course of four chapters. Students use visual representations of multiplication models and area models and progress to symbolic notation. Materials briefly note the use of manipulatives in interventions.

Topic 14 (Lines, Angles, and Shapes) follows a progression from hands-on, to representational, to application. In Lesson 14.5, students use protractors to measure angles. On the quick check, students measure angles and draw angles to match. The "Extend Your Thinking" question has students find the missing angle measures. Then, in Lesson 14.5, students draw, analyze, reason, communicate, and extend their thinking.

The materials state that their program design "combines conceptual understanding with rigorous problem solving that enables you to develop your students' procedural fluency." This design is achieved by using a three-part lesson structure that consists of "Problem-Based Learning," a "Visual Learning Bridge" that introduces or refines the use of visuals, and then

“Assess and Differentiate,” which allows teachers to provide specific reinforcement or extensions for all learners. Woven throughout the lessons are “nonprocedural, multi-step problems” that encourage the use of the Mathematical Process Standards and focus on students’ development of their own problem-solving models. Materials state: “Research shows that introducing new ideas by having students solve problems in which those ideas are embedded develops deeper understanding than other methods.” This research is why the opening activity in each lesson begins with a problem-solving discussion. The lessons in the instructional materials include suggestions and activities to support practice and reinforce the primary focal areas. The TE provides “Quick Checks,” “Intervention Lessons,” “Problem Solving Practice,” and “Benchmark Assessments.”

The materials provide various practice opportunities for different settings and modalities. In Lesson 5.5, solving multi-step problems is presented as a guided lesson with independent practice. In Topic 11 (Fractions), students practice using increasingly sophisticated hands-on manipulatives and follow each manipulative with drawings. In the final lesson of the topic, students apply a problem-solving model and use both symbols and a diagram to support understanding of the given problem. This lesson incorporates four of the process standards, which helps solidify the concept by connecting fractions in context with the types of problems students see in their workbooks.

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2.2 Materials sequence concepts from concrete to representational to abstract (CRA) as is appropriate for the grade-level and content.

- Materials include a variety of types of concrete models and manipulatives, pictorial representations, and abstract representations, as appropriate for the content and grade level.
- Materials support teachers in understanding and appropriately developing students' progression along the CRA continuum.

Partially Meets 2/4

The materials include a limited variety of the types of concrete models and manipulatives, pictorial representations, and abstract representations that are appropriate for the content and grade level. The materials provide limited strategic and integrated instruction in all components of mathematical rigor: conceptual understanding, procedural fluency, and application. The materials rely heavily on pictorial representations and provide very little support for concrete models and manipulatives. The materials do not support teachers in developing the students' progression along the CRA.

Evidence includes but is not limited to:

Throughout the materials, every lesson follows the same three-step structure. The first step is called "Problem-Based Learning," which moves the lesson content from pictorial representations to abstract representations and engages students in the content with the authentic "Solve and Share" problem. The Teacher Edition (TE) includes student work samples and questions to help students think deeply about the problem and to analyze each other's work. The second step is the "Visual Learning Bridge," which supports the development of conceptual understanding using interactive features of "Problem-Based Learning" tasks and the step-by-step "Visual Learning" activity. There are print and digital resources for both the students and teacher to support this step in the lesson. The materials rarely include opportunities to use concrete manipulatives to begin concept development.

Throughout Topic 1 ("Place Value"), students use visual representation such as place value charts, place value blocks, and number lines and connect them to abstract representation, a

number written in numerical form. In Lesson 1, the problem that introduces the lesson has students write a 7- and 8-digit number in word form. No concrete materials are provided to support understanding. However, the problem-solving page references an advertisement for the digital tools. The Visual Learning Bridge on the next page does make an explicit reference to the place value chart. The Teacher Edition (TE) provides an intervention activity if students have difficulty with the lesson. For Lesson 1, it names a potential error that students make and suggests using "grid paper (Teaching Tool 6)" and "place-value blocks" to have students model two different decimal values. The teacher and student script that follows has students derive an answer but does not make the explicit connection or distinction between the place value blocks and the decimals drawn on the grid paper.

Topic 2 focuses on adding and subtracting whole numbers. The materials rely on strip diagrams for pictorial representations to aid and develop student understanding. In Lesson 1, students use mental math to add and subtract. The two possible student work samples are very similar and show little difference in the analysis: "Victor breaks apart the numbers into ones and tens to answer." "Gabriella breaks this problem into three parts then solves." In Lesson 6, the TE provides two student work samples that show a different place in the CRA continuum: "Jayden uses decimal place-value blocks to model addition." "Ashley uses the standard algorithm without modeling addition." The TE does not provide additional guidance or support to direct Jayden or Ashley. It just names what they did.

In Topic 3, Lesson 6, students learn mental math strategies for computation and connect rounding and expanded notation to solve equations with multi-digit operations. They record their thinking with abstract number notation.

In Topic 7, whole group instruction mentions manipulatives only once, for the Solve and Share in Lesson 7-4. Instructions read, "You may wish to provide two-color counters, which students are familiar with." Materials use but do not explicitly teach a strip diagram. There is very limited use of visual representations. The online math tools direct the teacher to choose a number between 20 and 70 and explain that this is the number of people who needed to be seated for an event. The teacher uses the geometry tool to draw circles to represent the tables and then shows how many tables were needed to seat the people, how many tables were full, and how many people were seated at the table that was not full.

In Topic 10, students look at four different types of fraction models individually and in combination with each other. In each model, students label fractional parts with symbolic fraction notation such as ½ or ⅞. In Lesson 1, students represent fractions as a sum of unit fractions. During the Solve and Share problem, students locate a fraction on a number line, given its related unit fraction. This lesson helps activate students' prior knowledge of fractions and helps the teacher assess whether students understand these two concepts. In Lesson 3, the learning objective is to reduce fractions to their simplest form; fraction strips are optional resources in the materials section of the lesson. Again, the TE states, "You may wish to provide

fraction strips." As students plan their steps to solve the problem, the teacher asks, "What tools can you use?" The students can answer that fractions strips can be used.

Topic 14 ("Lines, Angles, and Shapes") spirals in Topic 15 ("Data Analysis") through "Today's Challenge." Students use online tools to address a daily problem using the same data set. Each day, the problems become increasingly challenging. Students use prior knowledge as they work on these problems. On Day 1, students draw and label a point, parallel and perpendicular lines, and an angle. On Day 2, students use the diagram to find a parallelogram that is not a rectangle and then label the angle as acute, obtuse, or right. On Day 3, students communicate the measure of a missing angle. On Day 4, students extend their thinking by drawing lines of symmetry. On Day 5, students extend their thinking by creating a frequency table.

Lesson 14-3 introduces angles by connecting to a clock. It is optional for students to use a clock to understand and illustrate the measure of an angle as the part of a circle where the center is at the vertex of the angle that is "cut out" by the rays of the angle. Angle measures are limited to whole numbers; teachers illustrate degrees as the units used to measure an angle, where 1/360 of any circle is 1 degree and an angle that "cuts" n/360 out of any circle where the center is at the angle's vertex has a measure of n degrees. Angle measures are limited to whole numbers. After using (representations of) clocks, students apply this knowledge. On the "Quick Check," students extend their thinking: "Jake cut a round gelatin dessert into 8 equal pieces. 5 of the pieces were eaten. What is the angle measure of the dessert that was left?"

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2.3 Materials support coherence and connections between and within content at the grade-level and across grade levels.

- Materials include supports for students to build their vertical content knowledge by accessing prior knowledge and understanding of concept progression.
- Materials include tasks and problems that intentionally connect two or more concepts as appropriate for the grade-level.
- Materials provide opportunities for students to explore relationships and patterns within and across concepts.
- Materials support teachers in understanding the horizontal and vertical alignment guiding the development of concepts.

Meets 4/4

The materials support coherence and connections between and within content at the grade level and across grade levels. There are supports for students to build their vertical content knowledge by accessing prior knowledge and understanding of concept progression. The materials connect new learning to previously learned concepts, knowledge, and skills with a math background overview and online professional development video for teachers that explains how TEKS are developed.

Evidence includes but is not limited to:

The Teacher Edition (TE) “Program Overview” contains a “Skills Trace” that shows the vertical alignment of TEKS both within and across grade levels. Materials build students’ vertical content knowledge by referencing or showing how concepts progress in rigor. The three-step lesson format is highly dependent on the teacher modeling or using questions effectively to promote student discourse and connect previous learning to the current objective. Materials reference familiar models and strategies to facilitate rigor and concept development. The materials include tasks and problems that intentionally connect concepts in the “Solve and Share” problems and the “Visual Learning Bridge.” The student workbook and center activities use story problems to help students discuss and apply math to real-world problems. The materials provide opportunities for students to explore relationships and patterns within and across concepts, especially with supporting questions from the teacher and in their workbook.

Materials support teachers in a surface-level understanding of the horizontal and vertical alignment guiding the development of concepts; resources merely list TEKS and their alignment with other grades or when they occur in the school year. Materials provide little support for concept development across topics within or across school years.

Prior to the administration of the topic test, students tackle the essential questions of the topic verbally or in writing. This questioning permits students to tie their learning from the topic to essential understandings across the concept. The benchmark test, a culminating assessment of four topics, assesses what students have learned and allows them to see the connections across concepts. “Big Ideas in Math” is a table that categorizes mathematical topics and lists grades when the topic is addressed. For example, it shows that “Estimation” is covered in three units in grade 3, six units in grade 4, and six units in grade 5. The “Big Idea” for estimation is “Numbers can be approximated by numbers that are close. Numerical calculations can be approximated by replacing numbers with other numbers that are close and easy to compute mentally. Some measurements can be approximated using known referents as the unit in the measurement process.”

The last lesson in every topic, “Problem Solving: Use Reasoning,” is used to explicitly apply the use of process TEKS to the content TEKS within the topic in order to solve real-world problems. For example, the Problem Solving lesson in the “Fraction” topic requires students to sort a set of fractions into three groups based on whether it is less than, equal to, or greater than ½. One of the “Activity Centers” in the daily lessons includes a “Math and Science” activity that allows students to apply learning in other content areas. One of the Math and Science activities for the Fraction topic asks students to write fractions that correspond to the different phases of the moon. Students research the patterns of change in different seasons and include fractions in the report.

In Topic 1, Lesson 1-1, students learn numbers through one billion. The materials state, “Some students have difficulty conceptualizing numbers in the millions and billions.” Especially as place value blocks have lost their usefulness with numbers this large. Materials instruct teachers to “Teach students to learn the place values within each period first. This may help students feel less intimidated by the greater numbers introduced in this lesson. The concept of breaking up a larger number into manageable pieces is reinforced when dealing with greater numbers by using a place-value chart. Breaking up numbers into periods will also make it easier for students to write and say these numbers, whether in word form or in expanded form.” By using a familiar tool, the place value chart, students are still able to access prior knowledge and understand the concept progression as numbers take on a new form in fourth grade. They are larger, up to the billions, and different, like decimals. But in learning these two new number forms, students are introduced to a much larger skill set foundation that will be instrumental in both fifth grade and the secondary grades.

In Topic 2 (“Number Sense—Adding and Subtracting Whole Numbers and Decimals”), the first set of lessons (1–5) specifically review adding and subtracting whole numbers using mental

math, estimation, and subtracting across zeros. Then, for the next four lessons, students add and subtract decimals, including money. The materials tap into what students know from the previous grade level so that they can use those same skills with new material specific to this grade level, such as decimals. Later in Topic 2, students learn to use compatible numbers or related multiplication facts. However, they are also asked to divide by multiples of 10. The materials note that "you can use what you know about multiplying by multiples of 10 when you divide by multiples of 10," but the students are not asked to multiply by 10 or explicitly told to link the two skills.

In Topic 7 ("Dividing by 1-Digit Divisors"), "Review What You Know" includes division vocabulary and addition, subtraction, and multiplication facts. Repeated subtraction and multiplication can be used to solve division problems, but this is not referenced. The "Essential Knowledge" section in Lesson 7-3 explains that "mentally multiplying by different powers of ten will help you arrive at an estimation" and includes this strategy in the teacher's summarize section of the Solve and Share. The Math and Science Project involves researching materials that can be recycled, setting up a recycle bin and recycling in the classroom, and then estimating the quotient for the total number of items collected divided by 3.

In Topic 10, Lesson 1, in order to elicit students' previous knowledge on fractions, the Solve and Share problem requires students to locate a fraction on a number line when given its related unit fraction. This problem connects students' prior knowledge of fractions using one of the more challenging abstract fraction models. Through the rest of the lesson, students begin using models to make their sum of unit fractions and move into more abstract thinking by simply writing the addition equation. Questions include "What does it mean that each model is one whole? How do the circle and rectangle show ¼, although they are different shapes? How can you tell by looking at 7/4 that this fraction is greater than one whole?" These questions connect what students know about length, distance, and division to help them understand fraction equivalence.

In Topic 11, materials use visual representations: sets of objects or shapes, fractions bars/strips, and number lines. The topic continues to develop the strategy of representing fractions using a variety of models or representations and using iterations of unit fractions as a way to compare the relative size of fractions. The representations build up to the use of the number line as indicated by the TEKS.

In Topic 14, Lesson 14-4 ("Measuring with Unit Angles"), the "Math Background" section explains that students use pattern blocks to make connections about angles. Common angles, such as the right angle or the straight angle, are reference points for students to use in building their understanding of angle measurement. Before introducing the protractor to measure angles, students can build a foundational understanding of measuring angles by using other angles of specific measures. Pattern blocks are a familiar manipulative with useful angles since the interior angles in each shape have angles whose measures are multiples of 30 degrees.

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2.4 Materials are built around quality tasks that address content at the appropriate level of rigor and complexity.

- Tasks are designed to engage students in the appropriate level of rigor (conceptual understanding, procedural fluency, or application) as identified in the TEKS and as appropriate for the development of the content and skill.
- Materials clearly outline for the teacher the mathematical concepts and goals behind each task.
- Materials integrate contextualized problems throughout, providing students the opportunity to apply math knowledge and skills to new and varied situations.
- Materials provide teacher guidance on anticipating student responses and strategies.
- Materials provide teacher guidance on preparing for and facilitating strong student discourse grounded in the quality tasks and concepts.

Meets 4/4

The materials are built around quality tasks that address the content at the appropriate level of rigor and complexity. The materials guide students through CRA tools, models, and understandings; the rigor of the tasks increases throughout a given unit and across units over the year. However, the use of concrete manipulatives is optional in most lesson plans, and their use in a particular lesson is not always modeled by the teacher. The materials include tasks that are meaningful to students, set in real-world contexts, and allow them to demonstrate mastery of math concepts. The materials provide guidance for the teachers on how to appropriately revise content to be relevant to their specific students, their backgrounds, and their interests. The materials provide teachers with possible student responses and or strategies to practice questions and tasks, but they do not describe which ones are the most appropriate for the task based on grade-level expectations. The materials provide teachers with common misconceptions of student responses and strategies. The materials provide teacher guidance on preparing for and facilitating strong student discourse grounded in the quality tasks and concepts.

Evidence includes but is not limited to:

Every lesson follows the same three-step structure. The first step is called “Problem-Based Learning,” which engages students in the content with the authentic “Solve and Share” problem. The TE includes student work samples and questions to help students think deeply about the problem and analyze each other’s work. The second step is the “Visual Learning Bridge” (VLB), which supports the development of conceptual understanding using interactive features of Problem-Based Learning tasks and the step-by-step “Visual Learning” activity. Error analysis is included in many lessons. There are print and digital resources for both the students and teachers to support this step in the lesson. The materials develop problem-based learning and provide the appropriate level of rigor (conceptual understanding, procedural fluency, or application) as identified in the TEKS. The materials develop the content and skill by increasing in complexity throughout the grade and through grades 3–5. They do so through a given unit and across units over the year. The “Topic Planner” for each unit explains how each individual lesson connects to the TEKS and develops the “Essential Understanding.” Materials clearly outline for the teacher the mathematical concepts and goals behind each task. At the beginning of each topic, in the TE, “Math Background” and “Essential Knowledge” outline math concepts and goals. The TEKS are reprinted for each lesson. Each topic also has a professional development video, which is a repetition of the material in the Math Background section of the TE.

Students who achieve a passing score on the “Quick Check” can do the on-level and advanced “Activity Centers,” which include games, “Problem-Solving Learning Mat” activities, “Technology Centers,” and “Math and Science” Activities. While there are many activities within the centers for each topic, it is unclear whether students have a choice in the activity each day or whether they are limited depending on the specific lesson. The TE only showcases two to three options for each lesson and does not contain any guidance for the teacher in extending students’ understanding of the Intervention Activities.

The program materials do not include a philosophy or explanation of the research that explains how the topics or lessons are sequenced. The materials follow a sequence in which topics begin with simpler tasks and objectives, which are required to master objectives at the end of a topic or in future topics. So long as teachers follow the sequence and students master each lesson, they should be able to move on to more sophisticated strategies. This progression depends on whether the teacher can diagnose and intervene with struggling students daily at the end of each lesson.

Topic 2 focuses on “adding and subtracting whole numbers and decimals.” Over 10 lessons, the materials ask three “Essential Questions”: “How can sums and differences of whole numbers be estimated? What are standard procedures for adding and subtracting whole numbers and decimals? How can sums and differences be found mentally?” The Math Background details the TEKS covered in the topic, the lesson numbers that align with the topic, and the “Essential Understanding” that will be learned. The first two lessons focus on “more than one way to do a

mental calculation" because "each estimation technique gives a way to replace numbers with other numbers that are close and easy to compute with mentally." This skill then analyzes the reasoning associated with actual computations. Lessons 3–5 focus on whole number addition and subtraction; Lessons 6–9 focus on adding and subtracting multi-digit decimals, including money. After 10 lessons, the topic concludes by answering the Essential Question and explaining: "Sums and differences can be estimated by using rounding. Sums and differences can be found mentally by using compensation." However, use "the standard procedure" for adding and subtracting whole numbers and decimals.

In Lesson 7, on adding decimals, the VLB begins with a concrete representation of the total distance that the Patel family walked from their cabin to Crystal River and Lake Dorrance. Below the concrete figure is the representational: a strip diagram that displays each individual distance. Materials ask, "What do we need to do to find the total distance that they walked?" The strip diagram is shown below a standard algorithm. The animation, with the student, then adds each place value. No regrouping is required. The abstract representation for this problem is not similar but does push the application of the concept and skill. It asks: "Without finding the exact answer, is the sum for 23.65 + 20.18 greater than 44? How do you know?" This question has students tackle the problem through individual student reasoning that is then useful for whole group guided discourse. This representation is grade-level and content appropriate as it builds on previously taught skills from third grade (whole number addition) and begins to build on how those skills apply to new concepts such as decimals in fourth grade and beyond.

In Topic 3, Lesson 6, students learn mental math strategies for computation and connect rounding and expanded notation to solving equations with multi-digit operations. Then, students record their thinking with the number notation.

Topic 4 is "Number Sense: Multiplying by 1-Digit Numbers"; Topic 5 is "Number Sense: Multiplying by 2-Digit Numbers"; Topic 6 is "Developing Proficiency: Multiplying by 2-Digit Numbers." The content within the tasks does increase in rigor due to the building of difficulty of math topics.

In Topic 7, students set up a class recycling bin, count the number of objects recycled in three days, and divide that sum by 3. Students perform tasks that are set in real-world contexts. Students solve division problems involving hockey cards, play attendance, orange picking, and loaves of bread. However, there is no evidence of guidance for the teacher on how to appropriately revise content to be relevant to their specific students, their backgrounds, and their interests. In Lesson 3, the teacher prompts include, "What operation will you use to solve this problem? (It is a division problem. I need to divide the people into 6 equal groups.) Do you need an exact answer or an estimate? (You need an estimate because it says 'about how many.' There may not be exactly the same number of people on each team.) If you wanted a more exact answer, would it be greater than or less than 200? (Greater than, because 6 × 200 is only 1,200)." The "Prevent Misconceptions" section reminds the teacher that students may not

round 1,320 to the nearest 100. Instead, they may try to find a number close to 13, the first two digits of 1,320, that is divisible by 6. The "Topic Planner" in the TE for this topic includes concrete materials only for Lesson 4. Teacher directions in the Solve and Share state: "You may wish to provide students two-color counters." There is no other reference to concrete models for whole group instruction. Intervention in this lesson uses crayons and paper bags as concrete manipulatives.

In Topic 10, Lesson 1, a "Math and Science Activity" page incorporates facts about changing seasons and asks a few questions requiring students to count fractions of favorite seasons from a table of survey results. In the TE, in the "Technology Center" box, there is a subsection titled "Math Tools and Games," but no specific games or tools are listed. This center is included in every lesson. A "Prevent Misconceptions" sidebar is embedded in the guiding questions of about 80 of the lessons. In Lesson 4, this sidebar says that students may believe the labeled fractions are the only ones on the number line, so the teacher should ask them to name another fraction and decide where it would be on the number line. The "Error Intervention" sidebar is provided in the guided practice section; it describes common errors and suggestions for addressing them. Neither sidebar is included in Lesson 1. The only reference to additional practice pages is in the student book, called "Reteaching Sets," which asks students to draw number lines and mark equivalent fractions. In Lesson 6, the learning objective is for students to locate fractions on a number line. A suggested hint is, "If a number line from 0 to 1 is divided into thirds, what can you say about the length of each third?" The one sample student answer is that each is the same length. There are no additional support questions or materials to use if students are still confused at this point. In the next part of the lesson, one of the questions teachers can ask to help students analyze relationships is, "What does it mean that each model is one whole?" The sample student response is that each shape represents 1. There is no other guidance for teachers to support students if they are still not able to make this connection. At the end of the lesson segment, teachers are told to point out the "Essential Understanding." If students are still struggling at this point, they will likely have to participate in the intervention activity.

Topic 14 ("Lines, Angles, and Shapes") spirals in Topic 15 ("Data Analysis"). In the "Today's Challenge" activity, students use online tools to address the daily problem using the same data set. Each day, the problems become increasingly more challenging. Students use prior knowledge as they work on these problems. Day 1, students draw and label a point, parallel and perpendicular lines, and an angle. Day 2, students use the diagram to find a parallelogram that is not a rectangle and then label the angle as acute, obtuse, or right. Day 3, students communicate the measure of a missing angle. Day 4, students extend their thinking by drawing lines of symmetry. Day 5, students extend their thinking by creating a frequency table. Today's Challenge allows students to complete tasks set in real-world contexts and allows them to demonstrate mastery of these data concepts. Some of the materials guide students through CRA tools, models, and understandings with increasing depth and complexity. Topic 14 guides students' understanding of angles using a clock, identifying unit angles using pattern blocks, measuring angles with pattern blocks, and measuring angles using protractors.

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2.5 Materials include cohesive, year-long plan for students to develop fluency in an integrated way.

- Materials include teacher guidance and support for conducting fluency practice as appropriate for the concept development and grade.
- Materials include a year-long plan for building fluency as appropriate for the concept development and grade.
- Materials integrate fluency at appropriate times and with purpose as students progress in conceptual understanding.
- Materials include scaffolds and supports for teachers to differentiate fluency development for all learners.

Partially Meets 2/4

The materials provide limited support for students to develop fluency in an integrated way, and there is no evidence of a cohesive, year-long plan. The materials do not provide a year-long plan for building fluency connected to the concept development and expectations of the grade level. The scope and sequence included in the materials merely lists the TEKS and the lessons in which each TEKS is addressed.

Evidence includes but is not limited to:

The “Program Overview” explains that the goals of the materials are “understanding, fluency, and flexibility.” The program “combines conceptual understanding with rigorous problem solving that enables you to develop your students’ procedural fluency.” The “Content Guide” for the materials also affirms that “developing fluency with efficient use of the four arithmetic operations on whole numbers” is a priority for grades 3 through 5. At first read, this would imply that a year-long plan for building fluency can be found within the materials; however, such a plan was not found. The “Topic Planner” does not mention procedural fluency or support for teachers. As a curriculum designed with problem-solving at its core, it is arguable that the materials give precedence to teaching the properties of the four arithmetic operations over traditional fluency drill practice. Materials note that with the foundational conceptual understanding, students could add, subtract, multiply, and divide fluently. However, this may translate to difficult implementation for districts with cohorts of students that have not used

the materials beginning with kindergarten. It may also prove arduous for students and teachers who typically cover topics like addition at the beginning of the year with little spiraled practice throughout the year. The only repetitive practice is an infrequent application through problem-solving. The materials do not provide the teacher with resources for students who do not have computational accuracy or fluency.

The diagnostic and intervention materials found in the "Math Diagnosis and Intervention System 2.0" (MDIS) also do not allow the teacher to calculate beginning-of-the-year data on this measure or measure growth throughout the year. Focused on skills, it only recommends limited practice opportunities for specific student errors like "counting by 10s to 100" or "adding three-digit numbers." There are also available lessons on "mental math strategies." However, there are limited resources focused on computational fluency.

The materials do not include teacher guidance and support for conducting fluency or its structure within the program. This omission is because there is no explicit fluency practice within the program. There are no clear directions for how and when to conduct fluency activities or practice with students. There are, however, connections between concept development and fluency. Primarily, the essential understanding is that we use mental math to add whole numbers. Addition is explored heavily in Topic 2 in fourth grade. Each lesson then develops students' conceptual understanding of the operation through group and individual problem solving and discourse rather than through traditional fluency practice. The materials follow a prescribed sequence and include some opportunities for shared discourse around fluency with the operations; however, the support for discourse does not include student discussion of shared ideas.

The materials have a "Basic-Facts Timed Tests" resource. This resource is in the "Teacher's Resource Masters" book, and it is also available as PDFs online ("Booklet G: Operations with Whole Numbers Grades 4–6"). The "Intervention Lesson Structure" includes "Conceptual Development, Practice, and Assessment." There is no guidance on how to use this resource throughout the year. There are 12 basic facts timed tests. The first six tests assess either just addition, just subtraction, or a mix of the two. The next three basic-fact tests are about multiplication; a footnote says they can be used anytime after Topic 5, in which students would have mastered basic multiplication. The last three basic-fact timed tests focus on division facts. The tests appear to be identical to those used in third grade; however, they do not have footnotes indicating when to use them in the school year.

The materials provide some support for conducting facts practice with students. Fluency of basic multiplication and division facts is required to achieve TEKS 4.4H (solve with fluency one- and two-step multiplication and division problems). Grade 4 has basic facts drill sheets at the end of Topic 1. No clear directions for how, when, or why to use facts practice were located. The materials do not have their own independent fluency activities, but they may be integrated throughout the problem-solving philosophy. For example, Topic 2 ("Adding and Subtracting Whole Numbers and Decimals") emphasizes that teachers should encourage flexibility: "As

students begin to develop mental math strategies, encourage them to try different methods to find which ones they are most comfortable with."

The materials include limited support for discourse in Topic 2, Lesson 2-4, to develop fluency with the standard algorithm for subtraction. Discussion questions from the Teacher Edition include "What are you being asked to find? What information do you have already? What operation could you use to find out how many more seeds Jana planted than Reuben? How could you check your answer?" One of the student work samples that the teacher can use as a hint uses a place value chart to subtract. The other sample problem breaks the question into smaller problems that are easier to compute without regrouping: 191 - 168 = ?, 191 - 160 = 31, 31 - 8 = 23, so 191 - 168 = 23. There are no additional teacher prompts to encourage student-to-student discourse or for the teacher to redirect students who are confused or who use inaccurate strategies.

The materials provide strategies to aid fluency in Topic 3, Lesson 3.1, on multiplying by multiples of 10 and 100, followed by Lesson 3.2, on multiplying by multiples of 10 and 100. Here, materials integrate fluency at appropriate times and with purpose as students progress in conceptual understanding.

In Topic 8, the lessons progress through partial quotients, division as sharing, dividing two-digit by one-digit numbers, dividing three-digit by one-digit numbers, where to start dividing, zeros in the quotient, and dividing four-digit by one-digit numbers. As each lesson evolves, there is no discussion or structure that supports fluency practice within the program.

In Lesson 11-6, the learning objective is for students to decompose a fraction into its sum of unit fractions. In step 1 of the lesson, the teacher can give hints to guide thinking. Discussion questions from the teacher include "What does the denominator of 7/8 represent? How is breaking apart a fraction like breaking apart a whole number?" Both student work samples use a number line to illustrate the subtraction of the fraction.

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2.6 Materials support students in the development and use of mathematical language.

- Materials include embedded opportunities to develop and strengthen mathematical vocabulary.
- Materials include guidance for teachers on how to scaffold and support students' development and use of academic mathematical vocabulary in context.

Partially Meets 2/4

The materials provide limited support in the development and use of mathematical language. The materials do not demonstrate a strategic approach to developing the mathematical vocabulary of students. Learning goals are not present within the materials to address the development of mathematical vocabulary. The materials provide some opportunities for students to listen to and read math vocabulary, but there is no evidence of students being required to speak or write using the mathematical vocabulary within and across lessons. The topic opener introduces the new vocabulary words, but they are not listed in the subsequent lessons of the topic. The materials attempt to embed the use of vocabulary within the context of mathematical tasks through the teacher's questions, but student responses do not require them to communicate mathematical ideas with content-specific vocabulary.

Evidence includes but is not limited to:

All of the topics follow the same structure involving vocabulary. The "Review What You Know" workbook page at the beginning of each topic includes a vocabulary section in which students match a word to its definition. These are usually words from the previous topic. After the "Topic Planner," the section titled "The Language of Math" highlights the ELPS and math vocabulary. Students build math vocabulary using the vocabulary cards, the glossary in the Student Edition, and the online animated glossary. "My Word Cards" can be cut out, and the students can use the example on the front to complete the definition on the back. The online glossary uses motion and sound to define the words and can be used in English or Spanish. In the "Lesson Overview," the materials highlight the mathematical vocabulary being introduced or practiced with the lesson. On Day/Step 2 ("Visual Learning Bridge" [VLB]) of each lesson, the video also highlights the math vocabulary word; the "Glossary" icon is at the top of this page. The math vocabulary words are highlighted throughout the student workbook.

The materials provide opportunities for students to listen, speak, read, and write during discussions in Steps 1 and 2 of each lesson and during independent or small group work in Step 3. However, math vocabulary is not specifically targeted as a learning objective in the materials, and there is no evident support for the teacher to lead an explicit vocabulary lesson. Discussion questions typically contain math vocabulary, but there is no prompt for the teacher to require students to respond using the math vocabulary.

The materials provide supplemental resources in the form of word cards. These are available at the beginning of every topic in the student workbook. The front of each card contains the vocabulary word and a visual that illustrates the concept. For Topic 2, the vocabulary words are *commutative (order) property of addition*, *identity (zero) property of addition*, *associative (grouping) property of addition*, *estimate*, *compatible numbers*, and *inverse operations*. On the back of these cards, students complete the definition by rewriting the vocabulary word found on the front.

In Topic 2, Lesson 2-1, students solve a word problem about the number of cards in Luke's baseball card collection. Materials state: "Solve this problem any way you choose." During this time, the emphasis is on building understanding. The lesson provides two questions that the teacher can either ask the whole group, each table, or individually. The materials also provide hints for the teacher to give. These scaffolded supports are provided to help elicit original student ideas without telling them what to do and to encourage student thinking in all forms. While the materials do not provide teacher support regarding what the teacher should be looking for in student work at this time, it does provide two student work samples for reference. Typically, one sample answers the task, and one is an incomplete answer. Students transition to sharing and discussing their solutions. The teacher starts with students' solutions but, if needed, can project the student work samples from the teacher guide. While every lesson encourages the teacher to start with students' solutions, it is implied that the conversation should drive toward what the lesson wants to discuss. For Lesson 2-1, the objective is "to discuss how to add and subtract numbers using mental math." The teacher then summarizes and generalizes: "Breaking apart numbers may make them easier to combine mentally. There is more than one way to do a mental calculation." With the academic mathematical vocabulary, students are prepared to apply meaning to terms. The second step of the lesson, VLB, offers an animated understanding of mathematical vocabulary for students. Problems are accompanied by concrete or visual representations. The video then shifts to abstract representations. For Lesson 2-1, the VLB opens with: "How can you use mental math to add and subtract? Think about this question during the lesson." The lesson then pivots: "When might you need to add mentally?" A sample answer is "at the grocery store." Materials explain that properties can sometimes help students add using mental math. Materials present a data table with three teachers' number of years of teaching experience. It then represents how many total years the teachers have taught through an abstract visual representation of mental math, using strip diagrams to explain each addition property. The VLB ensures that mathematical vocabulary is taught accurately and consistently. With the accurate oral, written,

and visual modeling of both the concept and the mathematical vocabulary, the teacher's primary role is to serve as facilitator.

In Topic 3, Lesson 3.1, during the "Solve and Share," the teacher says, "Multiplication properties can be used to rewrite number sentences. These multiplication properties are very similar to the addition properties you have previously learned." The vocabulary terms are highlighted and defined throughout. The Teacher Edition (TE) states: "Vocabulary cards are provided in the student edition." Students use the example on the front of the card to complete the definition on the back. Topic 3 includes eight vocabulary cards: *associative*, *distributive*, *commutative*, *identity*, and *zero properties of multiplication*; *partial products*; *compensation*; and *numerical expression*. Four properties are defined in Lesson 3.1; students view examples of the properties and label the examples with the vocabulary word. Four properties of multiplication were found on word cards in grade 3.

Lessons identify the vocabulary to be introduced using vocabulary word cards at the beginning of each topic. However, in grade 4, Topic 4 states, "This topic has no new word cards."

The vocabulary cards included in Topic 11 are *fraction*, *unit fraction*, *numerator*, *denominator*, *equivalent fractions*, and *simplest form*. The "Review What You Know" workbook page asks students to use one of the vocabulary words from the previous topic in a fill-in-the-blank sentence. The first lesson of the topic lists four of the words included on the vocabulary cards. Step 1 of the lesson does not require formal math vocabulary, as students are splitting fraction number lines into equal parts. In step 2, the student workbook pages define the four vocabulary words at the top of the page. The teacher's questioning encourages, but does not require, the use of the math vocabulary. When the teacher asks, "What are some other unit fractions besides 1/4?" students may respond with ½, ⅓, etc. When the teacher asks, "Do you need to know the location of 1 to find 5/8?" the sample response is "No, because the unit fraction ⅛ can be repeated 5 times." There is no note to require students to use *unit fraction* in their responses. At the end of step 2, the student workbook page includes a section called "Do You Understand?" which usually requires a more extended response from students. In Lesson 11-1, students explain which student has correct reasoning about two fraction number lines, but the sample answer does not incorporate the use of the math vocabulary from the lesson. The last lesson on the topic always involves applied problem-solving. The majority of the students' workbook pages in these lessons require an extended response, but they do not require the use of math vocabulary. Optional homework for Lesson 11-1 includes a section at the top that explains the meaning of fractions using *unit fractions* and the definition of *denominator* and *numerator*.

In Topic 14, students draw and describe how two lines are related to each other. Students use math language they know to describe the two lines. On Day 2, students are explicitly taught important geometric terms such as *point*, *line*, *plane*, *parallel*, *perpendicular lines*, and *intersecting lines*. This vocabulary is evidence that the materials demonstrate a strategic approach to developing students' mathematical vocabulary. The materials provide some

repeated opportunities for students to listen, speak, read, and write using the mathematical vocabulary within and across lessons. In the VLB video, students listen as geometric terms are defined with visual images; the video stops and asks the question, “Are all intersecting lines perpendicular?” This questioning is an opportunity for students to speak using mathematical vocabulary. Page 2 of the VLB video asks students to find examples in the classroom, where they can imagine parallel lines, intersecting lines, and perpendicular lines and tell how they decided. This activity is an opportunity to write using vocabulary words.

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2.7 Materials provide opportunities for students to apply mathematical knowledge and skills to solve problems in new and varied contexts, including problems arising in everyday life, society, and the workplace.

- Materials include opportunities for students to integrate knowledge and skills together to successfully problem solve and use mathematics efficiently in real-world problems.
- Materials provide students opportunities to analyze data through real-world contexts.

Meets 4/4

The materials provide opportunities for students to apply mathematical knowledge and skills to solve problems in new and varied contexts, including problems arising in everyday life, society, and the workplace. The materials integrate real-world problem solving throughout the three-step lesson plan format and within the student workbook. An explicit problem-solving lesson at the end of each topic integrates the process standards with content and skill TEKS and also incorporates real-world story problems. A problem-solving handbook is an additional lesson component that teaches a specific problem-solving model. Also, problems involving the use of data are incorporated into the three-step lesson plans. An additional component called "Today's Challenge" offers five additional problems that increase in rigor throughout the unit and use the same data set.

Evidence includes but is not limited to:

The teacher materials contain a "Problem Solving Handbook" that is designed to help students organize their math processes and problem-solving strategies in the problems they solve every day at the start of daily lessons. The materials suggest that the teachers display a list of strategies, tools, and techniques with explicit names that students can refer to as they participate in problem-solving discussions. The teacher materials include samples of various strategies, including using strip diagrams, drawing a picture, writing equations, and using reasoning. There is also a blackline master of a "Problem-Solving Recording Sheet," a graphic organizer to help students show their work and make sense of problems. The recording sheet includes a list of strategies that students can use to plan how they will work through the

problems. There are a few samples of how to complete the worksheet in the explanation of this component, but the samples are not included in daily lessons.

Throughout the materials, each topic has a section called “Today’s Challenge Online,” which includes sets of five problems that increase in difficulty and use the same data. Each set also includes “Factoids” and “Write Your Own Problem” sections to extend students’ knowledge and thinking. A page of notes for each problem is in “The Today’s Challenge Teacher Guide”; it includes teaching actions organized under “Before,” “During,” and “After.” The program contains some opportunities for students to solve real-world problems in a variety of contexts. The “enVisionMATH Texas 2.0 User’s Guide” states that “Solve and Share” opens each lesson with a rich problem for students to discuss and share solution strategies. Teaching actions keep students on a path to higher levels of cognitive demand. The student workbook has a mix of short-answer, multiple-choice, and long-answer problems. The story problems used throughout the workbook are often set in real-world situations.

For Topic 1, the Daily Challenge is centered around Friday night football. Students analyze a pictograph with information about the Houston High School Football Organization. Each day, they solve a different problem relating to the data set in the pictograph. For example, on the first day, they must decide how many noisemakers each cheerleader gets and how many noisemakers they need in all. In Lesson 1-1, students solve the following: “In 2011, seventy-three million, four hundred eleven thousand, five hundred nineteen fans attended major league baseball games. Which choice shows ten million more?” The homework for the lesson is leveled, allowing the teacher to differentiate between students who need intervention, those who are on-level, and those who are above level. One problem for the on-level homework reads: “The teacher asked the class to write the number four hundred seven million, eighty-two thousand, seven. Which student wrote the correct number? What mistake did the other student make?”

In Topic 2, Lesson 2-1, students solve and find the number of cards in Luke’s baseball card collection. They can solve the problem any way they choose.

In Topic 3, students use the distributive property to multiply two- or three-digit numbers by one-digit numbers. Students begin by drawing arrays to show this property. Students apply this knowledge as they develop formulas for area and solve area problems. Also in this topic, students learn to solve multi-step problems. Each topic contains a mixed problem-solving page that incorporates many problem-solving strategies in real-world contexts.

In Topic 4 (“Multiplying by 1-Digit Numbers”), students solve problems about the number of tables in a restaurant, the amount of food an elephant eats, the distance a bike rider rides in three months, and the number of seats in a stadium. Application in developmentally appropriate real-world contexts is very evident in the materials. Today’s Challenge gives information about energy from food. Students must use data provided in a table to solve the daily challenge question. Multiple lessons in Topic 4 require students to analyze information.

However, that analysis does not always match the objectives of the topic. A bar graph only requires students to compare the bars and say which bar represents a larger number. A tally chart requires students to choose which item received the most votes.

In Topic 10, Lesson 1, students are expected to represent fractions as a sum of unit fractions. For Solve and Share, students locate a fraction on a number line when given its related unit fraction. This problem helps activate students' prior knowledge of fractions and helps the teacher assess whether students understand these two concepts. One of the "Math and Science" activities asks students to write fractions that correspond to the different phases of the moon. The "Math and Science Project" for the topic asks students to research the patterns of change in different seasons and include fractions in the report.

In Topic 13, students are exposed to real-world problems while learning how to find the area. Real-world problems use the following contexts: carpeting a room, painting a wall of a rectangular-shaped room, garden contexts, new state park, flower bed, and tiling a kitchen floor.

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2.8 Materials are supported by research on how students develop mathematical understandings.

- Materials include cited research throughout the curriculum that supports the design of teacher and student resources.
- Materials provide research-based guidance for instruction that enriches educator understanding of mathematical concepts and the validity of the recommended approach.
- Cited research is current, academic, relevant to skill development in mathematics, and applicable to Texas-specific context and demographics.
- A bibliography is present.

Partially Meets 2/4

The materials include some research to aid teachers in understanding mathematical concepts and the validity of the publisher's approach to the lesson. There is little evidence that cited research is current, academic, relevant to skill development in mathematics, and applicable to Texas-specific context and demographics. Materials do not provide a bibliography.

Evidence includes but is not limited to:

The author team and well-known mathematicians bring an impressive level of experience as classroom teachers, teacher educators, researchers, and authors. They have written numerous professional articles based on their research and observations, and their contributions to the program is an implementation of successful teaching methods. The program offers an instructional model based on a research foundation and has proven efficacy shown by statistically significant advantages in independent, scientific research done with randomized controlled trials. enVisionmath2.0 meets ESSA's "Promising" evidence criteria. However, the materials do not cite research throughout the curriculum that supports the design of teacher and student resources. The user guide states that "Janice Corona from Dallas, Texas, and Jim Cummins from Toronto, Canada ensured quality ELPS instruction." However, the materials provide no further explanation or context of their credentials, role, or contribution that explains how they informed the materials' design using research-backed methods. The "Math

Background" and professional development videos designed to support teacher understanding of the content are not supported by or cited with research.

The materials do not contain an explanation of research or citations of research relevant to skill development in mathematics or applicable to Texas-specific context and demographics. Every topic in the materials does contain a short professional development video where a person speaks broadly and briefly about the pertinent material. While the video sometimes introduces clips of the materials, the speaker in the video is not specific about how the materials are contributing to student or teacher understanding. For grades 3–5, Jane F. Schielack, PhD., does provide the short (approximately two minute) professional development videos for numeration and addition/subtraction, but the viewers do not know anything about her research-based guidance informing the design of the materials.

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3.A.1 Materials develop student ability to use and apply a problem-solving model.

- Materials guide students in developing and practicing the use of a problem-solving model that is transferable across problem types and grounded in the TEKS.
- Materials prompt students to apply a transferrable problem-solving model.
- Materials provide guidance to prompt students to reflect on their approach to problem solving.
- Materials provide guidance for teachers to support student reflection of approach to problem solving.

Meets 4/4

The materials develop students' ability to use and apply a problem-solving model. The materials guide students in developing and practicing the use of a problem-solving model that is transferable across problem types and grounded in the TEKS by including a problem-solving handbook. The materials prompt students to apply a transferrable problem-solving model throughout the first two steps of the daily three-step lesson format. Students are always asked to think before solving: "What information are you given? What are you asked to find? What tools can you use?" From there, problem-solving steps vary but always end with generalizing and applying to a new problem. The materials provide guidance to support teachers and prompt students to reflect on their approach to problem solving.

Evidence includes but is not limited to:

The materials include a problem-solving handbook at the start of both the Teacher Edition and Student Edition. The steps used in the handbook align directly to the Process TEKS: "Analyze, Plan, Solve, Justify, Evaluate." The handbook also includes a step in which students discuss what tools, such as real objects or manipulatives, or techniques, such as mental math or models, can be used to solve a problem. The handbook includes a blackline master to guide students through the process. This document is a graphic organizer that can be used to solve any type of problem.

Each lesson includes a Solve and Share as step 1. Students work independently to solve the problem and then share their work, strategy, and results. Each topic ends with an entire

problem-solving lesson on a specific problem-solving skill, such as solving two-step problems and making a table. Characters in the Student Edition and Teacher Edition provide hints and problem-solving advice. Step 2 of every lesson concludes with students solving a variety of problems; all of these tend to include word problems. Some word problems are multiple-choice, and others are free-response questions. All, in varying degrees, require the students to apply the skills learned from the lesson using the problem-solving model.

In Topic 1, Lesson 1-11, a problem states that a hiking path is being planned for the local park; students have to mark where the one-mile distance marker would be placed. The lesson embeds the Analyze, Plan, and Solve components of the problem-solving model. It provides questions for the teacher to ask, such as “What do I know?” and “What am I asked to find?” Students formulate a plan and solve, but the materials do not guide the teachers to support student reflection throughout their approach to problem solving.

In Topic 9, Lesson 9-4, during the Solve and Share, students think about what the problem is asking and analyze the ages written in a data table to describe the relationship between them correctly. During the “Visual Learning Bridge” (VLB), students formulate a plan and write a rule for a new data table. The next step has students practice communicating in order to explain the numbers they used to write their rule for the data table. In the final step, students generalize what they learned and apply their thinking to the same data problem but with differently posed questions.

In Topic 10, Lesson 10-3, the Solve and Share begins with constructing an argument to explain why a particular fraction is simpler than another equivalent fraction. As the discussion continues, the materials ask what tools would help solve the problem. To close, students generalize and extend or apply similar thinking to a new problem. In Lesson 10-5, during the Solve and Share, students analyze two student work samples and make connections between their fraction comparisons. To reflect on the problem-solving process, students discuss the information they have been given to solve the problem and paraphrase what they are asked to do. During the VLB, students formulate a plan, discuss possible tools and models, and use reasoning to communicate their process to each other.

In Topic 12, Lesson 12-10, students solve a word problem comparing hours to minutes. The lesson prompts the teacher to build understanding and give hints as needed to assist students. Students share solutions and make generalizations. In the VLB, students compare units of time and determine where it is appropriate to use them. In the margin of the lesson, it states that students will formulate a plan as teachers ask a series of questions. Teachers ask, “Why do you multiply to change years to months?” Students reason through the problem. Two components of a problem-solving model are embedded in this lesson, but the problem-solving model used within this lesson does not provide clear opportunities for students to practice and apply each part of the problem-solving process within the TEKS mathematical process standards.

In Topic 13, Lesson 13-4, students solve and find how many times an 8-cup capacity wild bird feeder can be filled from a 3-gallon container of birdseed. During this time, the emphasis is on building understanding. The materials ensure that this is developmentally appropriate for grade-level students by posing a problem that all students can access with various problem-solving approaches. This problem ensures that students can discuss which strategies are the most efficient and successful in producing a solution that integrates the knowledge and skills the lesson wants to highlight.

In Topic 14, Lesson 14-4, students solve a problem about Cory cutting a pizza into 45' slices: "If five of the slices were eaten, what is the angle measurement of the pizza that is left?" The materials provide multiple opportunities for students to make sense of open-ended, real-world contexts involving mathematics. One problem in the homework for this lesson reads: "A Ferris wheel has 12 cars that are equally spaced around the center. What is the measure of the angle formed between each of the arms that hold the Ferris wheel cars? Explain."

In Topic 15, Lesson 15-4, students solve the following problem: "Maggie received the following scores on her spelling tests this year: 87, 72, 93, 78, 88, 84, 82, 87, and 92. She received a grade of B for each test score between 80 and 89. Organize the data so that it is easy to find how many B grades Maggie has received. Solve this problem any way you choose." The materials provide some guidance for students in developing and practicing the use of a problem-solving model that is transferable across problem types and grounded in the TEKS.

In Topic 16, Lesson 16-2, students explain which method of saving is better: a piggy bank or a bank. Students then share and discuss their solutions, prompting both the teacher and the student to reflect on their approach and the approach of others.

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3.A.2 Materials provide opportunities for students to select appropriate tools for the task, concept development, and grade.

- Materials provide opportunities for students to select and use real objects, manipulatives, representations, and algorithms as appropriate for the stage of concept development, grade, and task.
- Materials provide opportunities for students to select and use technology (e.g., calculator, graphing program, virtual tools) as appropriate for the concept development and grade.
- Materials provide teacher guidance on tools that are appropriate and efficient for the task.

Partially Meets 2/4

The materials provide limited opportunities for students to select appropriate tools for tasks, concept development, and grade. The materials provide some opportunities for students to select and use real objects, manipulatives, representations, and algorithms as appropriate for the stage of concept development, grade, and task. The materials provide limited opportunities for students to select and use technology for solving tasks because, even though they are available, it is unclear whether students can access them during lessons or independent enrichment time. The materials provide teacher guidance on tools that are appropriate for tasks, but there are only six mentions of the word *efficient* in the Teacher Edition (TE).

Evidence includes but is not limited to:

The materials primarily provide the teacher with the same materials as the students. They provide both teachers and students with the same problem-solving handbook, the same word problems (with the inclusion of the answer key), and the same "Visual Learning Bridge." There is little guidance about the tools introduced within the materials. While every planner does discuss the math processes and the content, it does not explain which tools are appropriate and efficient for which tasks. The professional development video that accompanies each topic does not explain the role these tools play in assessing and developing a student's conceptual understanding. There is little to no variation between grades 3 and 4 regarding online tools or the "Problem Solving Handbook."

The “Background” section in the TE “Topic Planner” explains the process standards used within the topic. The Problem Solving Handbook provides multiple strategies and approaches for problem-solving. Problem-solving tools, as listed in the handbook, include tools, manipulatives, paper and pencil, and the internet. Problem-solving strategies include mental math and number sense. Strip diagrams are heavily emphasized in the nine-page handbook, receiving four pages of explanation and examples.

The materials provide students opportunities to learn to use grade-appropriate tools for solving tasks and understanding concepts, but students have few opportunities to select or compare tools for a given task. The lessons are sequenced so that tools or strategies become increasingly more sophisticated, incorporating representations or even mental math strategies, but the lessons typically ask for a specific tool. The final lesson in each topic is always about problem-solving, yet these lessons are more focused on application in real-world settings rather than making connections across types of tools or strategies that can be used in the various problems.

The materials make references to using manipulatives during most lessons, but the use of digital tools is most often found in the third step of the daily lesson, in which students participate in center activities or a teacher-directed remediation lesson. One of the center activities includes a technology center, in which students can access one of six online games included in the program. There is also a set of online math tools with 12 different virtual manipulatives, including counters, place value blocks, number lines, and number charts. It is unclear from the materials whether students can access these tools during whole group instruction, so it may depend on the technology access within individual schools and districts. The materials make no effort to guide the teacher or have students discuss when virtual manipulatives or real hands-on tools would be more appropriate or efficient.

A set of digital tools accompanies every grade level on the materials’ website. Both students and teachers have access to this digital tool suite. These manipulatives are used for concept exploration and attainment for the primary focal area(s) of the grade level. These tools can be manipulated digitally, which provides students with the opportunity to learn and use grade-appropriate technology for solving tasks and understanding concepts. While students can be provided with paper workbooks, each student can also solve each problem through the digital platform.

In Topic 2, Lesson 2-6, students use the virtual tools to add and subtract decimal problems using the “place value blocks” tool. As the lesson progresses, students continue to add decimals using place value blocks and grid paper.

In Topic 3, Lesson 3-1, students receive a list of the multiplication properties and learn that multiplication properties can help them solve problems more easily. In Lesson 3-3, students create a model to show multiplication by 100 using place value blocks. As the lesson progresses,

students learn to draw arrays to multiply as they connect their learning back to place value blocks.

In Topic 10, the “Background Knowledge” for teachers centers around Process TEKS within fractions and explains how students formulate a plan by using a picture or interpreting a model. The section also explains how students must start with the same-size whole in order to find equivalent fractions or to compare them. The content explanation of fractions begins by explaining that equivalent fraction parts must have the same size but not shape. The content explanation relates the fraction models to making equivalent fractions with multiplication or division.

In Topic 12, Lesson 12-10, students solve a word problem that compares hours to minutes. As the lesson progresses, the materials support the conceptual development of using mental math to compare units of time and then more formally converting by either multiplying or dividing units of time. Students build upon the understanding that time can be expressed in many different units that are related to each other.

In Topic 14, Lesson 14-5, students measure an angle using a protractor that is correctly placed over the angle in a pictorial representation. As the lesson progresses, students receive a protractor and learn how to use it. On the “Lesson Overview” page, the materials provide detailed explanations for the teacher about how to use a protractor.

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3.A.3 Materials provide opportunities for students to select appropriate strategies for the work, concept development, and grade.

- Materials prompt students to select a technique (mental math, estimation, number sense, generalization, or abstraction) as appropriate for the grade-level and the given task.
- Materials support teachers in understanding the appropriate strategies that could be applied and how to guide students to more efficient strategies.
- Materials provide opportunities for students to solve problems using multiple appropriate strategies.

Meets 4/4

The materials include teacher prompts on student usage of appropriate techniques (mental math, estimation, number sense, generalization, or abstraction) to solve problems. There is evidence that the materials also support teachers in understanding the appropriate strategies that could be applied and how to guide students to more efficient strategies. They also provide opportunities for students to use multiple strategies to solve problems.

Evidence includes but is not limited to:

The “Topic Planner” describes the content of each lesson by listing the TEKS and ELPS, “Essential Understandings,” materials and resources, and suggestions for professional development videos to help teachers build their background knowledge of the content or their teaching skills. The “Math Background” section explains how process standards and content TEKS are developed with visual models and relational thinking. Each lesson includes a specific background section that describes how previous learning will be used in the context of the new lesson with either the same models or applied to new ones.

In the “Problem-Solving Handbook” section at the front of the Teacher Edition (TE), there is a generalization that says, “Because many problems can be efficiently and accurately solved in different ways, students are likely to use different strategies for solving problems. When discussing solutions, look for and have students share different approaches.” Step one of every lesson reminds teachers to have students share their responses.

For example, in Topic 5, students learn to multiply using arrays, multiples of ten, mental math, rounding, and compatible numbers. The materials do not support students in determining which technique is most appropriate for certain situations. “Solve and Share” problems often prompt students to solve “any way you choose.” Students are not asked to solve in multiple ways or analyze which methods are most efficient or appropriate for certain situations.

In Topic 7, students learn to use mental math and number sense reasoning to solve division problems and sometimes have the option to use two-sided counters to make an array model. The materials tell teachers that this is the most efficient strategy for solving division, but this is never told directly to students.

In Topic 9, Lesson 9-3, in the Solve and Share, students discover that unknown numbers can be replaced in an equation to make the values of the two sides equal. Then, students solve multiplication and division equations using mental math and number sense. The materials support students to select techniques through question prompts such as “What basic facts could you use to help you solve each equation? What number can I multiply by 50 to get 1,500? 1,200 divided by what number is 600?”

In Topic 10, Lesson 10-3, the lesson objective is for students to express equivalent fractions in simplest form with fraction strips. In the first part of the lesson, students practice by discussing whether a fraction with more or fewer parts seems similar while looking at the fraction strip model. Then, materials ask students whether multiplying or dividing can be used to find the simplest form of a fraction. The story problems in the Student Edition (SE) ask students to write over 20 fractions in simplest form. Students can select any strategy or model they choose to find the simplest form. Then, in Lesson 10-4, students choose multiple number lines with equivalent units to explore different ways to name a single point on a number line. Students solve problems; 14 of the 17 problems require the use of a number line model.

In Topic 13, Lesson 13-1, students use multiple strategies to find perimeters. They draw pictures and use what they know about the properties of rectangles and squares, strip diagrams, addition, multiplication, and formulas to find perimeters. In Lesson 13-6, the Solve and Share begins the lesson with students solving a real-world problem about time, using any method. The materials prompt students to use reasoning, mental math, or a clock. In “Visual Learning,” students solve real-world problems about time using algorithms for adding and subtracting time. The materials prompt students to use strip diagrams to model the problems and the standard algorithm for subtracting and adding time.

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3.A.4 Materials develop students' self efficacy and mathematical identity by providing opportunities to share strategies and approach to tasks.

- Materials support students to see themselves as mathematical thinkers who can learn from solving problems, make sense of mathematics, and productively struggle.
- Materials support students in understanding that there can be multiple ways to solve problems and complete tasks.
- Materials support and guide teachers in facilitating the sharing of students' approaches to problem solving.

Meets 4/4

The materials provide opportunities for students to share strategies and approaches to tasks to develop students' self-efficacy and mathematical identity. The materials support students to see themselves as mathematical thinkers who can learn from solving problems, make sense of mathematics, and productively struggle; students can sometimes choose any method to solve a problem. The materials provide support for students in understanding that there can be multiple ways to solve problems and complete tasks through class discussions. The materials provide support and guidance for teachers in facilitating the sharing of students' approaches to problem solving with a brief list in the "User's Guide."

Evidence includes but is not limited to:

The materials foster a mathematical community in the "Solve and Share" at the beginning of each lesson. Students solve a problem and share their results. Materials explain: "Give students time to struggle. Research shows that as they think, conceptual understandings emerge." There are tips for facilitating problem-based learning. Teachers are instructed to make sure students know that they expect them to do the thinking and have students share their thinking with a partner, small group, or the whole class. Teachers also show that they value students' thinking even when they struggle. Materials also foster a mathematical community by providing the students with opportunities to work together in a game format several times within each topic. The Solve and Share has a "Share and Discuss Solutions" step. Students share their strategies almost daily as a part of the initial Solve and Share problem, during guided work, and during intervention or center work.

The ancillary materials include a User's Guide. In the section explaining the features of step 1 in the daily three-step lesson format, a callout box says, "In step one, be a facilitator as students solve a problem!" Underneath, there are "Tips for facilitating problem-based learning"; these briefly explain, in one sentence each, how to "Set expectations, Foster communication, Be encouraging, Use the language of the process standards." In step 1 of the lesson cycle, the materials always prompt teachers to have students share their solutions and then show the sample hints if needed. The prompts focus on thinking about the problem before any attempt to solve it, asking, "What is the question asking? What information do we already know? What tools can we use to solve?" This questioning helps students gain confidence in their ability to work problems on their own. As students begin the guided and independent practice pages in the Student Edition (SE), the materials allow students to attempt problem-solving on their own before sharing with a partner or their class. The prompts for teacher intervention are phrased to show that the materials allow the students to struggle independently before the teacher intervenes: "If students are having difficulty..., then…."

There are images of characters within the SE that encourage students to see themselves as mathematical thinkers.

In Topic 8, Lesson 8-1, the Solve and Share begins the lesson with students using any previously known technique to solve a division problem. The task allows students to solve this problem any way they choose. The materials suggest students may use repeated subtraction to find how many times a bird feeder can be refilled. The materials offer supports for monitoring students as they develop solution strategies. The students are asked what they know and what the problem is asking them to do. Hints are given as needed: "How can you use repeated subtraction to solve this problem? How can you use multiplication to help you solve this problem?" The materials provide instructional support for facilitating the sharing of students' approaches; students share their strategies, and the teacher can share the two provided student work samples if needed. Then, the class can summarize and generalize.

In Topic 9 ("Patterns and Equations"), students use various number sense and mental math strategies to solve equations. In Lesson 9-1, students use number sense to decide if expressions are equal or not. The goal is to have them solve without doing any computation. In Lesson 9-2, students apply strategies from the previous lesson. The mental math and number sense strategies are applied in the next lesson to solve multiplication and division equations. The sample hints shown during step 1 of the first three lessons favor using place value and do not offer other strategies for the teacher to present. Students may come up with other pathways to solve the expressions.

In Topic 10, students use the representations from third grade and multiplication strategies to compare fractions and find equivalence. The lessons move between the use of number lines and fraction strips; the hints and representations printed on a page focus on one strategy/model at a time.

In Topic 14, Lesson 14- 4, students use a pattern block that has a 30-degree angle to measure a given larger angle. Students receive pattern blocks and are told to solve this problem any way they choose. As the lesson progresses, materials provide hints as needed. Students share their answers and discuss solutions, and then summarize and generalize. In Lesson 6, the Solve and Share begins the lesson with students drawing two adjacent angles and using them to measure a given angle. The task allows students to solve this problem any way they choose. The materials do support the teacher when monitoring students as they develop solution strategies through the "Build Understanding," "Give Hints as Needed," "Summarize and Generalize," and "Sample Student Work" components. The materials provide instructional support for facilitating the sharing of students' approaches. Discussions begin with students sharing; if needed, there are always two work samples as a guide. After the discussion, materials provide Summarize and Generalize statements. For example, students generalize that if they draw a ray that divides an angle into two angles, the sum of the measures of the two angles will equal the measure of the original angle. The measures of two angles that share a common ray can be added or subtracted. The "Prevent Misconceptions" section states: "Remind students that just as you can add the parts to find the whole, you can also subtract a part from the whole to find the other part."

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3.B.1 Materials prompt students to effectively communicate mathematical ideas, reasoning, and their implications using multiple representations.

- Materials provide students opportunity to communicate mathematical ideas and solve problems using multiple representations, as appropriate for the task.
- Materials guide teachers in prompting students to communicate mathematical ideas and reasoning in multiple representations, including writing and the use of mathematical vocabulary, as appropriate for the task.

Partially Meets 2/4

The materials prompt students to effectively communicate mathematical ideas, reasoning, and their implications, using multiple representations. While some prompts are not general enough to transfer to another task, the strategies presented can be used to solve problems independently, even if a particular lesson favors one particular model or strategy. A mixture of problems throughout each lesson requires short answers or fill-in-the-blank responses; there are also open-ended problems that call for an explanation of student thinking. However, there is little support for students to put their thinking into words using mathematical vocabulary. The materials do not prompt oral communication or the exchange or defense of mathematical reasoning. The materials provide prompts for teachers that are almost exclusively focused on concept attainment.

Evidence includes but is not limited to:

The materials provide opportunities for students to communicate mathematical ideas during the “Solve and Share” tasks (step 1 in the three-step daily lesson). Students also have opportunities to communicate mathematical ideas in their Student Edition (SE) when they show their thinking on the “Guided Practice” and “Independent Practice” problems. The materials contain tasks that can be solved using a variety of mathematical representations, though some lessons within a topic only highlight one strategy at a time. During the “Visual Learning Bridge” in step 2, there is a final problem titled “Convince Me” that asks students to explain their reasoning to solve a problem. However, these problems do not usually ask for a specific strategy or representation, nor do they require written responses; they do allow students an opportunity to organize their thoughts, show their thinking, and share with others.

In Topic 1, Lesson 1-1, students are given the average daily attendance for a local team and the total home game attendance for a season. (Students in fourth grade do not understand the mathematical concept of averaging.) Students are asked to write the numbers stated in the data in written form and prompted to solve “any way you choose.” Characters prompt the student to communicate mathematical ideas and hint that saying a number out loud can help one write it in word form. This closed-ended question does not have multiple ways to solve it. In each Solve and Share, materials prompt the teacher to share and discuss solutions. They do not prompt the teacher to have students share and explain their own thinking. Students communicate mathematical ideas in writing. There is no evidence of activities requiring students to communicate verbally. The only place that students communicate with other students is possibly in the Solve and Share, but oral communication would only happen if the teacher asks for it, not as a natural progression that is built into the lesson. All other communication in the lesson throughout Topic 1 is written communication. The materials reviewed are largely a written, worksheet-driven approach to learning. Partner games focus on procedural fluency but do not require the communication of mathematical ideas in any format.

In Topic 4, Lesson 4-2, materials ask students how they can use paper and pencil to find the total books a school has ordered if the school ordered seven boxes of books and each box contains 25 books. They also ask, “How can you check that your answer is reasonable?” Teacher prompts include “What information are you given? What should you do?” A character on the page prompts: “You can formulate a plan. How do you use the standard algorithm?” The question posed to students does not actually ask them to find the number of books ordered, but the teacher prompts and sample answers assume that the question is asking for a numerical answer. The “Share” part of the teacher prompts include: “Start with the student’s solution. If needed, project Marissa's work and discuss how to use the standard algorithm.”

In Topic 7, Lesson 7-4, students solve a real-world division problem with remainders; they may solve it in any way they choose. The materials suggest providing students two-color counters for help. The Teacher Edition (TE) has guiding questions for building understanding and giving hints as needed. The materials prompt the teacher to have students share their solutions and then share the sample student work if needed. Teachers summarize and generalize. Students solve another real-world problem with direct instruction. The materials demonstrate three ways to interpret the remainder. Finally, students answer questions on a “Quick Check.” The materials do not provide opportunities for students to solve in multiple representations and to communicate their thinking to others.

In Topic 10, Lesson 10-2, during the Solve and Share, students find equivalent fractions and explain why equivalent fractions are equal. The TE states that students may want to use fraction strips to solve. Prompts include “What are you asked to do? What tools can you use? How can you use fraction strips to find a fraction equal to 1/3?” These prompts help students solve the problem, but they do not help students communicate their math thinking. The Convince Me problem in this lesson asks students to name an equivalent fraction for the ones

shown in a model and use the model, fraction strips, to show the fraction is equivalent to 1/4. This problem does ask students to explain their thinking. There is an implied opportunity to use multiple strategies; however, it does not require a formal written response. The answer key only shows the answer and does not offer other strategies that the teacher could use to encourage multiple representations. Eighteen of the problems in the student book ask students to complete an equation. There is also one multiple-choice question and seven story problems that are open-ended enough that students could use any of the strategies from the lesson. Two problems specifically ask students to explain their answers and provide a written sample response. Two other questions require a written explanation and provide a sample written response.

In Topic 11, Lesson 11-1, students use models to add fractions with like denominators. The TE states that students may want to use fraction strips to solve the problem. Teacher prompts include "What information are you given? What are you asked to do? How can you represent the whole banner that Kyle and Jillian are painting?" Both of the sample student hints show a fraction bar model, but only one has a written explanation. The Convince Me problem asks, "What two factions would you add to find the fraction of all the canoes that are either green or brown? What is this sum?" The answer key only shows the answer and does not offer other strategies that the teacher could use to encourage multiple representations. There are no samples that include other strategies or written explanations that could be used to solve or prompt students. The student book pages include 21 questions where students can simply write a simplified fraction or sum of fractions. Two problems specifically ask students to explain their answers, but only one provides a written sample response.

In Topic 14, Lesson 14-3, the Solve and Share begins the lesson with students describing the angle made by the two hands of a clock when the time is 9:00. The materials suggest that students may use clock faces to solve this problem. The materials provide prompts in the TE to assist students in building understanding and to provide hints. Some hints are, "When it is 9:00, to which numbers do the hands of a clock point? What strategy can you use to illustrate what the angle looks like?" Materials prompt teachers to have students share their solutions, share sample work, summarize, and generalize. As the lesson continues during the "Visual Learning Bridge," students are explicitly taught that angles are measured in units called degrees, and the measure of an angle depends on the fraction of a circle cut off by the rays. The materials provide four questions to ask the students in the TE. The lesson concludes with students solving worksheet problems. Even though the students are asked these four questions, the materials in this lesson do not provide tasks that require students to clearly communicate their developing reasoning about mathematical ideas through oral or written communication.

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3.B.2 Materials provide opportunities to discuss mathematical ideas to develop and strengthen content knowledge and skills.

- Materials provide opportunities for students to engage in mathematical discourse in a variety of settings (e.g., whole group, small group, peer-to-peer).
- Materials integrate discussion throughout to support students' development of content knowledge and skills as appropriate for the concept and grade-level.
- Materials guide teachers in structuring and facilitating discussions as appropriate for the concept and grade-level.

Meets 4/4

The materials provide opportunities for students to engage in mathematical discourse in partners, in small groups, and whole class. The materials integrate discussion throughout to support students' development of content knowledge and skills. The materials offer limited guidance for teachers in structuring and facilitating discussions as appropriate for the concept and grade level.

Evidence includes but is not limited to:

The materials intentionally provide opportunities for students to engage in mathematical discussions in a variety of different groupings (e.g., whole group, small group, peer-to-peer). The "Solve and Shares" at the beginning of each lesson provide opportunities for students to share their problem-solving. This sharing can be done in small groups or whole groups, which provides opportunities for students to share and discuss with others. The Teacher Edition (TE) contains guided questioning for concept attainment; however, there is no guidance for math procedures or norms. The materials do not provide sentence stems, sentence frames, or rubrics for active listening or responding.

In Topic 3, Lesson 3–5, the TE states, "Start with student's solutions. If needed, project Ashley's work to discuss how to use partial products to multiply." The teacher prompt for the Solve and Share is basically unchanged throughout the year.

In Topic 5, Lesson 5-3, the “Convince Me” section asks to determine how a student could have gotten a particular estimate in a provided problem. Students can show how to get this estimate by rounding to ten and estimating. Students do not have to use words to justify the answer. The “Connect” section of the same lesson requires students to write about when rounding might be useful. The TE has a sample answer. There is no guidance for sharing thinking via mathematical discourse.

In Topic 6, Lesson 6-5, prompts for discussion in the TE include questions such as “How can you find the area inside the rectangle?” and “What are you actually finding when you multiply the length by the width to get the area?” This question prompts discourse at the beginning of the lesson. All scaffolding prompts are directed at whole group interaction. Small groups are utilized for ability-grouped students, but only the “Struggling Learners” section has any teacher support for discourse.

In Topic 8, Lesson 8-1, the Solve and Share begins the lesson with students solving a division problem any way they choose. Teachers are to “build understanding and give hints as needed.” Students share their solutions; teachers share sample student work; the class summarizes and generalizes. As the lesson continues during the “Visual Learning Bridge” (VLB), students learn how to record division using partial quotients. The lesson concludes with guided practice, independent practice, and problem-solving.

In Topic 11, Lesson 11-3, students use fraction strips or any method they choose to explain their reasoning in the opening Solve and Share problem. Prompts include “What information are you given? What are you asked to do? What tools can you use to help you solve the problem? What expression can you write to represent this problem?” In the second part of the lesson, the VLB, has teacher prompts to facilitate whole-class discussion. Prompts include “What fraction of the club chose a hamster as their favorite pet? What operation will you use to solve the problem? Why do you divide the numerator and denominator of 6/12 by 6 to simplify the fraction?” In the third part of the lesson, students who score high enough on the “Quick Check” can play the online or “Advanced Activity Center” game. The directions in the “Get Started” section include “Take turns with another player or team. Talk about math as you play!” For “At Your Turn,” directions prompt, “Explain your thinking.”

In Topic 13, Lesson 13-4, students perform multiple conversions to solve a problem about a bird feeder’s capacity. Materials guide the teacher to “build understanding and give hints as needed.” Students share their solutions; the teacher shares sample student work, summarizes, and generalizes. As the lesson continues during the VLB, students use models to solve measurement problems. Step 2 of the lesson is a direct-teach piece. The lesson concludes with a Quick Check in the form of workbook pages containing guided practice problems, independent problems, and problem-solving. Materials provide an intervention lesson for students who did not succeed on the Quick Check. On-level and advanced-level students work the “Problem Solving Reading Mat” activity for 13-4. The materials for this lesson provide opportunities for student discussion throughout each step of the lesson.

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3.B.3 Materials provide opportunities for students to justify mathematical ideas using multiple representations and precise mathematical language.

- Materials provide opportunities for students to construct and present arguments that justify mathematical ideas using multiple representations.
- Materials assist teachers in facilitating students to construct arguments using grade-level appropriate mathematical ideas.

Partially Meets 2/4

The materials provide limited opportunities for students to justify mathematical ideas using multiple representations and precise mathematical language. The materials do not assist teachers in teaching students to construct arguments using grade-level-appropriate mathematical ideas. Questions from the Teacher Edition (TE) or Student Edition (SE) that attempt to incorporate the Process TEKS are superficial and do not provide guidance for the teacher or student to construct written or oral arguments or incorporate justifications in their responses.

Evidence includes but is not limited to:

The materials do not support students in sharing their ideas with peers, small groups, or the class in a routine way. Although the materials support precise mathematical language in the form of word cards for each topic, they do not support the application of the precise mathematical language when students justify their arguments. The materials provide limited routines and structures teachers can use to facilitate student construction of arguments. The routine is evidenced in the "Solve and Share," where students solve a problem at the beginning of each lesson. They can use representations of their choice to solve the problem; however, students are not required to share their solution or to justify it.

The materials provide limited opportunities for students to construct and present arguments that justify mathematical ideas using multiple representations. Step two of the lesson, the "Visual Learning Bridge" (VLB), is where most questions using the Process TEKS are found. However, the prompts for the teacher are to facilitate discussion and are supported with routines to have students construct a formal argument with sentence stems or writing support.

In these prompts, there are no other question prompts or sentence stems students can use to create a written or oral argument. Students are not asked to use multiple representations or share their ideas with peers. The materials do not assist teachers in facilitating students to construct arguments using grade-level-appropriate mathematical ideas.

In Topic 3, Lesson 3-4, in the Solve and Share, students must use only the numbers represented on the grid and the four operations to find the area of the unshaded part of the grid. Using only the numbers shown means students cannot count the unshaded squares. Students are not asked to construct or present arguments that justify mathematical ideas.

In Topic 4, Lesson 4-2, students view side-by-side comparisons of the standard and expanded algorithms. In the "Convince Me" section, students determine if a sample problem is done correctly and explain. The sample problem is correctly answered, but the sample has the hundreds multiplied first instead of the ones. The TE notes that the order of the multiplying does not change the answer. The teacher does not receive any guidance about how using this order may lead to confusion in the future. The "Extend Your Thinking" section asks students to determine the number of tiles someone uses in an art project and explain how they found the answer. Materials do not explicitly ask students to share their arguments with others or to illustrate their answers with an array or by any other representation.

In the Topic 6 "Today's Challenge," on Day 3, students describe two ways to find the answer to the following question: "In ten minutes, how many more times does a chicken's heart beat than a whale's heart?" On Day 5, students use the table to determine how many times an animal's heart beats in an hour and how many times their own heart beats in an hour. Materials provide no teacher answer key or sample student answers. Students are prompted to do the thinking, but there is no teacher support in the Today's Challenge portion of the materials.

In Topic 7, Lesson 7-3, students use compatible numbers to mentally compute approximately how many bags of tickets can be made using multiples of 10 and 100. The "Look Back" section asks students to connect ideas about the basic facts they used to solve this problem. As the lesson continues in the VLB, students use multiplication facts and place value to estimate quotients of multi-digit division problems. As the lesson closes, students complete calculations and explain how they used the calculations to estimate 1,296 divided by 4. The lesson concludes with guided practice, independent practice, and problem-solving. Twenty-five of the 26 questions are open-ended and involve constructing arguments, reasonableness, and extending thinking.

In Topic 8, Lesson 8-5, students use any method to divide a three-digit number by a one-digit number when there are not enough hundreds to divide evenly. The materials assist teachers in helping students construct arguments, giving hints and sharing sample student work. In this lesson, the teacher shares sample work to discuss how to create a model to help divide a three-digit number that does not have enough hundreds to break up evenly. The "Summarize and

Generalize" section supports teachers by helping students capture the essential skills. For this lesson, students summarize that "if there are not enough hundreds to divide evenly, you can regroup the hundreds as tens to begin dividing." Also: "Understanding place value and regrouping will help you solve more difficult division problems." There are other opportunities for students to explain their learning in the Look Back and Convince Me sections, but there is no evidence that the materials list discussion questions or sentence stems to elicit different types of responses from students as they present their arguments.

In Topic 9, Lesson 9-6, the "Construct Arguments" prompt is only a support for the teacher to help students make a generalization of the learning: "Students are asked to explain whether or not Clarence's reasoning makes sense to further develop their understanding of patterns in tables." There are no other question prompts or sentence stems students can use to create a written or oral argument with a beginning, middle, and end or with a why, what, or how they solved the problems in this lesson.

In Topic 10, Lesson 10-3, the Construct Arguments prompt is only a support for the teacher to help students make a generalization of the learning: "Students should provide a counterexample in their argument to show that there are fractions with a numerator greater than 1 that are in simplest form." There are no other question prompts or sentence stems students can use to create a written or oral argument with a beginning, middle, and end or with a why, what, or how they solved the problems in this lesson.

In Topic 11, Lesson 11-3, the Justify prompt is only a support for the teacher to help students make a generalization of the learning: "Why do you divide the numerator and denominator of 6/12 by 6 to simplify the fraction?"

In Topic 12, Lesson 12-8, the Solve and Share begins the lesson with students ordering four different objects by their mass and deciding whether to use grams or kilograms to measure each. The Look Back section asks students to connect ideas by determining the metric measurement for which they have previously used the prefix *kilo*. As the lesson continues, during the VLB, students relate metric units of mass; the teacher explicitly teaches how metric units of mass are related and how to choose the most appropriate unit of measure. The Convince Me section has students analyze and explain measurements in a table to determine their reasonableness. The lesson concludes with guided practice, independent practice, and problem-solving. Eighteen of the 19 questions are open-ended and involve explaining, reasoning, using number sense, and extending thinking.

In Topic 14, Lesson 14-9, the Justify prompt refers to one of the questions on the guided practice page of the student workbook; it says, "What are the characteristics of a parallelogram? (Three pairs of parallel sides) Can a parallelogram have four sides? (Yes)."

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4.1 Materials include developmentally appropriate diagnostic tools (e.g., formative and summative progress monitoring) and guidance for teachers and students to monitor progress.

- Materials include a variety of diagnostic tools that are developmentally appropriate (e.g., observational, anecdotal, formal).
- Materials provide guidance to ensure consistent and accurate administration of diagnostic tools.
- Materials include tools for students to track their own progress and growth.
- Materials include diagnostic tools to measure all content and process skills for the grade level, as outlined in the TEKS and Mathematical Process Standards.

Partially Meets 1/2

The materials include developmentally appropriate diagnostic tools (e.g., formative and summative progress monitoring) and some guidance for teachers and students in their administration but do not include resources for students to monitor their own progress. The materials do include diagnostic tools to measure all content and process skills for the grade level, as outlined in the TEKS and Mathematical Process Standards.

Evidence includes but is not limited to:

The materials provide some guidance to ensure consistent and accurate administration of diagnostic tools. The "Math Diagnosis and Intervention System 2.0" (MDIS) includes a "Teacher's Guide for 3-6," which provides an individual record form and a class record form. The overview of this guide briefly details four areas. For assessment, it explains that an "Entry Level Assessment Form A" is given for a student entering a grade; "Form B" is used as a diagnostic test to check performance after providing instruction or intervention. For diagnosis, teachers use the "Class Record Form"; the MDIS gives a brief explanation of how to use the form to make placement decisions. "Intervention" lessons can be used for the content taught during the year. For monitoring, there is an "Individual Record Form" to help record student progress. Further in the MDIS, there are in-depth details explaining these four areas and instructions for how to use the system. The materials also include tips or recommendations to support consistent and accurate administration of the diagnostic tools.

Every lesson also contains a “Quick Check” that can be done either online or in the Student Edition. The online version is a set of five multiple-choice questions that are scored online. In the student book, three of the problems in the independent practice pages are selected to be used as the Quick Check. These can be used to help prescribe differentiated instruction in step three of the lesson; however, materials do not provide record-taking resources for the teacher to track student responses or their progress in the use of various strategies and representations. The TE shows the assessments with an answer key. The TE does not provide administration guidance or even explanations of how to arrive at the correct answer. This lack is an issue throughout the materials. There is an “Item Analysis for Diagnosis and Intervention” table that shows which intervention system to utilize for each question. Benchmarks are shown in the same way. No guidance suggests to the teacher what score on the test would result in an intervention. Intervention is a worksheet.

Additionally, the materials include both a beginning-of-the-year placement test and an end-of-the-year test, each of which has 40 questions, which are a mix of multiple-choice and griddable problems. After every four topics, there is a benchmark test composed of 24 questions, which are also a mix of multiple-choice and griddable problems. The materials state that these can be used as a predictor of success on state assessments. The instructional materials provide a “Texas Assessment Resources for Teacher’s Guide.” This guide contains performance tasks pages for students to complete and includes 4-point scoring rubrics that outlines the four levels of achievement for students’ understanding of the concepts and skills in that topic, as well as answer keys. Each task is composed of four to six open-response questions that look similar to those asked during the lessons or on the independent practice pages. The Texas Assessment Resource Guide also includes two “Practice Test Forms” with 48 questions each that model the format and rigor of the STAAR exam. The materials include online Quick Checks that are editable; they are pre-formatted to include five questions, with topics such as “Making a Savings Plan” and “Metric Units of Capacity.” When testing online is complete, students can see a score summary and review the question, their answer, and the correct answer. Materials do not provide explanations for finding the correct solutions.

Materials include the MDIS, Booklets A–J, which are identical across grade levels. A–E are targeted for grades 1 through 3. Booklets F–J are for grades 4 through 6. The digital link through the main portal is only a five-page PDF. However, if teachers find the Teacher’s Guide through the link at the end of the TE, the system includes an 83-page Teacher’s Guide that has a program overview, limited directions on how to use the system, and recording forms for the class or individual student. When accessed through the “e-TE” tab at the end of the TE, there are provided TEKS correlations.

The materials also state that the online program assessment system can be used to edit the assessments included with the materials and that any district- or teacher-created assessments can be uploaded into the system; however, this resource was not made available for review.

The materials do not include resources for engaging families in providing input on student progress or in understanding assessment results. The materials do not include questionnaires to incorporate input from families to support the teacher's understanding of the student's learning needs, and they do not provide information to families to support their understanding of students' learning needs and provide learning opportunities at home.

In Topic 7, Lesson 4, the "Solve and Share" begins the lesson with students drawing a diagram or using counters to model a division problem in which the divisor is not a factor of the dividend. The teacher gathers information about student progress, asking questions to "build understanding" and "give hints as needed." To conclude this investigation, the students connect ideas by writing a number sentence to represent how many total apples are in the baskets. This connection is an opportunity for students to demonstrate their competence with division; however, the materials do not elaborate on the expectation of how students should respond, such as with verbal or nonverbal responses or concrete, pictorial, and abstract representation of content and skills. As the lesson continues during the "Visual Learning Bridge" (VLB), students learn how to find and interpret remainders when dividing. The materials' methods of assessment are appropriate to the developmental status and experiences of children. Teachers ask anecdotal-type questions, such as "What does the word 'remain' mean? How does this help you understand the math word 'remainder?'" and "Could the remainder be greater than or equal to 6? Why or why not?" Another anecdotal-type question is asked during the "Do You Understand? Convince Me!" section; students explain how they can tell at a glance that the calculation on the right is not correct. Teachers ask, "What error was made and what is the correct answer?" After the VLB, students complete a Quick Check. The materials identify three key questions to assign points to; if students earn 0–3 points, they join the teacher for an intervention activity. This topic has five lessons and concludes with a topic assessment. There are five questions about division that trace back to this lesson. The itemized answer key references "Intervention System" lessons for division.

In Topic 12, Lesson 1, students list objects that should be measured in inches, feet, and yards. The teacher gathers information about student progress, asking questions to "build understanding" and "give hints as needed." To conclude this investigation, teachers ask students to name a situation where they may want to use an estimated measurement. This question is an opportunity for students to demonstrate their competence with measurement; however, the materials do not elaborate on the expectation of how students should respond, such as with verbal or nonverbal responses or concrete, pictorial, and abstract representation of content and skills. In the VLB, materials explicitly teach how to relate customary units of length. The materials' methods of assessment are appropriate to the developmental status and experiences of children. Teachers ask anecdotal-type questions, such as "If you want to measure the length of a real car, would you use an inch or a foot?" and "How can you use other relationships shown to justify that 1 yd = 36 in? During the "Do You Understand? Convince Me!" section, students justify how they can use measurement relationships to explain 1 mile = 5,280 ft. After the VLB, students complete a Quick Check. The materials identify three key questions to assign points to; if students earn 0–3 points, they join the teacher for an

intervention activity. This topic has 11 lessons and concludes with a topic assessment. There are eight questions about relative sizes of measurement units that trace back to this lesson. The itemized answer key references “Intervention System” lessons from the MDIS.

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4.2 Materials include guidance for teachers and administrators to analyze and respond to data from diagnostic tools.

- Materials support teachers with guidance and direction to respond to individual students' needs in all areas of mathematics, based on measures of student progress appropriate to the developmental level.
- Diagnostic tools yield meaningful information for teachers to use when planning instruction and differentiation.
- Materials provide a variety of resources and teacher guidance on how to leverage different activities to respond to student data.
- Materials provide guidance for administrators to support teachers in analyzing and responding to data.

Partially Meets 1/2

The materials include limited guidance for teachers and administrators to analyze and respond to data from diagnostic tools. The materials support teachers with guidance and direction to respond to individual students' needs in all areas of mathematics based on measures of student progress appropriate to the developmental level. Online diagnostic tools and paper-based assessments yield meaningful information for teachers to use when planning instruction and differentiation. The materials provide a variety of resources and some teacher guidance on how to leverage different activities to respond to student data. The materials provide guidance for administrators to support teachers in analyzing and responding to data. The materials include an online assessment and intervention system; however, these materials were not submitted for review, and so their quality and alignment to the indicators cannot be reviewed.

Evidence includes but is not limited to:

The materials do not include detailed trajectories of learning to support the teacher in understanding the progression of content and skill development. This information is needed to support teachers while interpreting assessment results and individualizing instruction. The materials do not offer suggestions to provide scaffolds for the content, process, or product of the concepts and skills being addressed within each unit. Overall, the materials lack support for

teachers to adjust instruction to meet student needs within mathematics based on data from developmentally appropriate assessments.

The materials include an “RtI Tier 2” set of intervention activities, center games, and leveled homework pages that teachers can use to adjust instruction to meet students’ needs. These materials can be used during step 3 of the daily lessons. Placement into each of these activities is based on a five-question “Quick Check” given to students at the end of step 2 each day. An intervention lesson and leveled homework pages accompany every prime instruction lesson. The number of center games (worksheets) and online games varies with each topic. The materials also include an “RtI Tier 3” resource called the “Math Diagnosis and Intervention System 2.0” (MDIS), which interprets students’ responses from online assessments to recommend activities for reteaching and intervention. The materials do not include guidance to support teachers in understanding the results of diagnostic tools and do not provide teachers with results that are easy to interpret. The information gathered from the diagnostic tools provides limited help to teachers in planning instruction and differentiation. After each Quick Check, materials provide an intervention activity, as well as enrichment activities for students mastering the content. Not every lesson in the materials has an accompanying intervention lesson; however, each of the math domains and primary focal areas has several lessons to support the concept or skill development. The lessons follow much the same format as the intervention lessons from Tier 2. The majority of alternative scaffolds favor teacher-directed questions or multi-step fill-in-the-blank questions with representations students can reference. For example, an intervention lesson that helps students add three numbers shows a place value block representation of each number on the page with fill-in-the-blank questions to add each place (ones, then tens, then hundreds), as well as a place value chart to show an alternative strategy. After adding three sets of numbers, the visual support is removed; students must add eight more sets of numbers stacked in the standard algorithm and then answer two story problems.

The materials include recommendations to support teachers in providing additional support to students who are struggling to master the curriculum. However, almost always, the materials provide the teacher with just one type of support. Materials provide worksheet-based activities to reteach, intervene, or challenge advanced learners. Intervention seems to be a repeat of the lesson, presented in a very similar way as the original lesson. Sometimes a more hands-on approach is employed.

The “Record Forms” included in the Teacher Edition only serve to mark what questions students miss on a test and the TEKS alignment of each set of questions. Teachers receive a checklist template that can be used to track students’ progress, but the results are not always easy to interpret. The information gathered from the diagnostic tools can help teachers plan instruction and differentiation, but the usage of these tools is very time-consuming. The material suggests that the teacher should “group students who need help with the same mathematical concepts.” They also give some directions as to whether student performance on the diagnostic test can work in previous-grade-level or the next-grade-level materials. The resource also states: “If a student passes an intervention lesson, he or she is ready for the next

level of intervention of the concept. If the student does not pass, repeat the intervention lesson." If a teacher does not use the online assessment, he/she must pull several different resources together to find the appropriate Tier 3 intervention. First, the student data must be recorded on the individual or class record forms. Then, the teacher must look in the intervention materials to check the alignment of the TEKS from the questions they missed and find the matching intervention. Although each topic has an assortment of assessment opportunities, such as questions in the side margins, "Do You Understand" questions, Quick Check questions, and topic tests, the materials do not include guidance to support teachers in understanding the results of diagnostic tools as they relate to the grade level and the level of support needed. The assessment results are not easy to read, nor do they support efficient and effective data analysis. It is not evident if the materials contain customizable reports to allow teachers to see developmental gaps at the individual and class levels.

The materials state that their online assessment system will identify students' skill gaps and recommend paths for intervention; however, a full preview of the system was not submitted for review.

The materials provide guidance for administrators to support teachers in analyzing and responding to data. On the "Online Assessment" system, materials state: "Individual and class views of progress are provided in an easy-to-view format. TEKS reports show mastery of individual TEKS." Assignment reports show the status of resources that have been assigned to students. Assessment reports show performance on items in the online assessments. Usage data reports show how much time students are spending in the online course. However, the online assessment program was not submitted for review. Materials do not provide guidance for administrators to support teachers in analyzing and responding to data. Materials include data that can be analyzed for individual students, classes, and the school. Digital assessments are taken online and auto-scored.

Materials support teachers with guidance and direction to respond to individual students' needs in *some* areas of mathematics, based on measures of student progress appropriate to the developmental level. Each lesson offers Tier 1 (normal classroom instruction), Tier 2 (small group worksheet-based reteaching), and Tier 3 (MDIS). For example, in "Intervention Booklet C," "Computation with Whole Numbers Grades K–3," page 110 begins with teacher notes and answer keys for each topic. After the teacher guide, blackline masters of the student worksheets are available. This intervention guide does provide the teacher with a 20-minute mini-lesson, although most of that time is worksheet based. There are, however, some parts of the lesson that are teacher-driven, and materials provide notes about error prevention and how to help if students continue to struggle.

In fact fluency, teachers are provided with blackline masters of timed-facts quizzes. The only instructions for teachers are printed at the bottom of the page. For example, the multiplication timed practice says, "Use anytime after Topic 5." Materials provide no suggestions for how to improve fact fluency; no suggestions for how, when, or how often to work on fact fluency; and

no advice or research-based facts on why fact fluency is important and what fact fluency looks like at this (or any other) grade level.

The publisher Realize On-Demand Training website offers guidance for teachers and administrators to analyze and respond to data from diagnostic tools, including the following:

Administrators
Progress Monitoring and Reporting
Realize Reports Administrator Guide
Realize Reports: Getting Started for Administrators
Realize Administrator Assessments Recorded Webinar
Realize Reports FAQ
Realize: Data and Security FAQs

Teachers
Class and Student Data
Review and Score Assignments
Item Analysis Report

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4.3 Materials include frequent, integrated formative assessment opportunities.

- Materials include routine and systematic progress monitoring opportunities that accurately measure and track student progress.
- Frequency of progress monitoring is appropriate for the age and content skill.

Meets 2/2

The materials include frequent, integrated assessment opportunities. The materials include routine and systematic progress monitoring opportunities that accurately measure and track student progress. These include daily summative assessments, end-of-topic assessments, and quarterly summative assessments. There is also a formative assessment at the start of each topic. The frequency of progress monitoring is appropriate for the age and content skill.

Evidence includes but is not limited to:

The materials include an appropriate frequency of assessments that reflect the variable rate of student learning at this age. The materials for each grade level provide an online "Placement Test" at the start of the year and an online "End of Year Test," each of which has 40 questions that are a mix of multiple-choice and griddable problems. There is a review before each topic. Every lesson also contains a "Quick Check" that can be done either online or in the Student Edition (SE). The online version is a set of five multiple-choice questions that are scored online. In the SE, three of the problems in the independent practice pages are selected to be used as the Quick Check. These can be used to help prescribe differentiated instruction in step three of the lesson. There is an assessment after each topic; it occurs about every 2–3 weeks. Also, quarterly assessments can be found after every four topics. This benchmark test is composed of 24 questions that are a mix of multiple-choice and griddable problems. The materials state that these can be used as a predictor of success on state assessments.

The "Texas Assessment Resource Guide" at the end of the Teacher Edition also includes a performance task for each of the 16 topics in the program. Each task is composed of 4–6 open-response questions that look similar to those asked during the lessons or the independent practice pages. The guide also includes two "Practice Test Forms" with 48 questions each that model the format and rigor of the STAAR exam.

The materials include routine and systematic progress monitoring opportunities. The progress monitoring materials allow teachers to track progress using a spreadsheet that can track individual students or an entire class. Assessments can be taken online and have a read-aloud feature. Answer choices include griddables and multiple-choice problems that are auto-scored. Online assessments can also be edited. Printable assessments for each topic come in two forms: multiple choice and fill in the blank. The materials also state that the "Online Program Assessment System" can be used to edit the assessments included with the materials and that any district- or teacher-created assessments can be uploaded into the system; however, this resource was not made available for review.

Progress monitoring occurs daily through the Quick Check in the workbook. Monitoring occurs at the end of every topic with a topic test. Cumulative monitoring occurs every four topics. Checklists can help teachers keep track of progress. Online assessments may or may not provide digitally aggregated data. The frequency of progress monitoring in the materials is appropriate for the age and content skill. At this grade level, a daily assessment of 3–5 questions is appropriate. The five-question Quick Check at the end of every lesson is an appropriate daily progress monitoring tool. A chapter or unit test is also appropriate for this grade level. An assessment called "Show What You Know" can be administered before each topic to allow the teacher to modify instruction for students who have already mastered the content. The end-of-topic tests are suitable to measure summative progress and to compare growth when TEKS are spiraled in future topics.

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5.1 Materials include guidance, scaffolds, supports, and extensions that maximize student learning potential.

- Materials provide recommended targeted instruction and activities for students who struggle to master content.
- Materials provide recommended targeted instruction and activities for students who have mastered content.
- Materials provide additional enrichment activities for all levels of learners.

Meets 2/2

The materials provide recommended targeted instruction and activities for students who struggle to master the content as well as for those who have mastered the content; they provide enrichment activities for all levels of learners. The overall lesson design supports diverse learners. Supports within each lesson include the use of hands-on ors visual supports to help students develop conceptual understanding. There are lessons and support materials for struggling, on-level, and advanced students during and after each lesson. Intervention activities within the lesson reinforce the same model and problem-solving strategy used in the main lesson. Activities for on-level and advanced students provide extension within the same topic and encourage application to real-world tasks and discussion between peers.

Evidence includes but is not limited to:

Throughout the grade 4 instructional materials, each lesson is divided into three parts. Part one includes reviewing foundational skills, teaching the skill, reteaching, and an extension. The reteaching piece is meant for students who have not mastered the content, and the extension is for students who have mastered the content. Part two is the “Visual Learning Bridge,” which supports the development of conceptual understanding using interactive features of “Problem-Based Learning” tasks, leveled games, and a step-by-step “Visual Learning” activity. Some of the lessons have leveled games, which are played in small groups of two or four. In addition, there are print and digital resources for both the students and teachers that support each lesson. These resources allow the teacher to assess student learning and determine if students need intervention or enrichment. The third step of the lesson is called “Assess and Differentiate,” which includes a diagnostic page in the student workbook and allows teachers to reinforce and

extend students' learning. This step relies on the teacher using the provided "Quick Check" assessments from the previous portion of the lesson to prescribe differentiated instruction. An "Intervention Activity" is included for students who did not master the lesson content; it includes visual or hands-on practice followed by a "Reteach" worksheet that has step-by-step guidance for solving problems in order to strengthen concept attainment. There are also activities that are explicitly referenced as differentiated instruction for on-level and advanced students in the Teacher Edition (TE).

The TE contains a "Content Learning" section that includes prerequisite skills and future skills for every learning objective throughout the materials. In the TE, each lesson includes an "Essential Understanding" section, a "Math Background" section, and a "Skills Trace," which helps identify the skills from the previous grade level that are aligned with lessons in the current grade level in order to scaffold. This scaffolding document gives an overview of the skills learned in third grade that will help students master the fourth grade content in each lesson. It also shows the fourth-grade skills that will be used as a foundation for fifth-grade content and skills. For students who continue to struggle to master content, the instructional materials include a "Math Diagnosis and Intervention System" that the teacher can access by vertical grade-level band (K–3, 4–6) or by topic (the primary focal areas of K–5 mathematics as outlined in the TEKS). A teacher who is looking to address student gaps in place value, for example, can look at "Booklet A" and choose the lesson that addresses the discrete skill. Each intervention lesson focuses on three things: concept development, practice, and assessment. Concept development identifies in one sentence what the student will learn in the lesson. The rest of the concept development gives the teacher directions and questions to ask the student(s). The practice includes an error intervention that highlights the common mistake the student(s) may make. It also highlights what teachers can do with more time and how they can add to the lesson.

The materials provide opportunities for the teacher to check which students mastered the concept and which students are struggling. In Topic 10, Lesson 1, the Quick Check assessment uses the student workbook page from step 2, which included guided practice, independent practice, and problem-solving practice. The pages include 18 practice problems; three are marked in the TE to be used as the Quick Check. Two of the problems are worth one point, and the third problem is worth three points. Materials recommend that students who score three or fewer points participate in the intervention activity. The intervention guides students through a set of questions to divide a rectangle into a fraction bar and draw a line that represents fractions so that students can connect their learning to division through a variety of representations. The reteach practice worksheet shows several fraction models. The first problem set uses a set of heart shapes and asks students to name the denominator, numerator, and unit fraction. The next two problems ask students to use a model and equations to calculate the sum of unit fractions. The final problem asks students to draw a figure, set, or number line that models ⅖ and includes the equivalent sum of unit fractions.

“Advanced Activity Centers” are found in the third step of the lesson throughout the materials and are geared toward students who mastered the lesson content based on the weekly Quick Check. The materials include extension activities for students to explore and apply new learning in a variety of ways. Teachers assign games, “Problem-Solving Learning Mat” activities, “Technology Centers,” or “Math and Science Activities” for students to apply learning across other content areas. There are print and digital resources for both the students and teachers to support this step of the lesson.

The Activity Center choices provide a variety of online games, partner games, and small group games, as well as a research topic that allows students to apply the skills they learned in a variety of ways. Games allow students who have mastered the concept of adding fractions to apply that knowledge. In Topic 11, Lesson 1, students play dice games to choose fractions and practice adding. In Topic 11, Lesson 5, students practice subtracting fractions by solving the problems indicated by a toss of the dice. There are seven types of games for the year, and some sections include a two- or four-person game. The materials also provide a variety of online games for students to practice individual math concepts. One game, “Gem Quest,” requires students to collect gems labeled with a fraction and pair them with other gems to create the proper sum to unlock doors to each level. Some gems have improper fractions or equivalent fractions that must be used to unlock the doors. The game is rich with visual supports, including a simple fraction number line to help calculate the value of fraction pieces students need to finish a level.

In addition to the Activity Center, the materials provide opportunities for students that have mastered the grade-level content. Students examine their own work and the work of others so that they can analyze multiple strategies. Each lesson includes guided practice, independent practice, and problem-solving. The materials provide an extension activity at the beginning of the lesson and leveled homework labeled for advanced learners. At the end of the student practice, there are three bolded sections: “Explain,” “Justify,” and “Extend Your Thinking.” These sections require students to write descriptive answers rather than a numerical answer. Lessons also include a section called “Convince Me,” where students justify or explain their thinking.

The final student workbook page for each lesson consists of mixed-review free-response problems. The last problem is labeled Extend Your Thinking and involves higher-order thinking skills. In Topic 14, Lesson 1, in a problem-based activity, students draw two lines and describe how the lines are related. The students solve this problem in any way they choose. During the “Guided Practice,” “Independent Practice,” and “Problem Solving” sections of this lesson, students use key geometric vocabulary to describe images, construct arguments, draw pictures, and extend their thinking**.**

The materials include one cross-curricular project for each topic. The “Math and Science Project” for Topic 1 (“Place Value”) asks students to find the populations of five countries in the year 2010. In the report, students can make a place value chart, write each population in

expanded form, and make a table that orders the populations from greatest to least. The Math and Science Project for Topic 10 (“Fraction Meanings and Equivalence”) asks students to research patterns of change in the seasons, including information about where the Sun’s light hits Earth during each season. In their reports, students can include the dates when each season officially begins and a fraction of the duration of each season. The research project in Topic 14 (“Lines, Angles and Shapes”) includes researching food webs. As an extension, students research the human food web and make connections to the learning topic.

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5.2 Materials provide a variety of instructional methods that appeal to a variety of learning interests and needs.

- Materials include a variety of instructional approaches to engage students in mastery of the content.
- Materials support developmentally appropriate instructional strategies.
- Materials support flexible grouping (e.g., whole, small, individual).
- Materials support multiple types of practices (e.g., guided, independent, collaborative) and provide guidance and structures to achieve effective implementation.

Meets 2/2

The materials provide a variety of instructional methods. The guidance and support to teachers help them meet the diverse learning needs of all students, specifically addressing teaching approaches, instructional strategies, and flexible settings utilized to support the mastery of content. The materials support multiple types of practices (e.g., guided, independent, collaborative) and provide guidance and structures to achieve effective implementation.

Evidence includes but is not limited to:

Each lesson is divided into three steps. The first step is called “Problem-Based Learning,” which engages students in the content with the authentic “Solve and Share” problem. The Teacher Edition (TE) includes student work samples and questions to help students think deeply about the problem and analyze each other’s work. The “User’s Guide” section of the TE states that, during the Solve and Share, teachers can foster communication by having students share their thinking with a partner, small group, or the whole class. This section also explains the six different “Teaching Actions” that are embedded in the Solve and Share problem. The first two teaching actions are used before beginning the problem in order to start developing students’ understanding of the content required for the task. Teaching Action 3 is used during the Solve and Share when students are “stumped.” Actions 4 and 5 are used after the Solve and Share as part of a whole-class discussion. Teaching Action 6, “Extend,” is optional. The second step is the “Visual Learning Bridge” (VLB), which supports the development of conceptual understanding using interactive features of Problem-Based Learning tasks and the step-by-step “Visual

Learning" activity. There are print and digital resources for both the students and teachers to support this step in the lesson. The VLB relies heavily on making connections between visual representations and symbols. Materials sometimes suggest concrete manipulatives depending on the topic and lessons.

In Topic 2, Lesson 3, the intervention activity suggests that students use place value blocks to model three given regrouping addition problems.

The materials show support for flexible grouping: Each topic begins with a problem-based activity that is whole group. The VLB is the next step. Students work in a whole group and possibly with partners. After the "Quick Check," students are grouped for interventions. Intervention can be auto-assigned after a Quick Check, topic test, or benchmark test taken online. Customizable interventions are also available online.

Guided practice is supported in the TE with suggested questions and error analysis. Collaborative practice is achieved with center games, but the materials note that these games can be played independently. "Reading Mats" provide opportunities for group or independent practice. In the TE "Topic Planner," instructions tell the teacher to read aloud the Reading Mat before beginning the unit. The guidance for using the Reading Mats simply states: "Have students read the Reading Mat for Topic 8 and have students complete Problem-Solving Activity 8-6." The Reading Mat is about energy for transportation. The "Problem Solving Activity" includes two division word problems about cars. Word problems do not reference the Reading Mat in any way. Independent practice is primarily achieved in the Student Edition with an independent practice section and two pages of homework. Students may also be assigned an independent research project.

The materials include recommendations for diagnosing student needs and assigning an appropriate intervention. The teacher guide for Topic 2, Lesson 5, recommends assigning "Reteaching Set E" on p. 152 as Tier 1 intervention (reteach) for students who are struggling, but there is a limited number of these intervention sets. Every lesson has an "Intervention Activity" for students who scored 0–3 points on the Quick Check. In Lesson 2-5, the Intervention Activity has students use place value blocks to model two different numbers for subtraction.

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5.3 Materials include supports for English Learners (EL) to meet grade-level learning expectations.

- Materials must include accommodations for linguistics (communicated, sequenced, and scaffolded) commensurate with various levels of English language proficiency.
- Materials provide scaffolds for English Learners.
- Materials encourage strategic use of students' first language as a means to develop linguistic, affective, cognitive, and academic skills in English (e.g., to enhance vocabulary development).

Meets 2/2

The materials include supports for English Learners (ELs) to meet grade-level learning expectations. The materials include some accommodations for linguistics (communicated, sequenced, and scaffolded) commensurate with various levels of English language proficiency. The daily lesson format includes time for daily differentiation in which students of all levels can be provided with acceleration or reteach opportunities. Concepts spiral appropriately throughout the year and appropriately increase in depth and rigor for the grade level. The materials include linguistic accommodations for students who are learning English. The accommodations provide effective strategies that are scaffolded for individualized levels of English language proficiency. The materials encourage the strategic use of students' first language as a means to develop linguistic, affective, cognitive, and academic skills in English. The majority of graphic organizers included in the "ELPS Toolkit" include modifications that include native language support.

Evidence includes but is not limited to:

According to the "User's Guide," the Teacher Edition (TE) provides daily ELPS instruction that is used with a specific part of the lesson, such as the "Solve and Share," "Visual Learning Bridge" (VLB), or "Do You Understand?" One or more ELPS are taught in each lesson. Leveled instruction includes suggestions for students at Beginning, Intermediate, Advanced, and Advanced High levels of English language proficiency. EL consultants Janice Corona from Dallas, Texas, and Jim Cummins from Toronto, Canada ensured quality ELPS instruction. The ELPS Toolkit provides additional support for ELs, offering additional activities for support. Each lesson

provides instruction on one or more ELPS for ELs at the Beginning, Intermediate, Advanced, and Advanced High levels of English proficiency. The VLB in each lesson provides EL support. The "Visual Learning Animation Plus" provides motion and sound to help lower language barriers to learning. Questions that are read aloud also appear on screen to help ELs connect oral and written language. The VLB often has visual models to help give meaning to math language. Instruction visually organizes important ideas. The "Animated Glossary" is always available to students and teachers while using digital resources. Motion and sound help communicate the meanings of math terms. The glossary is in English and Spanish to help students connect Spanish math terms they may know to English equivalents.

At every grade level, the materials include the ELPS Toolkit, which is an 80-page English Language Proficiency Standards (ELPS) guide. The guide includes an "ELPS Overview," "Student Expectations for English Language Learners," and "Proficiency Level Descriptors." The ELPS Toolkit contains "Professional Development Articles" and "Graphic Organizers." The articles cover topics such as essential principles for building EL lessons, strategies for teaching ELs, vocabulary knowledge, and strategies. The materials encourage the strategic use of students' first language as a means to develop linguistic, affective, cognitive, and academic skills in English. The graphic organizers included in the ELPS Toolkit include modifications for native language supports. For example, on the "Frayer Model," the materials suggest students write the definition in their native language. This modification is suggested in several of the graphic organizers. When students complete the "Vocabulary Word Map," the materials suggest they work in partners with those speaking the same native language and with one student who is more proficient in English. When using the "Think, Pair, Share" strategy in a lesson, the ELPS Toolkit suggests the teacher pair Beginning and Intermediate ELs with more advanced or native English speakers.

The ELPS Toolkit explains best practices and graphic organizers to use with ELs. The first article, written by Jim Cummins, "English Language Learners in the Math Classroom," explains the need for explicit language support in the math classroom to help students develop language skills needed to be regarded as a fluent native speaker of English. The article lists five instructional principles central to teaching ELs effectively, which the materials say are the basis of the "ELL Curriculum Framework" included in the materials. Strategies include identifying and communicating content and language objectives, front-loading the lesson, providing comprehensible input, enabling language production, and assessing content and language understanding. The publisher used these five principles to infuse seven specific instructional strategies throughout the curriculum: model thinking aloud, partner talk, word lists, sentence frames, rephrasing, suggesting a sequence of steps to solve problems, and repetition. The Toolkit describes each of the five principles in detail. Both linguistic and non-linguistic supports and graphic organizers are included in the program.

Professional Development Articles also include "Five Essential Principles for Building ELL Lessons"; "Strategies for Teaching English Language Learners"; "Welcoming Newcomers to the Mainstream Classroom"; "Sheltering Instruction for English Language Learners"; "Vocabulary

Knowledge and Strategies"; "Multilingual Thinking Words"; and "Teaching Math to Culturally and Linguistically Diverse Students."

November 2020

Savvas enVision Grade 4

6.1 Materials include year-long plans with practice and review opportunities that support instruction.

- Materials include a cohesive, year-long plan to build students' mathematical concept development and consider how to vertically align instruction that builds year to year.
- Materials provide review and practice of mathematical knowledge and skills throughout the span of the curriculum.

Meets 2/2

The materials include year-long plans with practice and review opportunities that support instruction. The materials provide a year-long plan for content delivery that is cohesively designed to build upon students' current level of understanding and provides clear connections between lessons and grade levels. The materials include guidance to support the teacher in understanding the vertical alignment for all focal areas in math TEKS in preceding and subsequent grades. The materials include routine and systematic progress monitoring opportunities that accurately measure and track student progress.

Evidence includes but is not limited to:

Every topic begins with a "Math Background" section that explains how process standards and content TEKS are developed with visual models and relational thinking. Each lesson includes a specific background section that describes how previous learning will be used in the context of the new lesson with either the same models or applied to new ones. For example, in Topic 10, the background knowledge for teachers around Process TEKS within fractions explains how students formulate a plan by using a picture or interpreting a model. The section also explains how students must start with the same-size whole in order to find equivalent fractions or to compare them. The content explanation of fractions begins with an explanation that equivalent fraction parts must have the same size but not shape. The content explanation relates the fraction models to making equivalent fractions with multiplication or division.

In the Teacher Edition (TE) "Program Overview Guide," the materials provide several tools to support teachers and ensure concept development for students. The "Big Ideas" are the conceptual ideas of the program that provide conceptual cohesion across lessons, topics, and

grades as well as across TEKS and reporting categories. Big Ideas connect “Essential Understandings” that occur within and across lessons. The Math Background at the start of each topic shows the Big Ideas and Essential Understandings for the topic. For example, one of the Big Ideas is “basic facts and algorithms.” This Big Idea is found in the following fourth-grade topics: 2, 3, 4, 5, 6, 7, and 8. Another tool, “Grade 4 Contents,” lays out the focal points and TEKS found in each topic. The “Grade 4 Pacing Guide” lists the number of days it takes to complete each topic. The materials also contain a “Scope and Sequence” for each concept, grades K–5. The chart is shaded to show the grade in which a particular concept has been introduced, practiced, and applied. The materials have a “Skills Trace” document for each grade and topic. This tool supports the teacher in understanding the vertical alignment for all focal areas in Math TEKS in preceding and subsequent grades. For example, in the grade 4, Topic 14 (“Lines, Angles, and Shapes”) Skills Trace document, the middle column lists the fourth-grade TEKS 4.6A (“identify and describe points, lines, and planes”); the “Looking Back” column connects to third-grade Topic 12, TEKS 3.6B (“recognize rhombuses, parallelograms, trapezoids, rectangles, and squares”); the “Looking Ahead” column connects to fifth-grade Topic 12, TEKS 5.5 (“use attributes and properties to name and classify polygons”). The materials’ plan supports efficient planning for teachers by identifying directly-taught learning objectives within each unit as well as outlining opportunities for explicit connections to prior learning and review of other focal areas.

Every lesson also contains a “Quick Check” that can be done either online or in the Student Edition (SE). The online version is a set of five multiple-choice questions that are scored online. In the SE, three of the problems in the independent practice pages are selected to be used as the Quick Check. These can be used to help prescribe differentiated instruction.

The “enVisionMath 2.0 Content Guide” includes Big Ideas in Math, “Texas Focal Points,” a Skills Trace, and a Scope and Sequence. Explicit pacing guidelines are not provided; however, the materials appear to be set up for a sequential progression, one lesson per day. The materials provide reviews and practice throughout the curriculum. All 16 grade 4 topics begin with a “Review What You Know” page; every topic concludes with a review and test; every four topics include a test covering all four topics. “Today’s Challenge” also frequently includes the spiraling of the curriculum. Practice materials build upon previously taught content. All lessons begin with guided practice, followed by independent practice, and then homework. Materials contain consistent reviews in each topic in the form of a one-page Review What You Know, which contains a vocabulary review and mathematical concept review.

There is also an online professional development video at the start of every topic that explains what is covered in the topic and how it connects to other topics in the current and previous grades; it also shows how the visual models can be used to help students develop conceptual understanding. For example, the “Fraction” video explains that all the fraction models used in the topic support understanding of the number line model.

The Scope and Sequence lists color-coded strands that correspond to the TEKS; a visual chart displays when the strand is introduced, practiced, and applied throughout grades K–5. The materials include a “Correlations Guide” that breaks the TEKS into smaller objectives and lists both the SE and TE pages that address those TEKS and objectives.

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Savvas enVision Grade 4

6.2 Materials include implementation support for teachers and administrators.

- Materials are accompanied by a TEKS-aligned scope and sequence outlining the essential knowledge and skills that are taught in the program, the order in which they are presented, and how knowledge and skills build and connect across grade levels.
- Materials include supports to help teachers implement the materials as intended.
- Materials include resources and guidance to help administrators support teachers in implementing the materials as intended.
- Materials include a school years' worth of math instruction, including realistic pacing guidance and routines.

Meets 2/2

The materials include implementation support for teachers and administrators. The materials provide a scope and sequence outlining the TEKS as well as the vertical alignment of the TEKS. There are some supports and pacing guidance throughout the materials that serve as a guide for teachers and administrators to monitor progress learning as well as implement the program.

Evidence includes but is not limited to:

The materials include a scope and sequence aligned with the grade-level math TEKS; it outlines the order in which the TEKS are taught. Another document describes the connections of TEKS across grade levels. The materials include an overview of how they provide support to teachers, describing the resources the materials contain. The "Scope and Sequence" indicates a majority of lessons support the development of the TEKS, especially the primary focal areas in each grade level. The materials include a sufficient amount of lessons and activities to support a full academic year of learning and include time for pre-teaching and re-teaching content and skills based on periodic formative assessments. The materials include a school year's worth of math instruction, including realistic pacing guidance and routines. The pacing guides and lesson plans give evidence that the materials include lessons and activities for a full year of instruction. The units can be reasonably implemented within the time constraints of a school year, and the activities and routines within each lesson can reasonably be completed within the length of time suggested.

The materials include a “Correlations Guide” that breaks the TEKS into smaller objectives and lists both the Student Edition (SE) and Teacher Edition (TE) pages that address those TEKS and objectives.

The “Topic Planner” describes the content of each lesson, listing the TEKS and ELPS, “Essential Understandings,” materials and resources, and suggestions for professional development videos to help teachers build their background knowledge of the content or their teaching skills. Each lesson includes sidebars with additional questions to support students in making direct connections between mathematical content. Some sidebars remind teachers to encourage students to use a concrete model or a representation or to specifically reference a whole class lesson or activity to activate prior learning of a topic.

The Scope and Sequence lists color-coded strands that correspond to the TEKS; a visual chart displays when the strand is introduced, practiced, and applied throughout grades K–5. The “Skills Trace” document highlights the current-grade-level TEKS listed in order by topic, as well as correlated TEKS from the previous and next grade levels in an easy-to-read, three-column format.

The TE has a “Program Overview Guide,” which supports teachers in understanding how to use the materials as intended. The materials have a “Getting Started” guide to support teachers in the first steps of using the materials; it contains a list of the included materials, an explanation of the lesson structure, recommendations for storage to access materials easily, and tips to prepare for instruction. The materials also have a “User’s Guide” to support teachers; this includes a list of the included materials and their purpose, an explanation of the lesson structure, assessment resources, support for EL students, and guidance on finding additional professional development. In the Program Overview Guide, materials provide several tools to support teachers and ensure concept development for students. “Big Ideas” are the conceptual ideas of the program that provide conceptual cohesion across lessons, topics, and grades as well as across TEKS and reporting categories. Big Ideas connect “Essential Understandings” that occur within and across lessons. The “Math Background” at the start of each topic shows the Big Ideas and Essential Understandings for the topic.

While the materials do not include resources specifically stated to help administrators support teachers in implementing the materials as intended, the implementation and overviews for teachers would suffice in helping administrators support teachers in implementing the materials effectively. The materials include tools to support navigating the resources, including a table of contents in each unit as well as tabbed pages to identify weeks within units easily and to separate lessons from blackline masters and assessment tools.

The pacing guides and yearly plans give evidence that the materials include lessons and activities for a full year of instruction. In the Program Overview Guide, a pacing document shows the total number of days for each topic. The document shows a total number of 120 days

for instruction. Pacing assumes one lesson per day. Additional time may be spent, as needed, on review, remediation, differentiation, and assessment. The materials include a school year's worth of math instruction, including realistic pacing guidance and routines. It includes 16 on-grade-level topics and one "Step Up" topic that contains 10 days of activities and TEKS for the next grade level. The Step Up topic focuses on a different skill each day. Each lesson follows the same three-step format. The first step is to be completed in 10–15 minutes. Step two is to be completed in 20–30 minutes. Step three is to be completed in 15–30 minutes. This timing means each lesson can be completed in 45–75 minutes, which can accommodate any math block set by LEAs.

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Savvas enVision Grade 4

6.3 Materials provide implementation guidance to meet variability in programmatic design and scheduling considerations.

- Materials provide guidance for strategic implementation without disrupting the sequence of content that must be taught in a specific order following a developmental progression.
- Materials are designed in a way that allow LEAs the ability to incorporate the curriculum into district, campus, and teacher programmatic design and scheduling considerations.
- Materials support development of strong relationships between teachers and families.
- Materials specify activities for use at home to support students' learning and development.

Meets 2/2

The materials support teachers in identifying the developmental progression of content and skills to ensure that students are supported with instruction organized to optimize their learning. The materials also provide a suggested sequence of units that considers the interconnections between the development of conceptual understanding and procedural fluency and provides recommendations about the required order of units if implementation requires a change in the suggested order of units.

Evidence includes but is not limited to:

In the "Program Overview," there are many tools to ensure the sequence of content is taught in an order consistent with the developmental progression of mathematics. This overview discusses the "Big Ideas" in mathematics for each grade level and highlights the "Texas Focal Points." A "Skills Trace" document shows which TEKS are taught prior to the current grade level and which TEKS will be taught in the next grade. The "Scope and Sequence" document lists the TEKS throughout grades K–5. It highlights when the TEKS will be introduced, practiced, and applied. The "Pacing Guide" identifies the suggested number of days to spend on each topic. Each lesson component is given a time frame (Step 1: 10 to 15 min; Step 2: 20 to 30 min; Step 3: 15 to 30 min.)

The materials provide support for LEAs to consider how to incorporate the materials into a variety of school designs. The daily lessons allow for instruction each day to range from 45 to 75 minutes so that teachers can decide whether to spend more time in the first step of the lesson as concepts are introduced or in the third part of the lesson, allowing for differentiation. The materials in step 3 incorporate other content areas, such as reading and science, and can be used as stations during other content instruction blocks. The arrangement of lessons by topic allows LEAs to be able to shift topics in order to allow for cross-curricular lesson plans that may occur in project-based learning or STEM-focused classrooms. The online assessment program also allows for teacher- and district-created assessments to be entered into the system, included in reports used for planning instruction and differentiation. The online component offers flexibility in planning, teaching, learning, and progress monitoring. It is easy to navigate, assign resources, search, customize, plan, assess, and analyze data. The interactive rich-media lessons cover 100% of TEKS and ELPS. The lesson plans are customizable and can be organized by day, week, or month. District-created content or teacher's content can be uploaded. The materials can be aligned with the district framework. Topics or lesson content can be resequenced to match district-level curriculum guides or individual teacher's scope and sequence preference. Blackline masters can be edited for "Daily TEKS Review" and online assessments.

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Savvas enVision Grade 4

6.4 Materials provide guidance on fostering connections between home and school.

- Materials support development of strong relationships between teachers and families.
- Materials specify activities for use at home to support students' learning and development.

Meets 2/2

The materials provide guidance on fostering connections between home and school. The materials provide support to develop strong relationships between teachers and families. The materials specify activities for use at home to support students' learning and development.

Evidence includes but is not limited to:

The materials' resource section provides teachers with one home-school connection for each topic, for a total of 16. The home-school connection begins with a very short letter (addressed "Dear Family") that provides a quick overview of the topic and includes an activity to do at home. The letter summarizes the TEKS included in the topic and suggests an activity to reinforce concepts at home. Letters are available in English and Spanish.

In Topic 10, students work with multiple models of fractions to model equivalent fractions. The home activity focuses on simply matching equivalent fractions without the use of a model.

In Topic 14, the parent letter explains that students will be learning about geometry. The letter describes how students will learn about basic shapes and determine the approximate measure of an angle to the nearest whole number. After the description of learning, there is a game to play to review the figures learned. This page gives families an overview of the content in the topic. The recommendations encourage the development of strong relationships between teachers and families. The home-school connection was found in the online resources.

Each topic also has a "Math and Science Project." The materials provide a paper copy of the TE and Student Edition workbook. These are also found online as an "eText." The "Today's Challenge," "Solve and Share," and "Visual Learning Animation Plus" sections of the lesson are

interactive online. Students use a text box, writing tool, and eraser to show their work. The animated glossary and math tools are also available online. These online materials allow parents to work with their children on specific skills.

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6.5 The visual design of student and teacher materials (whether in print or digital) is neither distracting nor chaotic.

- Materials include appropriate use of white space and design that supports and does not distract from student learning.
- Pictures and graphics are supportive of student learning and engagement without being visually distracting.

Meets 2/2

The visual design of student and teacher materials (whether print or digital) is neither distracting nor chaotic. The materials include appropriate use of white space and design that supports and does not distract from student learning. Pictures and graphics are supportive of student learning and engagement without being visually distracting.

Evidence includes but is not limited to:

The materials are designed to support student learning; the daily three-step lesson format has predictable routines for students to follow. The Teacher Edition (TE) is designed with clear, designated places for important information; information is located consistently in the same place for each phase of a lesson or topic. The TE includes instructional support; information is clearly stated and easily identified on the pages. The sample student pages included are still readable, and the callout boxes are easy to read. The TEKS and "Math Background" sections consistently appear at the beginning of each topic. Supports for English Learners are on the first page of every lesson, along with the "Essential Understanding," TEKS, and suggested materials. The materials adhere to "User Interface Design" guidelines.

The materials include appropriate use of white space and design that supports and does not distract from student learning. The repetitive format makes accessing content easy. In Topic 12, Lesson 1, the "Solve and Share" has students choose items to fit different units of customary measurement. The student workbook page provides ample space for student work. As the lesson progresses, students relate customary units of length. The pages of the student book for this lesson have large print, simple graphics, and plenty of white space, except on the Quick Check. The first page is the guided and independent practice, which consists of 12 questions;

the second page is problem-solving practice, which consists of seven questions. There is not sufficient room for students to show their work; however, any tables, charts, and visuals included are clear and concise, without being distracting.

Pictures and graphics are supportive of student learning and engagement without being visually distracting. The materials have clean, easily readable, and recognizable pictures and graphics for students that support student learning. The characters in the materials clearly offer encouragement, hints, and prompts. The diversity of the characters is a real strength of the program. The pictures and graphics for student use adhere to User Interface Design guidelines. The vocabulary cards are easy to read, and the pictures in the whole class lessons support concept development.

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Savvas enVision Grade 4

6.6 If present, technology or online components included are appropriate for grade level students and provide support for learning.

- Technology, if present, aligns to the curriculum's scope and approach to mathematics skill progression.
- Technology, if present, supports and enhances student learning as appropriate, as opposed to distracting from it, and includes appropriate teacher guidance.

Not Scored

The materials' technology component aligns with the curriculum's scope and approach to mathematics skill progression. The materials contain technological components that enhance learning. The technology components align with the scope and sequence of materials and highlight skills related to the primary focal areas. The technology components support the materials' progression of math content and skills introduction and practice and are often used as part of the daily three-step lesson format. The materials contain digital features to enhance and not replace or detract from classroom learning.

Evidence includes but is not limited to:

The materials contain an online student textbook, online teacher textbook, some online games, digital "Today's Challenge," online "Visual Learning Bridge," digital and editable assessments, an active e-book, and online tools.

The materials include a variety of online games for students to practice individual math concepts. These are typically an option for students during math centers at the end of the lesson block. The Teacher Edition does not state that they are to be used daily, but they are often listed 2–3 times within a topic. The materials state the games "provide practice on the lesson content or prerequisite content." The games are rich with visual supports and animations and offer hints when students press the help button within the game.

For example, "Fraction Frenzy" requires students to select the correct operation and fraction in order to move a crane to the correct fraction on a number line so it can collect a robot. Every use of the crane depletes energy in the tank, thus encouraging students to make careful

calculations so as not to waste energy. Collecting five robots wins the round. “Cosmic Caravan” requires students to make an array of the correct size in order to power a rocket. In “Galaxy Hunt,” students explore place value by collecting atoms of different values up to the millions place in order to reach a target. In “Robo Launch,” students launch robots into machines to see how they change. Once they know the operation a machine performs, they must guess the value of a mystery robot. In “Goblin Globbs,” students explore place value relationships by gobbling ten thousand and thousand globs to reach a target number. In the “Amazing Savings” game, students need to save enough cheese so they can collect a key and unlock a door to the next level. They can also spend cheese on special items within the game. “AddIt” has students practice adding three numbers with multiple digits using colorful shapes.

The materials contain technological components that enhance learning and align with the scope and sequence of the program. The materials provide a consistent process for each lesson: “Solve and Share,” then “Visual Learning,” then “Assess and Differentiate.”

Step 1, Solve and Share, introduces a lesson by giving students a problem in which some important math ideas are embedded. Students solve the problem in any way they choose. The Solve and Share is online and most helpful during “Teaching Action #4,” which is “Share and Discuss Solutions.” Students can share their solutions using the draw pad; the teacher can also write on the screen during the whole class discussion. The Solve and Share is assignable online to individual students. The teacher can also share sample student work.

Step 2 has an online component called “Visual Learning Animation Plus Online.” During this step, there is direct instruction with the provided guiding questions. The animation and audio enhance learning, which is hosted by the avatar. There is a pause after a question, allowing for interaction.

The online component also has links to an animated glossary and math tools. As students navigate through the digital platform, the Solve and Share portion shows math tools found on the right side of the page (e.g., writing tool, text box). The tools are also available in Visual Learning (Step 2).

Materials do not provide guidance on how to use technology to support students. It is worth noting that online technology consistently had connectivity and loading issues and, at times, was completely inaccessible.