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McGraw Hill Texas Math 6-8 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 6	100%	100%	100%	100%
Grade 7	100%	100%	100%	100%
Grade 8	100%	100%	100%	100%

Section 2. Concept Development and Rigor

- Materials concentrate on the development of the primary focal areas outlined in the TEKS.
- Concepts sequence from concrete to representational to abstract (CRA), and materials provide support to teachers in understanding and 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 opportunities to develop their self efficacy and mathematical identity by sharing strategies and approaches to tasks and selecting appropriate tools for the work, concept development, and grade (e.g., calculator, graphing program, virtual tools).
- Materials 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 and guidance for teachers and students to monitor progress.
- Guidance is provided for teachers and administrators to analyze and respond to data for planning further instruction.
- 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.
- Instructional methods 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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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

Throughout the lessons, the materials concentrate on the development of the primary focal areas for the grade-level as outlined in the TEKS. In addition, materials strategically and systematically develop this content knowledge through appropriate practice opportunities, ensuring students achieve proficiency.

Evidence includes but is not limited to:

The online materials contain resources that clearly state the focal areas of a unit, and those focal areas align with the grade-level TEKS. Chapters cover the following focal areas: proportionality, expressions, equations, relationships, foundations of functions, measurement, and data. Academic rigor increases over time to meet the full intent of the primary focal areas. Each chapter's "Teacher Plan" includes a "Practice and Apply" section that summarizes how problems increase in complexity level from 1–4. These levels roughly correspond to the levels on Bloom's Taxonomy.

Each chapter begins with an "Are You Ready?" check to ensure each student has the necessary skill set to be successful. If students are unsuccessful, teachers have access to a quick review and four reteach options. To help students access this material, teachers summarize tools and tricks that support their learning. In Chapter 1, students memorize a mnemonic device that helps them recall order of operations strategies. In Chapter 2, they use a word web to compare and contrast math vocabulary words. In Chapter 3, they review necessary vocabulary from previous grade levels. In Chapter 4, they are reminded how to read and decompose math word problems.

Each chapter includes a TEKS trace, chapter overview, and pacing guide. TEKS trace focuses on the progression of knowledge and skills within the grade level. Chapter overviews highlight what students have already learned and what they will now develop. Pacing guides clearly state the focal areas of individual lessons. For example, a chapter on proportional relationships and slope includes background and TEKS information for constant rate of change, slope, equations in $y=mx+b$ form, and graphing linear equations. Additionally, each lesson plan lists how exercises, problems, and questions align with the TEKS.

Lessons display the importance of introducing and reviewing key concepts by outlining how previous concepts relate to current concepts. In Chapter 3, the previous concept had students use similar triangles to develop an understanding of slope; the lesson plan describes how this concept aligns with the current concept of having students represent linear proportional relationships. The “Teach the Concept” portion of each lesson summarizes how to introduce each concept while also providing the teacher guidance for students who are approaching, on, or beyond grade level. This section sometimes includes alternative strategies for students to collaborate and additional suggested TEKS for spiraling. The previously mentioned lesson 3-4 includes two alternative activities: “Pairs Consult” and “Find the Fib.”

Each lesson includes real-world situations promoting the application of mathematics to everyday life. In Lesson 3-5, “Direct Variation,” a real-world problem explains how the heart of a blue whale can weigh up to 4,000 pounds. A corresponding table summarizes how many gallons of blood this heart needs to pump. Students use the table to find the constant rate of change before writing an equation in $y=mx$ form to represent the situation. Next, students graph the equation, determine the slope of the line, and interpret its meaning. Students complete this practice by answering the following question: “Is there a linear proportional relationship between these two quantities? Justify why or why not.” Within each lesson, students have ample opportunity to practice focal area skills.

In Chapter 10, students practice math concepts related to loans and investments. They explore an online loan calculator, practice multi-step examples that focus on the cost to repay a loan, and take part in a personal portfolio project. Teachers have access to differentiation recommendations for verbal, auditory, and kinesthetic learners. Generally speaking, students practice through sets of examples, guided practice, multi-step problem solving, and “H.O.T Problems,” or Higher Order Thinking problems. Beyond this, teachers have access to alternative activities and chapter projects so students can practice necessary skills. Finally, diagnostic, formative, and summative assessments are interwoven between lessons; teachers can use these results to plan and provide students individualized intervention.

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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.

Meets 4/4

The materials sequence concepts from concrete to representational to abstract (CRA) as is appropriate for the grade-level and content. Throughout the lessons, the materials include a variety of types of concrete models and manipulatives, pictorial representations, and abstract representations, as appropriate for the content and grade level. They also support teachers in understanding and appropriately developing students' progression along the CRA continuum.

Evidence includes but is not limited to:

The materials include a variety of types of concrete models and manipulatives, pictorial representations, and abstract representations, as appropriate for the content and grade level. The online virtual manipulatives resource included with each lesson provides students with a digital means to explore concepts and teachers with a way to create problem-based learning opportunities. The resource contains algebra tiles, base ten blocks, centimeter cubes, a clock, connecting cubes, currency, fraction circles and tiles, geoboard and bands, a hundreds chart, number cubes, number lines, a spinner, tangrams, a thermometer, and two-color counters. Also included in this resource is a variety of hands-on manipulatives to be used within the classroom. The materials provide pictorial models within the lesson components so that students can transition from their concrete exploration to representational practice. To further increase the rigor toward the abstract, the materials include multi-step problem solving and higher-order thinking questions.

Throughout the materials, teachers are given suggestions on how to understand and appropriately develop students' progression through the CRA continuum, whether they are

approaching, on, or beyond grade-level proficiency. The “Are You Ready” section in the chapter overview of the teacher plan has “Quick Checks” for the teacher to gauge student understanding, and if students have difficulty with any exercises, the materials provided an additional example to clarify misconceptions. This section also included a diagnostic test.

In Chapter 2, students learn similarity and dilations in triangles. Teachers begin with a hands-on lab reviewing similar triangles, which progresses to a lesson of properties of similar polygons. In this modeling activity, students measure the angles of a pre-given model with a protractor and place the angle measurements on a table. Students express the lengths of the corresponding sides of the triangle as ratios. Using what they noticed in the previous activity, students create a triangle with a specific angle measure. After they have created the triangle, they create their ratios for the side of the triangle. Teachers are provided with checkpoint guidance within the lab lesson with the objective that students should be able to answer, “HOW can I analyze relationships between two triangles with the same shape but different sizes?”

In Chapter 3, materials use a variety of concrete models and manipulatives, pictorial representations, and abstract representations to introduce dilation. In a hands-on lab lesson on dilation, students draw the image of triangle XYZ after a dilation of a scale factor of $\frac{1}{2}$, where point C is the center of dilation. Students use a ruler to draw line segments connecting point C to each of the vertices. Then students measure line segment CY with a ruler and draw point Y' on line segment CY so that line segment CY' is $\frac{1}{2}$ of line segment CY. The process continues for the remaining two sides, and then students draw triangle X'Y'Z'. After the lab, students see how a dilation uses a scale factor to enlarge or reduce a figure. In the introduction, students complete an example of a dilation using a model drawn on a coordinate plane. Following the introduction, the guided and independent practice contains a variety of questions asking students to determine the coordinates of the vertices of given figures after the dilation with a given scale factor k with and without models.

Chapter 5, Triangles and the Pythagorean Theorem, begins with a “Quick Check” that includes a picture of a coordinate plane that students need to use to graph. It continues with a foldable that gives an explanation of the Pythagorean Theorem then moves on to tables, angles, and graphic organizers to reinforce the concept. The rigor is increased within the chapter as students are expected to use their graphing calculator to display their findings.

In the hands-on lesson on nets of cylinders in Chapter 7, students measure a cylindrical container with a lid. After measuring the height of the container, students cut the container so it lays flat. Students then measure the flat dimensions and determine the area of each shape and the total area. Students complete a table based on two given pictorial models of cylindrical items. This table includes the area of the top with the formula provided, area of the bottom, area of the curved surface, and total surface area. Finally, students explain how to determine the area of the curved surface and write the formula to determine the surface area. This process of moving from concrete to abstract is used in all hands-on lab lessons.

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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 provide strategic and integrated instruction in all components of mathematical rigor: conceptual understanding, procedural fluency, and application. Throughout the lessons, the materials include some support for students to build their vertical content knowledge by accessing prior knowledge and understanding of concept progression. The materials also include some tasks and problems that intentionally connect two or more concepts, as appropriate, for the grade-level and provide opportunities for students to explore relationships and patterns within and across concepts. The materials have support for teachers in understanding the horizontal and vertical alignment guiding the development of concepts.

Evidence includes but is not limited to:

The materials include supports for students to build their vertical content knowledge by accessing prior knowledge and understanding of concept progression. The materials contain tasks that use familiar models and strategies from previous units but do not always connect to what will be used in future grade levels. For example, the “Plan and Present” resource in each chapter contains tasks that direct teachers to build on students’ prior knowledge before presenting a new concept or problem aligned to a grade-level focal area.

The materials also include tasks and problems that intentionally connect two or more concepts as appropriate for the grade-level; however, the materials do not always explicitly have

students connect mathematical ideas. The materials also provide opportunities for students to explore relationships and patterns within and across concepts. The multi-step problem solving does contain spiral review, and some of the teacher examples mention a specific strategy. In Chapter 3, Proportional Relationships and Slope, students make connections among various mathematical ideas. The materials provide some tasks that help students connect concepts appropriate to their grade level, such as similar figures. In Lesson 3-3, Slope and Similar Triangles, students need to reference their previous experience with similar shapes to describe slope. Given the ordered pair vertices of a triangle, students draw a triangle on a coordinate plane, then create another triangle with another set of ordered pairs, and answer what is true about the triangles they created. The lesson continues into similar triangles and slopes when students answer the question, “How is the slope of a line related to the similar slope triangles formed by the line?” These materials provide opportunities to understand how mathematical ideas connect to one another.

In the digital components, within the “Teach the Concept” tab, a section entitled “Mathematical Background” explains how to connect new learning to previously learned concepts, knowledge, and skills. In Chapter 5, Triangles and the Pythagorean Theorem, before addressing the Pythagorean Theorem and its uses, the material provides teachers with options to review calculating squares and square roots to begin the development of the rules for using the Pythagorean Theorem to solve problems. The materials provide vertical content knowledge for teachers with a “Lesson Launch” for each lesson in the unit. These launches use prior student understanding to prepare students for what is to come. Teachers are also given a diagnostic test to administer to students to gauge their understanding of the previously learned concepts, knowledge, and skills. Throughout the materials, students are given familiar models and strategies to connect what has been learned to what will be learned within that particular grade level.

The “Plan and Present” resource in each chapter of the material supports teachers in understanding the horizontal and vertical alignment guiding the development of concepts. Within the “Chapter Overview,” the section entitled “Mathematical Background” explains how the skills covered in each lesson progress vertically and horizontally, enhancing the teacher’s understanding of how students should progress in their knowledge and skills throughout the materials. Information about how the materials connect to the next grade level is limited. In Chapter 6, Equations and Inequalities, there is no mention that students will use the same strategies to solve multi-step equations with the distributive property in later years. Although the materials contain the entirety of what is necessary for eighth grade standards, there is little mention of the vertical alignment to Algebra 1. Teachers are provided with a table of contents and brief pacing that provides the topic and a suggested number of days. Teachers are also given a correlation document that outlines which TEKS are covered in each lesson. There is some correlation provided to teachers between current TEKS and those covered in previous grade levels, hinting at vertical alignment, but there is no evidence in the materials that teachers are provided with an explanation of the depth, breadth, and complexity of current concepts and their connections to the expectations of student understanding for the next year.

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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 designed to engage students. These tasks address content at the appropriate level of rigor and complexity (conceptual understanding, procedural fluency, or application) as identified in the TEKS and as appropriate for the development of the content and skill. Throughout the lessons, the materials integrate contextualized problems, providing students with some opportunities to apply math knowledge and skills to new and varied situations. The materials also include some teacher guidance on anticipating student responses and strategies. The “Mathematical Processes Handbook” outlines for the teacher the mathematical concepts and goals behind each task.

Evidence includes but is not limited to:

Throughout the materials, students are guided through CRA with increasing depth and complexity. In Chapter 1, conceptual understanding is built by launching the lesson where students compare the lengths of some of the smallest mammals by measurements given in the form of fractions and decimals. The teacher-led examples in this lesson progress through the procedure by comparing real numbers, ordering a given set of real numbers, and solving a real-world example. The guided practice continues to move through procedural to real-world problems and concludes with multi-step problem solving. Each lesson throughout the materials

follows this pattern to ensure students work through the CRA process. As the year progresses, the complexity of the units increases. The eighth-grade chapters progress from real numbers through similarity and dilations to proportional relationships and slope. The skills learned in these are used in future units such as functions, Pythagorean Theorem, geometry, and transformations. The year ends with gaining a deeper understanding of scatter plots and data analysis.

Students work through the CRA process, and the materials outline for the teacher the mathematical concepts and goals behind each task. The materials provide a mid-chapter check and formative assessments in the guided practice section to assess students' understanding of the concepts being taught in each lesson. Chapter 1 has a formative assessment where the teacher has students create their own story problem. Students trade their problems, solve each other's problems, and compare solutions. If the solutions do not agree, students work together to find the errors. There is some evidence that explaining how following the progression of each task builds student efficacy towards mastery or conceptual understanding.

The materials provide some teacher guidance on preparing for and facilitating strong student discourse grounded in the quality tasks and concepts. Throughout the materials, teachers are provided with questions and activities to facilitate and support discourse, but there are no rubrics to provide feedback during verbal discourse. In Chapter 3, teachers are provided with directions for facilitating students through the activities of "Teammates Consult" and "Pairs Consult." To engage in the Pairs Consult, students work in pairs to alter the scenario in a given exercise so that it would be a proportional linear relationship. Students graph that relationship and compare it to the graph of the relationship originally provided, then note any differences in the slope and y-intercept. Teachers are not provided with how to direct student misunderstandings or misconceptions. In the materials, rubrics are provided for the performance-based tasks, but there is no evidence of rubrics provided for teachers to give students feedback based on discourse. The ELL guide does provide rubrics to assess the oral and writing skills of students who are English Learners, but not all students.

The materials provide some teacher guidance on anticipating student responses and strategies. For example, the "Plan and Present" section in the teacher reference section reviews essential questions and provides sample answers. The "Practice and Apply" tab includes a section entitled "Watch Out," which provides teachers with common misconceptions on student responses and strategies, as well as how to combat those misconceptions. In Chapter 3, Proportional Relationships and Slope, the essential questions have sample responses provided, such as "How can you use a table to determine if there is a proportional relationship between two quantities?" with the sample answer of "You can write the ratio a/b for each pair of points in the table to determine if a constant ratio exists." In a Chapter 4 lesson, Relations, the materials inform teachers that students may think because the graph of an ordered pair does not form a line, there is no relation. Teachers are instructed to remind students that a relation is any set of ordered pairs, and it does not have to form a line. Throughout the materials, teachers are provided with possible student responses to questions and tasks. The examples in

the teacher plan may have teachers use a specific strategy, but they do not rationalize why the strategy is appropriate at that time. The materials are not sequenced based on the complexity of the strategy, but rather on the ability level of the students or the complexity of the questions, which can be identified in the Practice and Apply section of the teacher plan.

The materials integrate contextualized problems throughout, providing students some opportunity to apply math knowledge and skills to new and varied situations. In Chapter 6, Equations and Inequalities, the chapter opens with a connection to the Fiesta de las Flores in El Paso, Texas. Students solve a proportion to calculate the tip a family should leave for dinner during the festival. In a Chapter 9 lesson about mean absolute deviation, students compare the number of points scored by two basketball teams. Students plot each set of data on a number line, find the mean of each set of data, plot the means on the number line with the star, find the range of each data set, and compare and contrast how each set of data is related to its mean.

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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.

Meets 4/4

The materials provide teachers with guidance and support for conducting fluency practice as appropriate for the concept development and grade. Materials integrate fluency at appropriate times and with purpose as students progress in conceptual understanding. Additionally, materials contain some scaffolds and supports for teachers to differentiate fluency development for all learners.

Evidence includes but is not limited to:

Materials include some teacher guidance and support for conducting fluency as appropriate for the concept development and grade. Each lesson progresses from basic practice to Higher Order Thinking questions. The mathematical backgrounds included in each chapter overview explain how students achieved conceptual understanding in prior grades. In the lessons that follow, the materials contain reteach strategies and techniques on how students who have not yet shown fluency can hone or demonstrate their fluency with the “new” material. The materials provide fluency activities that encourage strategic and flexible use of strategies.

The “English Language Learner’s Guide: Book G” provides the teacher with a comprehensive reference that supports connections between concept development and fluency. The guide begins with “Building Math Concepts and Language Skills.” It includes sections like “Helping All Children Learn Mathematics” and “Integrating Language Development with Mathematics.” The

Integrating Language Development with Mathematics section is broken down into seven key goals that allow teachers to meet the challenges of combining second language instruction with mathematics. However, there is no evidence that the materials describe the purpose behind the fluency practice within these programs.

The materials integrate fluency opportunities as appropriate for the concept development and grade, but it is not always explicitly stated. For example, Lesson 5-3a models right triangle relationships and targets students' understanding of the Pythagorean theorem model on graph paper. Students use graph paper to complete several more problems, but there is no reference to building fluency. In Lesson 6-1, the teacher asks an approaching level student how to set up a model for an equation and then asks why one tile needs to be removed. Reteach activities are only provided for the current lesson and not for a previous skill to help students who have not yet mastered the desired level of fluency make connections to previous concepts. Instead, fluency practice worksheets are found online.

The materials do include scaffolds and supports for teachers to differentiate fluency development for all learners. The "Plan and Present" resource included with each lesson provides scaffolding suggestions for students needing additional experiences and opportunities to meet grade-level fluency expectations. For example, within the "Launch the Lesson" tab of Lesson 5-5, Distance on the Coordinate Plane, the materials explain that students may benefit from a quick review of the Pythagorean Theorem and how it can be used to determine the length of the hypotenuse of a right triangle when the lengths of the legs are known. The materials also provide guidance for determining if students need differentiated supports for fluency activities within each chapter. Each chapter includes diagnostic assessments to assess student fluency. Also, within the "Are You Ready" section in the Chapter Overviews, there is an online readiness quiz and a quick review. Based on the results of this diagnostic exam, students receive a table to address their individual needs before beginning the chapter. The same occurs for students approaching level, needing intensive intervention, or performing beyond level.

While the materials provide numerous opportunities to support fluency, the textbook and accompanying resources do not provide a specific year-long plan for building fluency to the concept development and expectation of the grade level. Materials do provide a content brief, which can be found in the program overview. Also, each chapter provides a pacing guide for the expected amount of time each lesson or activity should take.

The "Quick Review Math Handbook" found in each chapter gives students the opportunity to refresh their memory of mathematical concepts and skills. Each chapter has several topics that give to-the-point explanations of key mathematical concepts. The fluency practice worksheets found online for each chapter allows for continuous practice and reinforcement of basic facts. Also, each course contains graphic novels, which provide real-world problem-solving situations in a graphic novel format. These novels, along with the accompanying worksheets and teacher guide, reinforce major topics from the course and provide teachers with guidance and strategies for supplementing core instruction.

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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.

Meets 4/4

The materials provide support to students in the development and use of mathematical language. Throughout the lessons, the materials include embedded opportunities to develop and strengthen mathematical vocabulary. Online materials include guidance for teachers on how to scaffold and support students' development and use of academic mathematical vocabulary in context.

Evidence includes but is not limited to:

The materials include embedded opportunities to develop and strengthen mathematical vocabulary. The "Plan and Present" resource included with each chapter demonstrates a strategic approach to developing the mathematical vocabulary of students. The "Chapter Overview" resource includes a "Vocabulary" tab that contains a list of the vocabulary words for the chapter. Additionally, materials contain vocabulary activities, "Visual Kinesthetic Vocabulary Cards," and the "Student Built Glossary" that can be used as a vocabulary study guide. Finally, each Chapter Overview includes the "Texas Course Glossary" with definitions for vocabulary necessary for the lessons. The materials highlight the continued use of vocabulary; however, there are no learning goals that explicitly address the development of mathematical vocabulary.

The "Professional Development" section also provides an opportunity for teachers to strengthen the students' vocabulary. In this section, a teacher can find an article on developing academic vocabulary. This document outlines the need and strategies for teaching academic vocabulary to students. One such learning strategy for teaching academic vocabulary is using context to unlock the meaning of unknown words or using the Six-Step Strategy outlined by Marzano.

The materials do support language development and the use of academic vocabulary for English Learners (ELs) by looking up cognates for the given mathematical vocabulary. The ELL handbook also provides language prompts for Beginner, Intermediate, and Advanced students that are oral and written discussion starters. Although the materials note the ELPS, the learning goals do not address the development of mathematical vocabulary. The materials use formal vocabulary throughout the lessons rather than using informal language to make connections. For example, Lesson 3-6 uses the mathematical language of y -intercept when solving basic problems. There is no use of informal language to represent the y -intercept when solving the multi-step problems.

The vocabulary is clearly outlined and intentionally introduced in the appropriate chapter of each lesson. The teacher plan also directs teachers to have students follow the routine choral reading of saying each term out loud and having students say each term out loud after the teacher. The materials provide cooperative learning strategies that allow students to listen, speak, read, and write using the mathematical vocabulary embedded in a set of problems or tasks. Chapter 4, Functions, lists the vocabulary words at the beginning of the chapter then prompts students to complete the “Reading Math” section. In this section, students read the problem, identify the important words and numbers, simplify the problem keeping all of the important words and numbers (however, using fewer of them), and finally, simplify it again using a variable for the unknown.

As teachers move through each chapter, they introduce new vocabulary terms using the choral reading routine. In addition to the numerous vocabulary activities and resources found in the online material, teachers can use both the chapter and the course graphic novels for additional literacy support and practice. The teacher materials also contain resources for students to build their mathematical language skills and create a similar graphic novel scenario by filling in blank speech bubbles with their own words. Teachers are provided guidance for utilizing these literary resources in the “Launch the Chapter” section of the online material.

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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

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. Throughout the lessons, the materials include opportunities for students to integrate knowledge and skills together to successfully problem solve and use mathematics efficiently in real-world problems. They also provide students opportunities to analyze data through real-world contexts.

Evidence includes but is not limited to:

In a Chapter 3 lesson covering constant rate of change, the lesson opens with a real-world problem in which students calculate the download rate of various songs. The lesson continues into a guided practice in which students use tables and graphs to solve linear-related problems. Other situations presented include physical science, plane altitude, and dog-walking. The materials provide students opportunities to analyze data through real-world contexts. Also in Chapter 3, there is a chapter project requiring students to use what they have learned about relationships, rates of change and slope, and linear equations to plan a field trip for the class. Students research the various costs, including transportation, tickets for admission, food, the number of adults needed to accompany the class, and any extras associated with the trip. Then they find the cost per person for the trip. Students write problems and solutions based on the data they collect. Students solve for various solutions such as the constant rate of change, slope, direct variation, graphing functions, and solving systems of equations by graphing and by substitution. Students present the information and the problems in a way they feel would best convince the class to choose their field trip.

In Chapter 4, Functions, students analyze data in a real-world context with “Math in the Real World.” This example uses The American Airlines Center in Dallas, Texas, the home to the Dallas Mavericks. In basketball, the equation $p = 2x + 3y$ represents the points scored when a team makes X number of 2-point field goals and Y number of 3-point field goals. Students use the provided grid to graph the equation that represents a team score of 96 points. This data is developmentally and thematically appropriate for students.

The materials include opportunities for students to integrate knowledge and skills together to successfully problem solve and use mathematics efficiently in real-world problems. The “Chapter Overview” included with each chapter throughout the materials contains a graphic novel activity that allows students to solve real-world problems from a variety of contexts in a graphic novel format. In Chapter 5, Triangles and The Pythagorean Theorem, the graphic novel activity tells the story of two students using a side view plan to build a bike ramp. The plans are missing one of the angles needed to complete the ramp. Students review this data later in the chapter to calculate the value of the missing angle.

Later, in Lesson 5-3, students solve Pythagorean Theorem problems in the context of two friends riding bikes to meet at the library, the distance between croquet balls, and the length of the diagonal on a map. This lesson ends with a multi-step problem-solving activity. This requires students to use the skills they have gained throughout the lesson to analyze the problem, create their plan, and solve and justify their solutions.

All chapters end with a “Problem-Solving Project” section requiring students to integrate knowledge and skills to develop strategies to solve real-world problems. For example, Project 5, Olympic Games, requires students to collaborate with their classmates to gather Olympics’ statistics. The students choose a country that has participated in basketball in the Summer Olympics. They then use the internet to research the team, find their mean points per game over the past 10 Summer Olympic Games, and record the information in a table. Next, the students make a scatter plot of the data and determine if the data can be used to predict the average number of points in the next Summer Olympics. The students research the number of Olympic records the U.S. has received in the Olympic sport of their choice and create a graph of their choice to interpret the data. Finally, the students research the winning scores in archery over the past 10 Summer Olympics and draw a histogram to display the data.

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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 are partially supported by research on how students develop mathematical understandings. The materials include cited research that supports the design of teacher and student resources and research-based guidance for instruction that enriches educator understanding of mathematical concepts and the validity of the recommended approach. Cited research is academic, relevant to skill development in mathematics, and applicable to Texas-specific context and demographics. Cited research is not found throughout the curriculum, and no current research sources are cited (dates between 1956–2011). Additionally, no clear bibliography is present within the materials.

Evidence includes but is not limited to:

The materials include cited research that supports the design of teacher and student resources within the “White Pages” resource located in the “Professional Development” section of the resource. The White Pages cite research about the design of instructional materials and how students learn mathematics. The articles within the White Pages include “21st Century Skills: Preparing Kids for THEIR Future,” “Developing Academic Vocabulary,” “Understanding by Design,” “The Benefits of Write-In Textbooks,” “Does the Use of Technology Improve Learning?” “The Answer Lies in Design?,” “Women’s and Minorities in STEM Careers Advancing Our World,” “Differentiating Instruction in Responsive Middle and High School Classrooms,” “Science, Technology, Engineering and Mathematics (STEM) Education,” “Fostering Visual

Literacy in the Xbox Generation,” “Differentiating Mathematics Instruction So EVERYONE Learns,” “Strategies to Teach and Engage English Language Learners in Mathematics Classrooms,” and “Homework Research Gives Insight to Improving Teaching Practice.” Another resource, “Understanding by Design,” offers a planning framework to guide curriculum, assessment, and instruction. The two key ideas are to focus on teaching and assessing for understanding and transfer, as well as designing curriculum “backwards.” The cited research is only in the teacher resources within the White Pages, not in the student materials.

Additionally, the cited research included in the White Pages is academic and relevant to skill development in mathematics. For example, the article, “Differentiating Instruction in Responsive Middle and High School Classrooms,” describes the steps included in the practice of creating more responsive curriculum and instruction to meet the diverse needs of learners. These steps include identifying standards and expectations, offering richly detailed source materials, planning for flexible grouping patterns, and designing interrelated daily lessons and culminating activities. Though the cited research is academic and relevant to skill development in mathematics, the references for this research are not current and dates between 1956–2011.

The materials provide guidance for instruction that enriches educator understanding of mathematical concepts and the validity of the recommended approach in parts of the curriculum; however, it is unclear if the guidance is research-based. The materials start each unit with a pacing guide that shows the recommended sequence of the concepts and the number of days. Materials also include a mathematical background for each lesson. In Chapter 6, Equations and Inequalities, the materials specify that previously, students solved equations where the variable was on one side of the equals sign. In Lessons 3 and 4, students solve more complex equations that contain variables on each side and grouping symbols. The materials include how to use the properties of equality to write an equivalent equation with the variables on one side of the equals sign and how to use the Distributive Property to remove the grouping symbols and then solve the equation using the properties of equality. Although the materials provide guidance for instruction, the guidance does not cite research.

Additionally, the “eSolutions Manual” in the “Resources” section provides step-by-step solutions to problems along with answers to the problems. However, it does not provide research-based guidance that enriches the educator’s understanding of the concept. While the solutions and answers are provided, there is no rationale for why the solution is correct or how to explain the concept to the students. There are also several videos on implementing Dinah Zike Foldables, but there is no evidence showing this approach is research-based.

The materials provide some cited research that is academic and relevant to skill development in mathematics and also applicable to Texas-specific context and demographics; however, it is not current or consistent. English Learners, for example, are provided with collaborative strategies, differentiation strategies, and an ELL handbook. For example, Lesson 8-5 recommends that teachers have students write a journal entry about transformations, both mathematical and in relation to languages. The teacher has students compare the similarities and ponder the

difficulties involved in each kind. Students then share their entries with a partner or volunteer to read them to the class. The Mathematical Process Standards provide a correlation to the Texas Essential Knowledge and Skills. For example, the “TEKS Skill Trace” table in each chapter breaks down the TEKS for the grade, highlights the lessons where they are used, and provides pages for reference. The materials also describe Texas-specific content and demographics within each chapter, such as Chapter 6’s reference to the Fiesta de las Flores (the festival is the most important social event for the city of El Paso and its large Hispanic population) and Chapter 7’s opening problem relating to the Ice-Skating Institute in Dallas, Texas. However, there is no evidence the materials describe the demographics of Texas students in the research used to design the program.

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

Evidence includes but is not limited to:

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. An overview of the model is provided in the “Mathematical Processes Handbook.” The overview defines each component of the model: Analyze, Plan, Solve, Justify, and Evaluate. The problem-solving model is used at the beginning of the multi-step problem-solving section of each lesson and continuously throughout the materials. The problem-solving model is grounded in the mathematical process standards of the TEKS, where students are “analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution.” The model provides clear opportunities for students to practice and apply each part of the process within the TEKS mathematical process standards. These opportunities are included in several areas, including the “Focus on Mathematical Processes” lessons located in the middle of most chapters, the “Multi-Step Problem Solving” sections at the end of each lesson, and the “Higher-Order Thinking (H.O.T)” problems at the close of the independent practice in each lesson.

Students are prompted to use the problem-solving model at the beginning of the multi-step problem-solving section of each lesson. The first problem of this section is an example that provides a step-by-step outline of the model and directions for completion. The outline designates Step 1 as Analyze, followed by the bolded phrase, “Read the problem.” Students are then prompted to circle the information they know. Next, the students will underline what the problem is asking them to find. After the example, the directions tell students to “Use the problem-solving model to solve each problem.” Each chapter also provides the opportunity to focus deeply on the mathematical process. For example, Chapter 5, Triangles and the Pythagorean Theorem, the Hands-on Lab 1-a, Parallel Lines, includes pictures that allow students to visualize the elements of the problem, a step-by-step breakdown of the problem asking students to use informal arguments to establish facts about the angles that are created, and an “Investigate” section that prompts students to select “Tools and Techniques” and work with a partner to solve the problem. In Lesson 6-5, Inequalities with Variables on Each Side, students apply the problem-solving model. At the end of the chapter, the chapter review contains another multi-step problem-solving model that uses the same steps as the lesson for continuity.

Teachers are also provided with guidance to prompt students to reflect on their approach to problem-solving. For example, in Chapter 4, Functions, students are provided with an “Analyze and Reflect” activity where they are required to select Tools and Techniques to solve the problem and answer the question, “Is this relation or a function?” The word “Analyze” in bold purple print is written as the first component of the problem-solving model included with the multi-step problems at the end of each lesson. The materials then prompt students to “Read the problem, circle the information you know, and underline what the problem is asking you to do.” This guidance continues as students complete the remaining parts of the problem-solving model. Students are asked the following questions: “What will you need to do to solve the problem? Write your plan in steps,” “Use your plan to solve the problem and show your steps,” and “How do you know your solution is accurate.” In Lesson 8-2, Reflections, the plan component of the Multi-Step Problem Solving activity includes the steps students will use to choose the correct algebraic representation that explains the effects of the transformation provided. The steps read as follows: “Step 1: “Reflect triangle ABC over... Then translate the image and...to form triangle DEF” and “Step 2: Use the...of a pair of corresponding...to evaluate the statement above.” The materials prompt students during the problem-solving process with questions such as, “How do you know your solution is accurate?” “Does the answer make sense?” and “Use the information in the problem to check your answer.” Each chapter also has a reflection section at the end.

The materials provide guidance for teachers to support student reflection of their approach to problem-solving. In the “Collaborate” section of the Chapter 6 Hands-On Lab 6a, Roots of Non-Perfect Squares, teachers are provided with specific instructions to have students draw and label a square with its area and side lengths next to a list of perfect square numbers. Teachers then have students verbally explain the connection between the area of the square and the

length of the side. The “Diagnose Student Errors” component in the Multi-Step Problem Solving section of the “Teacher Plan” also provides guidance for teachers. Lesson 6-3 has the teacher facilitate students through the model using the Team-Pair-Solo collaborative strategy. Students work in small groups to complete Steps 1 and 2 of the problem-solving model, ensuring that each group member understands each step. Then student groups divide into pairs to complete Step 3, talking through their solution as they go. Next, students work individually to complete Step 4. Upon completion, students rejoin their original team to share responses and discuss solutions. Another example can be found in Lesson 6-4, Solve Multi-Step Equations. In this lesson, teachers use the “Numbered Heads Together” technique to facilitate an activity. Students work in a small group to complete an exercise. Each student is assigned a number. Students are responsible for ensuring that each group member understands how to solve the problem. Students ask each other for clarification and help, as needed. The materials prompt teachers to call on one numbered student to share their group’s responses to each step with the class.

The materials also suggest the “Circle the Sage” activity in which the teacher polls the class to see which students have a solid understanding of how to solve the problem in any given exercise or lesson. These students, the sages, spread around the room while the rest of the class divides into small groups. Each group member reports to a different sage, and the sages lead the discussion on how to solve the problem. Next, the materials prompt all students to return to their groups to compare what was discussed with each sage.

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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.

Meets 4/4

Throughout the lessons, the 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. They also provide opportunities for students to select and use technology (e.g., calculator, graphing program, virtual tools) as appropriate for the concept development and grade. In addition, the materials provide teacher guidance on tools that are appropriate and efficient for the task.

Evidence includes but is not limited to:

The “Plan and Present” section provides teacher guidance about the tools introduced within the materials. Additionally, each chapter overview breaks down the entire chapter and provides support for teachers as well as states which manipulatives will be used in the chapter. The “Hands-On Labs” included in most chapters provide professional development videos for teachers sharing the tools that are appropriate and efficient for the task. The professional development video of Chapter 1, Hands-On Lab 1a, Use Models to Add Integers, emphasizes that students need to practice working with integers and recognizing the significance of absolute value. The materials use live videos from teachers and students to model the concept of zero pairs and the additive inverse property using colored counters and a number line and discuss the absolute value of a number.

The materials provide opportunities for students to select and use technology as appropriate for the concept development and grade. In Chapter 1, students are asked to “Estimate the side length of the square in Exercise 1” and are prompted to verify their estimate by using a calculator. Also, in Lesson 5-3, The Pythagorean Theorem, students have four sketchpad resources, one of which is the “Geometer’s Sketchpad.” This is a software for teaching mathematics that gives students a tangible, visual way to learn mathematics. One task in the lab requires students to construct squares on a triangle by using the Pythagorean Theorem. Students investigate the Pythagorean Theorem by constructing squares on the sides of a right triangle and exploring the relationship among their areas. Students discover that for any right triangle, the sum of the areas of the squares on the legs is equal to the area of the square on the hypotenuse. Students work with virtual manipulatives such as algebra tiles, base ten blocks, centimeter cubes, clock, connecting cubes, currency, fraction circles, fraction tiles, geoboards and bands, hundreds chart, number cubes, number line, spinner, tangrams, thermometer, and two-color counters. The virtual manipulatives shared in the online textbook also provide students with a “Help” section in the bottom taskbar. This section provides students with a step-by-step written tutorial on using the platform, the toolbar functions, and the various manipulatives.

The “Graphing Technology Labs” included in some chapters throughout the materials provide students opportunities to select grade-appropriate technology for solving tasks. During Graphing Technology Lab 8b in Chapter 3, students use motion detectors that can be connected to the calculator in order to explore linear relationships. Students are given an anchor chart describing the variables in the equation $y=mx+b$. In a different Chapter 3 Lab, Model Percent of Change, students answer the question, “How can you use multiple representations to show a percent of change?” The materials prompt students to use any method they have learned, such as drawing a bar diagram or model or using mental math to find the percent of a number.

The Hands-On Labs included in most chapters provide students opportunities to select grade-appropriate tools for solving tasks. In Chapter 7, Connect Algebra to Geometry, Hands-On Lab 2a, Model Volume of Cones, students construct and use the net of a cone. Students use a cylindrical object, such as an empty soup can with the lid removed. The question at the beginning states, “How can I select tools and techniques to analyze how the volume of a cone relates to the volume of a cylinder with congruent bases and heights?”

The 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. The “Launch the Lesson” activities at the start of most lessons allow students to use representations from the grade-level TEKS to solve tasks and enhance their understanding of concepts by exploring mathematical ideas and making and testing conjectures.

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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 provide opportunities for students to select appropriate strategies for the work, concept development, and grade. Throughout the lessons, the 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. They also support teachers in understanding the appropriate strategies that could be applied and how to guide students to more efficient strategies. In addition, the materials provide opportunities for students to solve problems using multiple appropriate strategies.

Evidence includes but is not limited to:

In Chapter 1, Real Numbers in the Multi-step Problem, materials encourage students that the four-step strategy can be applied to solve any word problem. In this lesson, the materials prompt teachers to have students use the four-step plan to break down a word problem and find a method to solve. Later in Chapter 1, students solve problems using mental math, estimation, and number sense as appropriate. For example, students learn two strategies to express decimals as fractions. Throughout the lesson, students are able to refer back to the exemplar and choose an appropriate strategy to solve the problems.

In Lesson 3-5, Direct Variation, the “Launch the Lesson” activity prompts students to use a table to find the constant rate of change for the number of gallons of blood a blue whale's heart pumps. As the lesson progresses, students continue to use tables, graphs, or equations to

identify the constant of variation and determine its meaning. The presentation on examples will often include multiple methods to solve a problem. Also, the text builds strategies throughout a chapter.

In Chapter 5, the materials provide some guidance to select techniques in the teacher plan by suggesting specific collaborative tasks for students to perform. Teachers are prompted to have students engage in a “Think-Pair-Solo” where students individually think through their solution to an exercise. Then, teachers have the students discuss their responses with a partner. Next, the teachers have students individually complete a second exercise. Upon completion, the students then trade papers with a partner, and each partner checks the other's graph and answer. Lastly, the teacher has the students discuss strategies used and resolve any differences noticed in the problems.

In Chapter 6, the text models the strategies of using algebra tiles, virtual manipulatives, pictorial models, algebraic representations, and a calculator to determine the solution to an equation with variables on both sides (system of equations). In the chapter, students practice using multiple strategies, such as solving a given equation by removing tiles. Students select a technique as appropriate to solve the equation and connect rules to the model.

In Chapter 9, Scatter Plots and Data Analysis, the materials discuss the use of tables, graphs, and equations to make predictions about relationships between a data set with two variables, or bivariate data. The “Focus on the Mathematical Process Lessons” included in most chapters throughout the materials support teachers in guiding students toward increasingly efficient strategies.

The materials support teachers in understanding which strategies are appropriate for solving a task with an additional resource labeled “Real World Problem Solving Graphic Novels.” The teacher edition of this handbook explains which strategies to use for each problem within the handbook. In the lesson “Ratios: The All-Star Triple Decker Skatezilla Rampapoolooza!” materials suggest making a table to find the lengths of several ramps.

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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 develop students' self-efficacy and mathematical identity by providing opportunities to share strategies and approaches to tasks. Throughout the lessons, the materials support students to see themselves as mathematical thinkers who can learn from solving problems, make sense of mathematics, and productively struggle. They also support students in understanding that there can be multiple ways to solve problems and complete tasks. In addition, the materials support and guide teachers in facilitating the sharing of students' approaches to problem solving.

Evidence includes but is not limited to:

The materials foster a mathematical community that ensures all students participate and engage as mathematical thinkers who can learn from solving problems and making sense of mathematics in each lesson. The "Program Overview" contains a "Cooperative Learning Strategies" resource that provides structures to support the development of a mathematical community where students are active learners of mathematics. For example, in the activity entitled "Pairs Interview," the materials direct teachers to arrange students in pairs to solve a given problem. While one student progresses through solving, the other student asks questions in which the student working must discuss procedure and provide clarification and reasoning. Questions may be teacher-supplied or brainstormed by the whole class before the interview. Next, the materials prompt the teacher to have students switch roles for each exercise. Students participate in productive struggle while working through the problem-solving process lesson in each chapter, as well as in the chapter project, which allows students flexibility in

creating their final product. The materials also provide some opportunities during independent practice to “Find the Error,” where students are presented with a student mistake and have to correct it.

The materials promote mathematics as a field of study of problem-solving projects, performance tasks, and STEM projects. Each chapter contains a chapter project that allows students to step away from memorized algorithms into real-world application. For example, in Chapter 5: Triangles and the Pythagorean Theorem, students write a graphic novel about angles. These projects represent real-world mathematical scenarios in a problem-solving method that allow students to apply the math they have learned to everyday life in society and the workplace.

The materials include tasks designed to support students in productive struggle within each lesson. For example, in the self-checking assessment for Lesson 8-1, Translations, each problem provides a hint to help students who may struggle to solve the problem. In a question about a translation, it gives the definition of a translation within problem context.

The materials provide an alternative teaching strategy for struggling students, a “Watch Out” section for noticing a common error, and a “Diagnosing Student Errors” section within the multi-step problem solving. Each lesson also provides a “Ticket Out the Door” to formatively assess student understanding. The materials provide support for monitoring students as they develop solution strategies within each lesson. For example, in the activity entitled “Jigsaw,” students work in groups of three to six, and each student is assigned one idea or aspect to a given topic. The materials prompt the teacher to have students from different groups that are presenting the same aspect converge to discuss and clarify information prior to their final report to the group. Students give a thorough report to their group and instruct them on their portion of the topic. Group members listen closely and synthesize all information presented.

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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.

Meets 4/4

The materials prompt students to effectively communicate mathematical ideas, reasoning, and their implications using multiple representations. Throughout the lessons, the materials provide students with an opportunity to communicate mathematical ideas and solve problems using multiple representations, as appropriate for the task. They also 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.

Evidence includes but is not limited to:

In Chapter 2, materials prompt teachers to introduce each vocabulary term using the choral response method of saying each term aloud after the teacher. An example provided by the materials is, “Indirect measurement is a technique using properties of similar polygons to find distances or lengths that are difficult to measure directly. An example of this is measuring your height and your shadow's length and comparing it to the length of the shadow of a larger object's height range.” Teachers then ask, “A light post is 11 feet tall and has a shadow that is 10 feet long. At the same time, Sandi's shadow is 5 feet long. How tall is Sandi?” The “Vocabulary” section in each chapter begins by providing all the vocabulary words for the chapter and indicates their corresponding lesson. Teachers are also provided with a vocabulary activity that helps to support EL students. The “Student-Built Glossary” is available for students to use as a vocabulary study guide. The materials provide teachers with a vocabulary “White Paper” that has a list of effective strategies.

Chapter projects allow students to collaborate as they investigate, share their research results, and reflect on how they communicate mathematical ideas. For example, in the Chapter 2 project, students create a webpage about their favorite animal. This includes trends in population, average speed graphed against other animals, and the life span of the animal.

The “Hands-On Labs” included in most chapters include tasks that provide students with opportunities to share and discuss mathematical ideas and representations using visual, physical, contextual, verbal, and symbolic representations. In Chapter 3 Hands-On Lab 6a, Proportional and Non-Relationships, students answer the question, “How can I use multiple representations to distinguish between proportional and nonproportional linear relationships?” Throughout the lab, students work with a partner to identify and model proportional relationships with tables, coordinate grids, and equations. Students explain their reasoning for each solution. At the conclusion of the lab, students write the equation for two relationships, one proportional and one non-proportional.

In Lesson 3-6, students use six talking chips to contribute to a group discussion with the goal of having a volunteer demonstrate the steps for writing the equation of a non-proportional relationship. Each lesson provides multiple cooperative activities and an “Exit Ticket” asking students to write about a specific concept. At the end of Lesson 3-6, the teacher has students write an explanation of how they would graph a given linear equation.

In Lesson 4-4, students engage in a “Think-Pair-Share” where they work in pairs to complete given exercises. Students have one minute to think through their responses, then share their responses with a partner. After that, teachers call on one set of pairs to share their responses with the class.

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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

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

Evidence includes but is not limited to:

The "Program Overview" contains a "Cooperative Learning Strategies" resource that provides strategies and opportunities for all students to discuss mathematics during every lesson with partners, small groups, and the whole class. In the activity "Teammates Consult," students work in teams. The materials prompt the teacher to assign each student a number and lead the team through one exercise or aspect of discussion. As teams proceed through tasks or exercises, teammates consult each other to clarify ideas, discrepancies, and results. Teams may record a consensus, or students may submit individual responses before moving on to the next exercise. Each lesson provides Cooperative Learning Strategies.

In Chapter 3, Proportional Relationships and Slope, within the first lesson, there are four unique discussion groups: "Think-Pair-Solo," "Think-Pair-Share," "Trade A Problem," and Teammates Consult. These are in various parts of the lesson cycle and are done in various settings: whole-group, small-group, and peer-to-peer. During the practice section of a lesson, students are sometimes paired with a partner to share and demonstrate their thinking. In each lesson of the

teacher plan, there are multiple Cooperative Learning Strategies that the teacher has students practice. For example, in Lesson 3-8, students work in groups to participate in a Think-Pair-Solo, a Think-Pair-Share, and a “Circle the Sage.”

In Lesson 3-3, Slope and Similar Triangles, students use a value line to respond to the opening activity. Within the guided practice, students coach each other on their understanding. Finally, after independent practice, students use gallery walks to verify the slope of various diagrams. Some of the lessons also provide an “Exit Ticket” that requires writing about a given concept.

In Lesson 8-2, Reflections, in a Think-Pair-Share, students work with a partner to complete an exercise. Next, students use the “Team-Pair-Solo” activity in which students work in a four-person team to complete the exercise, then with a partner to complete the next exercise. Finally, the materials provide a student-coaching opportunity for the multi-step problem at the end of the lesson. Within this activity, students work in pairs to find their solutions.

The materials guide teachers in structuring and facilitating discussions as appropriate for the concept and grade-level. For example, teachers are required to watch a clip on graphing ordered pairs. In this clip, the teacher leads students in a discussion of ordered pairs and coordinate planes.

Teachers are also provided with a “White Paper” on 21st-century skills to strengthen math skills, which includes communication and collaboration. The “Professional Development” section provides a webinar on setting up your classroom for differentiated instruction and collaborative practice and how to teach mathematical communication.

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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.

Meets 4/4

The materials provide opportunities for students to justify mathematical ideas using multiple representations and precise mathematical language. Throughout the lessons, the materials provide opportunities for students to construct and present arguments that justify mathematical ideas using multiple representations. The materials assist teachers in facilitating students to construct arguments using grade-level appropriate mathematical ideas.

Evidence includes but is not limited to:

The materials provide opportunities for students to construct and present arguments that justify mathematical ideas using multiple representations. The materials introduce justifying arguments within the mathematical processes handbook. Students justify the conjectures of various hypothetical people. Within each “Multi-Step Problem Solving” section of the lesson, students justify their solutions. In the “Mathematical Process Handbook” under 8.1G, Justify Arguments (pages 15 - 16), students are provided with the opportunity to construct arguments to justify mathematical ideas. Students are then asked to justify their solutions throughout each chapter, which can be found by looking for the MP (Mathematical Processes) symbol followed by Justify Arguments, such as on pg. 554, in hands-on activities, and in the Multi-Step Problem Solving when students justify and evaluate, or explain their answer. In Lesson 1-3, for example, students justify arguments based on negative exponent problems.

Some “Exit Tickets” require students to write about a concept and construct arguments using grade-level appropriate mathematical ideas. For example, in Lesson 3-1, students give a real-world example of a relationship that has a constant rate of change. In Lesson 3-2, students write an explanation of how to determine the slope of a line given specific points. Also, in

Lesson 6-4, the Exit Ticket asks students to write how the previous lesson on solving equations with variables on each side helped them with this lesson on solving multi-step equations. The teacher can provide the sentence stem “Learning how to solve an equation with variables on each side of the equals sign helped me to solve a multi-step equation because...” The materials provide teachers prompts for student responses within the plan and present section. For example, in Lesson 6-4, the materials prompt teachers to ask questions, such as “After using the Distributive Property, what does the equation become?” “Is there a way that you could solve the equation without using the Distributive Property?” “At what point could you see that there was not going to be a solution to this equation?” and “Do we need to continue to solve the equation to determine the set of possible solutions?” The lesson also suggests to teachers when students should explain their answers or thinking. Each lesson throughout the material is structured in the same manner as listed above.

The Mathematical Processes Handbook “Focus on Mathematical Process G,” Justify Arguments, has several discussion strategies to facilitate discussion. The materials provide solutions and methods for diagnosing errors. The following resources are provided for teachers: an overview of the TEKS, a “Launch the Lesson” section with “TEKS Skills Trace,” “Ideas for Use,” a “Practice and Apply” section with Ideas for use, “Alternate Strategies,” and an assessment that includes a “Ticket Out the Door” for students to explain how using the principles of math can help to solve problems. “

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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.

Meets 2/2

The materials include developmentally appropriate diagnostic tools (e.g., formative and summative progress monitoring) and guidance for teachers and students to monitor progress. Throughout the lessons, the materials include a variety of diagnostic tools that are developmentally appropriate (e.g., observational, anecdotal, and formal). They also provide guidance to ensure consistent and accurate administration of diagnostic tools. In addition, materials include tools for students to track their own progress and growth and 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 include a variety of diagnostic tools that are developmentally appropriate. The materials include formal assessment measures designed to support the teacher in determining a student's understanding and fluency with critical content and skills. Each chapter contains a diagnostic test in Word and PDF format within the tools section of the "Chapter Overview" in the "Teacher's Edition." For example, in Chapter 4, Functions, the diagnostic test supports the teacher in determining the students' understanding of ordered pairs and locating them on a coordinate plane, in addition to evaluating expressions with a given value of x . The materials also include informal measures, such as a checklist for specific content and skills. Before beginning each chapter, the materials prompt teachers to instruct students to go to the "Track Your TEKS Progress" document to rate their current knowledge of the TEKS within the chapter.

The document includes a list of the eighth-grade TEKS and student expectations with columns for students to rate their knowledge of each. The materials provide numerous formal diagnostic assessments. For example, in the chapter overview section of the teacher plan, there is an “Are You Ready” section. Within this section, the teacher will find a pre-test, diagnostic test, and an “Are You Ready” review to use with students for the upcoming chapter. These materials are on level and appropriate for the grade level and chapter. Also, when launching each chapter, the teacher can send home a family letter in English or Spanish that outlines what the student will learn in the chapter, key vocabulary, and at-home activities. The letter invites the parents to contact the teacher with any questions or concerns. Students can also demonstrate understanding by using the Track Your TEKS Progress document along with the rate yourself tool, such as the one in Lesson 8-2 that has students rate how well they understand reflections. The materials contain tools to allow students to show understanding in a variety of ways within each chapter. This includes, but is not limited to, “Are You Ready” assignments, self-check quizzes, e-assessments, tickets out the door, multi-step problem solving, chapter pre-tests, and “got it” checks. Other assignments include chapter projects and performance tasks. Also, students show their understanding with their peers in cooperative learning activities.

The materials also provide guidance to ensure consistent and accurate administration of diagnostic tools. The chapter overview in the “Plan and Present” Section breaks down the Are You Ready portion of the text. The materials prompt teachers to use the student page to determine if students have the skills that are needed for the chapter. Students also have the option to take the “Online Readiness Quiz.” The “Quick Check” instructs teachers on dealing with students who have difficulty with the exercises and must present an additional example to clarify any misconceptions they may have. The materials contain an assessment section that provides the various assessments for the chapter. The assessments are also located within the Plan and Present section. For example, the vocabulary test and diagnostic assessments are found in the chapter overview. The mid-chapter check is a stand-alone link, and the chapter test is located in the “Wrap-Up” section. Teachers are provided with a description of the level of students for which each test was designed. The materials also have a help section that includes a component for assessing the students. This component guides teachers through creating, assigning, and viewing reports in the test generator. The reports section provides teachers with the option to view assignment results, compare classes, grade book, prescription report, proficiency report, proficiency chart, progress report, and item analysis report. Also, in the assessment generator provided in the resource, teachers can click on the starred section titled “See What’s New in eAssessment.” This section provides teachers with a walk-through on all the components of the assessment generator, along with a search feature to provide further support. The materials include recommendations to support consistent administration of the diagnostic tools within the help section. In the help area, there is a section labeled “Assessing Your Students.” Within this area, there are several views. The videos have tips throughout, including how to make a study guide for a student, how to create additional question sets, and how to add limits. These limits include scrambling questions and answers and limiting the number of attempts.

The materials include tools for students to track their own progress and growth. The “Track Your TEKS Progress” document provides opportunities for students to rate their level of understanding of TEKS within each chapter. Before beginning a chapter, the materials prompt teachers to have students go to the document to rate their current knowledge of the TEKS. At the end of the chapter, the materials remind teachers to have students return to the Track Your TEKS Progress pages to rate their knowledge again to see that their knowledge and skills have increased. Students use red, yellow, and green faces to rate their comfort level with each content standard before and after learning it. For example, Lesson 7-4 has students use a Venn diagram to indicate whether they are ready to move on. The materials also provide students with a self-check quiz and the answers to the odd-numbered questions, both of which allow students to monitor their understanding of a specific concept. Each chapter also provides a task for students to reflect on their learning. Chapter 7 has students use what they learned about volume and surface area formulas to complete a graphing organizer, and the problem-solving projects also have a reflection component.

The materials also include diagnostic tools to measure all content and process skills for the grade level, as outlined in the TEKS and Mathematical Process Standards. The assessment generator has a section titled “Mastering the TEKS,” which allows the teacher to select specific standards to be assessed. The summative tests will also note which content TEKS are being assessed on each question. The diagnostic tools included measure all the content provided in the book, but it does not specify the process and skills as outlined in the grade-level TEKS. For example, the diagnostic test is broken down by chapter and covers the content based on the TEKS. However, the test does not specify that this is how it was outlined. The materials include tools to measure all content and process skills, as outlined in the grade-level TEKS. This includes, but is not limited to, “Are You Ready” assignments, self-check quizzes, e-assessments, tickets out the door, multi-step problem solving, chapter pre-tests, and “got it” checks. Other assignments include chapter projects and performance tasks. Also, students show their understanding with their peers in cooperative learning activities. The “Multi-Step Problem Solving” at the end of each lesson is an informal diagnostic tool designed to measure all content and process skills outlined in the grade-level TEKS. Each exercise is dual-coded with content and process TEKS and tagged with spiral review TEKS. In Lesson 8-2, Reflections, the Multi-Step Problem Solving exercises 13–17 require students to use multiple steps and integrate TEKS from multiple grades/focal areas. These standards include 8.10(A), 8.10(C), and 8.1(A)(B)(F) &(G).

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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.

Meets 2/2

The materials include some guidance for teachers and administrators to analyze and respond to data from diagnostic tools. Throughout the lessons, 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. Diagnostic tools also yield meaningful information for teachers to use when planning instruction and differentiation. In addition, materials provide a variety of resources and 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.

Evidence includes but is not limited to:

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. The materials use the designation AL (Approaching Level), OL (On Level), and BL (Beyond Level). Chapter 6, which covers solving equations, moves students through the concept with the use of virtual manipulatives, algebra tiles, and solving algebraically. In the teacher plan for Lesson 6-4, the materials guide the teacher on how to scaffold for various learners. For example, the materials provide alternate strategies for AL and BL students when launching the lesson. In this case, the AL strategy states that the teacher should ask students

why the cost of one shirt with a player's name on it is represented by $20 + d$ instead of $20 \cdot d$. Also, during the “Launch the Lesson” portion of Lesson 7-4, teachers are given guiding questions for students at all three levels and another alternate strategy for students who are AL. In each lesson, differentiated activities for each level of learner are provided, as well as a guide to assign homework for each level of learner. The materials provide teachers with a guide to help them determine each student’s level based on their performance on the diagnostic test. This table can be found in the “Are You Ready” section of the chapter overview. Within this table, the teacher will also find recommended activities for each level of learner. This section of the chapter overview also recommends that teachers use the “Quick Check” and pre-test to assess students' level of understanding.

Throughout the materials, diagnostic tools yield meaningful information for teachers to use when planning instruction and differentiation. The materials provide a guide for understanding the results of diagnostic tools located in each chapter overview. In the “Plan and Present” section, teachers find a chapter overview. The chapter overview has a section titled “Are You Ready.” The materials suggest to teachers that, based on students' results of the Quick Check, they may wish to further evaluate their readiness for this chapter by administering the diagnostic test from the assessment masters. The materials then prompt teachers to use the information to address the individual needs of students before beginning the chapter. They are provided a table that guides them through the process of determining which students are Approaching Level, On Level, and Beyond Level. The help section provides teachers with guidance to create reports from the assessment data. These reports give the teachers the option to view assignment results, class comparisons, grade books, prescription reports, proficiency reports, proficiency charts, progress reports, and item analysis reports. The reports are color-coded for easy interpretation by the teacher. A sample picture of a report can be found in the assessment by clicking on “See What’s New” and searching reports. The materials also provide a scoring rubric for teachers to use when grading each performance task. The “Response to Intervention” section in the chapter overview tells teachers how to proceed based on the results of the Quick Check and breaks the students into tiers and levels that will help teachers improve the results. In Chapter 5, Triangles and the Pythagorean Theorem, the “Response to Intervention” section under the Are you Ready tab provides teachers with guidance based on students' results of the Quick Check. The materials prompt teachers to further evaluate students' readiness for this chapter by administering the diagnostic test from the assessment masters.

The materials also provide a variety of resources and teacher guidance on how to leverage different activities to respond to student data. The materials provide various activities to use based on the results of the chapter diagnostic exam. Teachers have access to the Are You Ready practice section, the “Quick Review Math Handbook,” and a “Self-Check Quiz” section. The materials provide a variety of suggestions and activities for teachers to use to address the results of student assessments. The chapter overview provides teachers with activities to assign students as a direct result of the outcome of the diagnostic test. In addition, the Plan and Present section for each lesson provides the teacher with guiding questions to ask students

based on their level. When teaching the concept, the materials provide teachers with questions to ask as a result of the students' understanding of the example problems. For example, in Lesson 3-1, the teacher is provided with several questions after students have completed the first example. In the Approaching Level section, students are asked, "Is the number of gallons increasing as time passes, or decreasing?" In the On-Level section, students are asked, "How do you determine if the relationship between two quantities is linear?" In the Beyond Level section, students are asked, "How could you determine the number of gallons of water remaining after 3 minutes?" Within the same lesson, there is an alternative teaching strategy provided for students who are Approaching Level. Beyond the Plan and Present, the materials also provide specific differentiated instruction resources for students depending on their level of understanding.

Administrators have the opportunity to access content from and share content with instructors. For example, the test generator helps provide instruction to administrators that will allow them to share question sets with teachers and lock the shared content to prevent recipients from editing the content they receive. Administrators can also access multiple school districts and work from one profile. The materials do include data that can be analyzed across multiple spectrums. For example, the "Prescription Report" details class performance on a selected assignment, and, based upon each student's proficiency, students may receive a prescription for the assignment. The "Compare Class Report" compares the standards covered by two classes for each standard. The "Proficiency Report" details class proficiency on all standards during a specific term or date range and for each standard covered. The materials do not include guidance for administrators to support teachers in designing instruction to respond to data.

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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 opportunities to monitor and respond to student progress toward the development of appropriate grade level and content skill development. Throughout the lessons, the materials include routine and systematic progress monitoring opportunities that accurately measure and track student progress, and the frequency of progress monitoring is appropriate for the age and content skill.

Evidence includes but is not limited to:

The materials include routine and systematic progress monitoring opportunities that accurately measure and track student progress. Each lesson begins with a quick check to review and assess the skills presented in the previous lesson. Each chapter is designed so that teachers can check student's understanding as they progress through the concepts. In the "Plan and Present" section, the materials provide a chapter overview, in which teachers will find an "Are You Ready" section, a diagnostic test, and a pre-test. These are designed to check students' understanding at the beginning of the chapter and allow teachers to determine if students are Approaching Level, On Level, or Beyond Level. Each chapter also contains a mid-chapter check for teachers to monitor students' progress from where they started to where they are by the midpoint and make adjustments accordingly. Finally, at the end of each chapter, the teacher has multiple versions of the chapter assessment, which are designed for teachers to give to students based on their level of understanding to accurately assess their progress.

Each lesson also allows teachers to monitor students' progress by using an "Exit Ticket." Along with the Exit Ticket, teachers are provided with suggestions for a "Quick Check" based on the students' understanding of the concept. For example, in Lesson 8-5, Congruence, the lesson begins with a Quick Check to monitor student progress of the concepts learned in the previous lesson. Mid-lesson, the materials recommend the "Three Stay, One Stray" activity under the

guided practice section to assess students' understanding of the lesson's concepts. Finally, during the "Ticket Out the Door" activity, students write what must be true about the corresponding angles and corresponding sides for two polygons to be congruent. Also, the materials provide progress monitoring opportunities to accurately measure and track student progress. For example, students are prompted to track their TEKS based on the mathematical process standards. In the Plan and Present section, teachers are reminded to have each student rate their knowledge of each content standard covered in that chapter at the beginning of each chapter. Then, at the end of each chapter, teachers remind students to rate their knowledge again. Students use red, yellow, and green faces to rate their comfort level with each content standard.

The launch of the lesson has a "Building on the Essential Question" section that describes what students should be able to do at the end of the lesson. Lesson 5-4 states that students should be able to answer the question, "How can you use the Pythagorean Theorem and its converse to solve real-world problems?" When launching Lesson 5-4, students engage in some basic mixed practice for solving problems involving the Pythagorean Theorem before moving into an example problem with no pictures. In return, the teacher plan provides suggested questions to ask students based on their understanding of the concept, which allows them to assess their level of understanding. As students continue the lesson, the materials provide formal practice in real-world problems, higher-order thinking problems, and multi-step problem solving, all of which are progress monitoring opportunities for the teacher. The materials also provide opportunities to track students independently and in small groups. In Lesson 5-4, the materials suggest students who are approaching level engage in a "Numbered Heads Together" activity, while students who are beyond level engage in a "Gallery Walk" activity. The e-assessment allows teachers to create and assign assessments. After students take these exams, teachers can create reports of each student's progress through mastery.

The frequency of progress monitoring throughout the resources is appropriate for the age and content skill. Within the Plan and Present resource included with each lesson, the materials include suggestions to support more frequent monitoring of students demonstrating difficulty to support instructional interventions and response to intervention. For example, the materials suggest a variety of progress monitoring tools as informal and formal assessments. The tools within each lesson include the quick check, cooperative learning activities, "Ticket Out the Door," and a self-check quiz. The additional tools within each chapter include a diagnostic test, an online readiness quiz, an "Are You Ready" activity, and a chapter pretest. Students are provided with a mid-chapter check in all chapters to conduct a vocabulary check, key concept check, and a multi-step problem.

The materials also remind teachers when launching the chapter to have students use the student tracker at the beginning of the chapter to rate their current knowledge, and then do it again at the end of the chapter to see how their knowledge and skills have increased. In the professional development section under "TEKS/Texas Assessment," the materials suggest using the student tracker to involve students in their own understanding of the TEKS. It also outlines

for teachers to use independent practice, higher-order thinking problems, and multi-step problem solving to help prepare students for the Texas Assessment. Teachers can monitor student progress on these items in the teacher plan within the practice and apply sections that suggest which exercises students should complete based on the level of complexity and understanding. Students are also guided to the self-check quiz, where they are given a chance to assess their progress based on that chapter's content. In Chapter 4, Functions, Lesson 4-4 provides students with a self-check quiz that can be taken online. Students are also provided with hints throughout the quiz and receive immediate feedback at the end.

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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 instructional materials reviewed for Grade 6 meet the expectations for materials providing targeted instruction and activities for all levels of learners, as well as students who struggle to master content and students who have already mastered content.

Evidence includes but is not limited to:

Throughout the units, the students are provided with lessons that include scaffolded questioning examples for various types of learners. The materials provide guidance for differentiation to support struggling students. Teachers are provided with teacher guides for launching the lesson, an outline for teaching the concept, a designation of which practice problems students should do, and additional activities for differentiation based on level. Guidance for scaffolding the lessons is provided in the form of example questions that are broken apart by students' level of understanding. The materials provide teachers with opportunities to develop precursor skills in the area titled "TEKS Skills Trace." This section provides an introductory activity to develop the upcoming concept by focusing on what preceded the concept or skills. Examples of the provided materials included for scaffolding instructions and differentiating activities are mnemonic devices, foldables, videos, and quizzes.

Each lesson begins with an assessment that will allow students to gauge their understanding of prerequisite skills. Following the assessment at the beginning of each lesson, the students are provided level-appropriate material to meet their individualized needs. For example, in the probability unit, Approaching Level students are asked to brainstorm ideas and access prior knowledge to complete a hands-on activity, On Level students are asked to complete math skill

computations, and Beyond Level students are asked to predict what will happen given various constraints in groups. The lesson materials include graphic organizers and criteria for success that will allow students to properly analyze each step of the problem.

The materials provide students with the opportunity to appropriately access prior knowledge in order to have a conceptual understanding of the information. Also provided are additional items for English Learners (ELs), higher-order thinkers, and real-world applications to support those who have mastered the content. In addition, materials provide a response to intervention resources in each lesson with additional examples and practice for students who struggle to understand the concepts. “Personal Tutor” resources are included with each lesson as well to provide additional practice developing skills in a variety of ways. The Personal Tutor resources are available in both English and Spanish to provide additional support for ELs. While the materials provide some instructional strategies, such as videos for the hearing impaired, they do not provide direct support for orthopedic or vision impairment. Materials also provide activities for students who have mastered the content.

For example, in Unit 1, Rational Numbers, the materials include a section for self-paced work that allows students to give themselves feedback as they advance throughout the content. This includes mid-chapter checks that require students to explore vocabulary, key concepts, and real-world applications. It also includes a guided practice that provides students with the opportunity to rate themselves. The materials also offer extensions to deepen students’ grade-appropriate learning. For example, materials ask students to solve higher-order thinking problems that call for students to create, analyze, and evaluate the content.

In the Personal Tutor video provided for Lesson 1-3, Compare and Order Integers, an online teacher explains the systematic process for comparing integers using a number line. The teacher uses visual references to the number line and adds markers to identify each number on the number line. Also, the pause video feature allows students to work at their own pace.

The differentiated activity for Lesson 2-6, Divide Fractions, specifically targets On Level intrapersonal learners. The activity provides students with the following scenario: their job at a home improvement center is to complete orders for customized measurements. Samples of orders include having students write two different home-improvement orders on separate index cards and deposit the orders in a box labeled “Orders.” Each order should involve dividing a whole number by a fraction, a fraction by a whole number, or a fraction by a fraction. Students retrieve an order from the box and complete the order by solving the division problem. On the back of the card, students write the length of each piece the customer receives and deposits the order in a box labeled “Completed Orders.” Finally, students review the completed orders with the class.

Throughout the materials, lessons include “Launch the Lesson” activities that allow for the application of skills. The resource itself also includes five problem-solving projects and two

STEM projects (School Renovation and Sports Recreation), which can be found in the “Plan and Present” section. Each chapter also contains a graphic novel animations video. For example, in Chapter 8, Equations and Inequalities, in a video entitled “Pizza Party Challenge,” two students discuss how they can earn 50 points to attend a reading reward pizza party hosted by their teacher. After walking the students through different point combination scenarios, the video displays a “Your Turn” prompt explaining to students to discuss the problem later in the chapter. Lesson 8-3, Solve Addition and Subtraction Equations, returns to the ideas presented in the video and includes a graphic novel frame asking students to write and solve an addition equation to determine the number of points needed.

In the differentiated activity for Lesson 5-4, students continue to practice estimating using percent benchmarks. The activity provides explicit instructions to use grid paper for visual learners and students who have trouble using bar diagrams to estimate percentages. In this example, students find $\frac{3}{4}$ of 20 using grid paper. In step one of the activity, students model the number 20 on a piece of grid paper. This step also includes a visual reference of the number line showing how students should grid the number 20. Also, a reference bubble with instructions reads “Draw a 20 x 1 rectangle.” Next, students divide the model into four equal sections and shade into three of the sections. The visual reference shows an image of the completed task along with the reference bubble “Each section contains 5 grid squares.” By counting the grid squares in each section, students can make the visual connection to $\frac{3}{4}$ of 20 = 15. The materials also include a Personal Tutor resource throughout each lesson to provide additional practice developing skills in a variety of ways. The Personal Tutor resources are available in both English and Spanish.

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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 instructional methods that appeal to a variety of learning interests and needs. Throughout the lessons, the materials include instructional approaches to engage students in mastery of the content. They also provide some support toward developmentally appropriate instructional strategies, flexible grouping, and multiple types of practices (e.g., guided, independent, and collaborative) and provide guidance and structures to achieve effective implementation.

Evidence includes but is not limited to:

The materials include instructional approaches to engage students in mastery of the content. The materials in Grade 8 use multiple teaching strategies to meet learners' needs. The materials include virtual manipulatives, visual representations, symbolic algorithms, and graphic organizers. These are provided throughout each lesson, usually in the introduction. Manipulatives include algebra tiles, graphing software, 3D shapes, and more. The Grade 8 materials include suggestions for students to work alone, in pairs, and in groups. There are multiple activities to complete this.

Throughout the text, there are hands-on activities, virtual labs, and independent practice, but a hands-on lab is not incorporated for each lesson. The materials provide graphic organizers throughout the lesson that will provide support for visual learners. There is also a graphic

organizer at the end of each unit that accompanies a reflection document that students need to complete before moving on to subsequent units.

The materials support developmentally appropriate instructional strategies in some instances. Within the Grade 8 materials, there are several resources available to support teachers in implementing instructional strategies. There is a guide included for English Learners (ELs) that provides key language strategies, group formats, and a three-part lesson. The language level prompts tasks, both orally and written. Teacher professional development includes videos of teacher examples by lesson. For example, in the unit on equations and inequalities, there are two video types to support instruction. “Personal Tutor” shows an interactive whiteboard with a teacher thinking aloud and modeling their thinking and the professional development videos show actual teachers teaching the material with students.

Each lesson contains an alternate teaching strategy for teachers to implement as needed. However, the materials give limited guidance on how to facilitate these practice opportunities. The “Plan and Present” resource in each chapter of the materials includes support for the teachers in understanding how and when to use developmentally appropriate teaching strategies to support all learners. The resource uses the categories Approaching Level, On Level, and Beyond Level to describe the students’ levels of proficiency. The materials guide the teacher in selecting appropriate teaching strategies to support delivery. These developmentally appropriate instructional strategies include, but are not limited to, the use of foldables and graphic organizers that support visual and tactile learners that can be found at the beginning of each chapter. The materials provide some support for flexible grouping, such as small groups, whole groups, and individual learning.

Each lesson has an outline that gives teachers some strategies and guidance through each component of the lesson itself, as well as when a particular type of practice may be useful. They provide RTI activities; however, these activities aren’t necessarily designed for individual students and are more likely to be used with a group of students. The lessons use cooperative activities in the engage and explore sections of the lesson cycle. The lesson embeds small group instruction based on the results of practice and ends with independent practice and assessment. However, the materials give limited guidance on how to facilitate practice opportunities. For example, in the guided practice “Trade a Problem” activity, teachers prompt students to write their own real-world multi-step problem that represents a one-step equation but are given no guidance on facilitating the process within the materials. The Plan and Present resource included with each lesson throughout the materials provides teachers with support in facilitating guided, collaborative, and independent practice.

Lesson 3-2 provides “Pair Share and Rally Coach” activities that can be used with either type of instruction. However, there was not a specific routine structure provided for using large and small group instruction. It appeared to be left up to the teacher. The materials also provide activities to support students who need more one-on-one attention. For example, in Lesson 6, Solve Simultaneous Linear Equations, students are provided with two examples that use the coordinate plane and additional questions to check for understanding. The materials provide

activities that support individual exploration, as well. For example, the graphing technology Lab 6-a allows students to participate in a hands-on activity that requires students to work individually with a graphic calculator. Students must generate a table and determine the cost to ship objects.

In Chapter 6, Equations & Inequalities, the foldable allows students to understand how to solve equations with variables on both sides. The “Quick Check” at the beginning of Chapter 6 provides students with the opportunity to access prior knowledge by reviewing the concept of solving one-step equations. The materials provide support for teachers to know how and when to use developmentally appropriate materials. Specifically, each lesson has examples that are differentiated for students based on the level of understanding; however, a specific outline for selecting strategies is not provided.

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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 (EL) to meet grade-level learning expectations. Throughout the lessons, the materials include accommodations for linguistics (communicated, sequenced, and scaffolded) commensurate with various levels of English language proficiency and provide scaffolds for ELs. In addition, 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).

Evidence includes but is not limited to:

The materials include accommodations for linguistics that commensurate with various levels of English language proficiency. The English Language Learners (ELL) Guide Book G, included in the chapter overview of the tools section in the Teachers Edition of most chapters, includes various linguistic accommodations for students who are learning English, particularly regarding their level of English language proficiency within each chapter. For example, the "Language-Free Math Inventory" for sixth grade assesses the mathematical ability of incoming EL students at the previous grade level, and each student takes it independently. This assessment includes relating fractions, decimals and percents, prime factorization, fractions and decimals on a number line, adding, subtracting, multiplying and dividing decimals, etc. The results will reveal which students may need remediation.

The "English Language Learner's Guide" provides a section titled "Facilitating Language Growth Across the Stages of Language Acquisition." In this section, teachers are provided with a guide

for identifying stages of language acquisition. It breaks it down into stages and student behaviors and then provides teachers' behaviors and strategies. At the Beginning Level, stages and student's behaviors are broken down into preproduction and early production. Also, within each lesson, the materials contain additional activities for ELs.

The materials also provide scaffolds for ELs. The materials contain research-based scaffolds within the English Language Learner's Guide. Within this guide, professional development cites several research papers. Scaffolds include, but are not limited to, simplified language, activation of prior knowledge, multiple modalities instruction, sheltered vocabulary, various ways to show understanding, and graphic organizers. The "Vocabulary" tab in the chapter overview resource includes a vocabulary activity labeled with the EL. During this activity, the materials prompt teachers as they proceed through the chapter to introduce each vocabulary term using the following routine, "Ask the students to say each term aloud after you say it." The materials also encourage the strategic use of students' first language as a means to develop linguistic, affective, cognitive, and academic skills in English.

The materials include an English-Spanish glossary of important, or difficult, words used throughout the textbook. Terms and definitions are presented in English and Spanish. Teachers are encouraged to activate EL prior knowledge and cultural perspective. Teachers can ask students to demonstrate rhythms, kinesthetic actions, and techniques they were taught to use in their native culture to solve math problems. In the English Learners Guide, there are "Strategies for EL Success." The guide lists six key strategies to employ during EL instruction that can make teaching easier and learning more efficient: activate EL prior knowledge and cultural perspective, use manipulatives, realia, and hands-on activities, create a risk-free environment, organize curriculum for ELs, utilize a variety of methods and representations, and anticipate common language problems.

For example, in Lesson 7-1: Volume of Cylinders, students create a portfolio that connects the model for the volume of a cylinder to the formula for the volume of a cylinder and also includes a verbal explanation that connects the model to the formula. In Lesson 7-2, students are given the opportunity to engage in different options. For Verbal/Linguistic Learners, students create a portfolio that connects the model for the volume of a cone to its formula. Their portfolio includes at least two drawings of cones with varying dimensions and a verbal explanation of how the drawings connect to the formula. The drawings and the verbal explanation includes units, and students calculate the volume of each of their figures. The TEKS section of each lesson in the materials will designate which English Language Proficiency (ELPS) is the focus, which covers listening, reading, speaking, and writing. The materials then designate tasks as EL and will provide the ELPS that go along with it. For example, one of the strategies in Lesson 7-2 is called "Talking Chips," which is designed for students to practice listening and speaking.

The materials also include an English Language Learner's Guide, which provides background information and lessons designed for ELs. Each lesson in the guide provides teachers with multi-level language prompts based on whether or not students are beginning, intermediate, or

advanced. The instruction is sequenced in a way that supports students at varying levels and allows for repetition that is playful and interactive. The “Cooperative Learning Strategies” included in the program overview of the Plan and Present resource details the repeated opportunities in each lesson for students to listen, speak, read, and write using mathematical vocabulary within and across lessons.

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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 a cohesive year-long plan that is vertically aligned to build students' mathematical concept development. Throughout the curriculum, the materials provide review and practice opportunities for mathematical knowledge and skills.

Evidence includes but is not limited to:

The materials include a cohesive, year-long plan to build students' mathematical concept development. The content plan is cohesively designed to build upon students' current level of understanding with clear connections within and between lessons and grade levels. Each chapter of the materials includes a mathematical background section that shares a plan for instruction that spans the year. This plan includes a vertical alignment reference table and a TEKS correlation document that shows how activities align to the TEKS and, both directly and indirectly, to concepts and skills outlined for students in preceding and subsequent lessons. However, the reference tables do not always align with the relevant standard from the previous grade level or reference the following year. The year-long plan of content delivery includes a table with each chapter and the suggested number of days. The program is 146 days with an additional 20 days that includes five days of assessment review and 15 days of problem solving projects.

The materials provide some review and practice of mathematical knowledge and skills throughout the curriculum. For example, all chapters are equipped with a "Mid-Chapter Check," as well as a "Chapter Review" at the end of each chapter. The Chapter Review consists of a vocabulary check that reviews important vocabulary throughout the chapter, a key concept check that uses foldables to review pertinent information, a multi-step problem-solving

opportunity, and a reflection. In the Chapter 2 Review, Similarity and Dilations, students begin with learning about properties of similar polygons, moving on to dilations, and finally ending with area and perimeter of a similar figure. Each lesson allows students to practice the concept and skills through different modalities such as teacher-led examples, guided practice, independent practice, and multi-step problem solving. The problems students practice are aligned to the current TEKS or skills being covered. Additionally, embedded in each lesson are review tools such as the “Quick Check,” “Cooperative Learning Activities,” “Ticket Out the Door,” and “Self Check Quiz.” For example, within a Ticket Out the Door activity in Chapter 2, students demonstrate their understanding by finding the missing height given two similar rectangles. Review and practice materials can also be found in the provided teacher resources. Teachers have the option of using a standardized test practice that aligns with the TEKS. Teachers can also access “Key Concept Checks” for students through the e-solutions application.

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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 year's worth of math instruction, including realistic pacing guidance and routines.

Meets 2/2

Throughout the lessons, the 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. They also include supports to help teachers implement the materials and resources and guidance to help administrators support teachers in implementing the materials as intended. In addition, they include a school year's worth of math instruction, including realistic pacing guidance and routines.

Evidence includes but is not limited to:

The 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. The materials include a scope and sequence for instruction within the program overview included in the "Plan and Present" resource of the materials. This scope and sequence shows clear alignment with the Texas Essential Knowledge and Skills for Math Grades 6–8 and outlines the sequence of instruction toward the end of year outcomes and includes an organized chart that clearly delineates which knowledge and skills are introduced and which are reviewed within each lesson.

Furthermore, each chapter overview provides a condensed scope and sequence showing the order of topics for each component (lesson, hands-on lab) in the chapter and the length of time

given toward completion. At the beginning of the text, the students are provided with a breakdown of all the TEKS for the unit, and they can track their progress as they travel throughout the text. The scope and sequence detail the orders in which content is presented. This is the same order of the chapter and lesson. The “Mathematical Background” section in the “Chapter Content” tab of the chapter overview included with each chapter of the materials include guidance for teachers on the scope and sequence and describe how the essential knowledge and skills build and connect across grade levels. The materials also include supports to help teachers implement the materials as intended.

The materials provide teachers with a professional development section to support their understanding of how the components of the materials were intended to be used. Specifically, in this section, teachers will find implementation support, a professional learning community kit, sketchpad support, Dinah Zike/Foldable videos, STEM videos, on-demand webinars, and white papers. The implementation support guides teachers through in their understanding of how to use their online planning tools, how they can identify and locate the TEKS in the resource, use of the engagement tools (such as collaboration activities, differentiation activities, and activities for EL students), and how to use the online digital and print instruction. The professional development includes multiple videos on how to implement these materials. Other resources include videos, animations, personal tutors, and more. The materials contain planning tools such as recommended lesson plans, a planner, and a professional development section.

The materials include resources and guidance to help administrators support teachers in implementing the materials as intended. The materials include support for teachers to implement the materials as intended, including information in understanding appropriate learning environments, structures, and approaches that support the acquisition of mathematical knowledge. This support can also guide administrators in supporting teachers to implement the materials as intended. The materials contain a printed and digital 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. This plan includes pacing for 166 school days and includes a breakdown of pacing and days for each of the following: The Mathematical Processes Handbook, Chapters 1–11, Texas Assessment and Problem-Solving Projects. Through the access of the teacher plan, administrators can recognize the suggested best instructional practices and arrangements in a middle school classroom.

The materials also include a school year’s worth of math instruction, including realistic pacing guidance and routines. Beyond mapping out the number of days for each lesson and unit leading up to the state assessment, they also provide projects for students to complete after the assessment has been completed. In the event that teachers have students complete the activities specifically outlined within the lesson, the materials include additional activities for differentiation, chapter projects, STEM projects, resources (such as extra practice), and enrichment. For example, in the Plan and Present Section, the “Chapter Overview” provides

“Chapter Contents” and “Suggested Pacing” for each chapter, which continues for a full year of classroom instructions. Hands-on lessons and reviews are half-day lessons, while traditional lessons have a pacing of one day. The materials also include a full day of review and testing for each chapter. The plan includes pacing for 166 school days and includes a breakdown of pacing and days for the Mathematical Processes Handbook, Chapters 1–11, and Texas Assessment and Problem-Solving Projects. The instructional pacing is realistic at the lesson and chapter level.

In Lesson 3-7, administrators would be able to recognize if teachers use the suggested strategy of “Make a Table.” Administrators would be able to determine if teachers are asking the guiding questions designed for each level of learner when they are teaching the concept.

Administrators can also use the support provided by the white papers, such as the “Developing Academic Vocabulary” paper, which provides strategies for effectively teaching vocabulary students. Administrators will then be able to observe if these arrangements and practices are being used.

In Chapter 4, Functions, the “Mathematical Background” for Lessons 3 through 6 states that previously, students represented relationships using multiple representations. In these lessons, students will use similar representations to identify, interpret, and represent functions. The vertical alignment highlights what happens in previous grades, what the students are working on now, and what they will be expected to learn next.

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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

Throughout the lessons, the materials provide guidance for strategic implementation without disrupting the sequence of content that must be taught in a specific order following a developmental progression. In addition, they are designed in a way that allows LEAs the ability to incorporate the curriculum into district, campus, and teacher programmatic design and scheduling considerations.

Evidence includes but is not limited to:

The materials provide guidance for strategic implementation without disrupting the sequence of content that must be taught in a specific order following a developmental progression. The materials also provide a suggested sequence of lessons within the overview of each chapter that considers the interconnections between the development of conceptual understanding and procedural fluency.

For example, in grade 8, the materials clearly delineate the order of units to ensure students learn about precursor concepts first. The materials also provide access to different tools at the chapter, lesson, and planner level to customize lessons. The materials provide a contents brief and pacing that outlines the order of the units and the key focal concept. This allows teachers

to see the suggested order of the chapters based on the TEKS and the “Mathematical Processes Handbook.”

The units are arranged in an order that will teach skills that will be used in later units. For example, the eighth-grade units are ordered so that students understand proportional relationships and slope before identifying and writing functions. The materials include guidance that supports areas aligned to the classroom to provide pathways for students with varying abilities. Each chapter has a diagnostic test that helps the teacher determine if a student is Approaching Level, On Level, or Beyond Level. Each component of the lesson guide has structures in place to support the teaching of each level of student proficiency. For example, when the teacher is teaching the concepts, the materials provide a different set of question stems. Teachers also have additional differentiated tasks for each level of learner and a different summative assessment at the end of the chapter. The materials map content in a sequential order to ensure students have prerequisite knowledge prior to higher-level learning.

The materials are also designed in a way that allows LEAs the ability to incorporate the curriculum into district, campus, and teacher programmatic design and scheduling considerations. For example, the implementation support within the professional development resource of the materials supports teachers in understanding how to use the materials as intended. This information includes an “e-In-service” resource that contains guidance for teachers with online planning tools. This in-service provides teachers with answers to questions such as, “How do I pace print and digital instruction?” and “How can I differentiate instruction using print and digital resources?” Here, teachers can find videos and documents that will guide and support implementation. This tool provides advice on using the planning tools to change lessons and the teacher planner by editing content, adding or deleting resources, or creating brand new lessons. The online resource has everything that the textbook has, and more. It allows teachers to set up online discussions, create and administer tests, set up classes, and track assignments. The teacher guide in the plan and present section does reference tasks that are best suited for full class or small group instruction.

In Lesson 4-5, students can participate in a “Think-Pair-Write” activity. The materials provide pacing calendars and customizable lesson plans that could be adapted to a variety of settings. There are various grouping options depending on student needs. This includes differentiated options based on ability and language. The program supports digital instruction allowing for things to be exported to Google Classroom and in-person instruction with print materials.

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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. Throughout the lessons, the materials support the development of strong relationships between teachers and families. In addition, they specify activities for use at home to support students' learning and development.

Evidence includes but is not limited to:

The materials support the development of strong relationships between teachers and families. Before beginning each chapter, the materials recommend that teachers send home the family letter and at-home activities for students to complete with their parents. The letter describes what students will learn in the chapter, with key vocabulary words and activities parents can do with their students. The materials include both English and Spanish versions with chapter vocabulary, hands-on activities, and online activities. The materials also specify activities for use at home to support students' learning and development. The materials include online access to resources parents can use at home. Online materials include resources with each chapter that are easy to use on common devices and are related to current skills. There are printable versions of worksheets, the eBook, family letter and at-home activities, virtual manipulatives, and the "eToolkit." The materials also provide electronic access to an "eglossary," where students or parents can select to view the terms in English or Spanish. By searching Spanish in the "Plan and Present" section, teachers will find access to the entire textbook in Spanish. They could download specific sections to be sent home as support for Spanish speaking parents.

For example, in Chapter 4, Functions, the family letter states: "In this chapter, your student will learn how to translate words, tables, and graphs into expressions. Also, we will study how to determine if a relation is a function and to graph linear functions. The letters advise parents to contact the teacher at school with any questions or comments."

The family letter for Chapter 6, Equations and Inequalities, has a real-world activity for parents and students activities to do at home. The materials suggest for students to ask their parents if they have ever used a shortcut or mental math to find the product of two numbers. If their answer is yes, ask them to explain what they did. If their answer is no, brainstorm some possible shortcuts.

In Chapter 10, Personal Financial Literacy, the Real-World Activity states “Research the estimated costs of a two-year and four-year college of your interest. How much should you start saving now? Does your bank calculate interest using the simple interest or compound interest? Explain. Think of a time when you were financially responsible. Justify your response.”

There are also options for video tutorials to be viewed in Spanish, such as in Lesson 4-2, Relations as Tables and Graphs. Students and parents have access to ALEKS, a Student Account Home for K-12 students. Students and parents can access assignments for their current active class. The materials provide appropriate suggestions and resources for home activities that support the curriculum and can be used easily by families with each chapter.

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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 in print or digital) is neither distracting nor chaotic. Throughout the lessons, the materials include appropriate use of white space and design that supports and does not distract from student learning. In addition, pictures and graphics are supportive of student learning and engagement without being visually distracting.

Evidence includes but is not limited to:

The materials include appropriate use of white space and design that supports and does not distract from student learning. For example, the pages of the math student book have large print, simple graphics, and plenty of white space. Tables, charts, and visuals included are clear and concise, without being distracting. The student edition provides adequate workspace for students to solve problems. On pages 268 and 269, for example, there is a designated workspace in the margins. If there is no designated workspace in the margins, there is adequate workspace on the page itself. The materials are consumable, thus allowing students to remove the page for ease of use. All graphics, artistic, and mathematical are easy to view and understand.

The text is filled with an abundance of visual aids that supports student learning. The beginning of each chapter is equipped with a graphic novel representation of a problem. Students read the problem and answer it later on in the chapter. The headings for each lesson are bolded, have a distinct color scheme, and are located at the top of the page. Students can distinguish between Lessons and other activities throughout the chapter. The text comes equipped with

lines for students to capture their answers and a “Work Zone” on the side of specific pages, where they can work out their problems.

The student e-book is set up in a logical sequence with scaffolds to increase ease of use. These include a table of contents, glossary, comics for engagement, tools, reading materials, and an index. Chapter overviews contain a “Mathematical Background” within the “Chapter Content” tab. The mathematical background makes clear references to other lessons and ancillary materials that can be used to support differentiated learning. In Chapter 9, Scatter Plots and Data Analysis, the materials discuss the use of tables, graphs, and equations to make predictions about relationships between a data set with two variables, or bivariate data.

The materials provide a teacher's edition that is virtually identical to the students' textbook. In addition, the materials provide teachers with a digital platform titled “Plan and Present.” There, each lesson will be broken down into components such as TEKS, “Lesson Launch,” “Teach the Concept,” “Practice and Apply,” “Multi-Step Problem Solving,” “Additional Activities for Differentiated Instruction,” and “Assessment.” In each section, teachers are provided with specific materials to support learning. These materials include videos, blackline masters of student worksheets, virtual manipulatives, and step-by-step tutorials.

The Plan and Present resource is broken down into sections that are further broken down into subsections using a drop-down arrow. Teachers can navigate the subsections quickly due to the color-coding, reference tables, and graphics available within the content. Lesson guidance has designated areas for the TEKS, lesson launch, teaching the concept, practice, multi-step problem solving, additional differentiated activities, English Learner activities, assessment, and sketchpad resources. The implementation support within the “Professional Development” resource of the materials consistently includes a place for instructional support to aid teachers in planning and implementing lessons. This support includes an “e-Inservice” resource that includes guidance for teachers with online planning tools, TEKS/Texas assessments, “Engagement and Collaboration” sections, integrating print and digital instruction, and program assessment resources.

The pictures and graphics are also supportive of student learning and engagement without being visually distracting. Most often, the pictures are related to a real-world problem or task that students are currently engaged in. Lessons contain graphic organizers, usually in the form of foldables and guided notes. The materials follow the guidelines of User Interface Design. The resource provides real-world problem solving graphic novels. The stories are written in a comic strip format, are easy to read, and are grade-level appropriate. The book of linked graphic novels is in black and white; however, the graphic novels included in the student textbook are vibrant and in color. Also, throughout the materials, any tables, number lines, or pictorial models are clear and easy to read. The font is clear and easy to read. Items with photographs and colorful pictures do not distract from the text on the page or interfere with learning. Display charts such as number charts and number lines are also clear and easy to read.

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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 include technology or online components that are appropriate for grade-level students and provide support for learning. Throughout the lessons, technology aligns to the curriculum’s scope and approach to mathematics skill progression. In addition, the technology supports and enhances student learning as appropriate, as opposed to distracting from it, and includes appropriate teacher guidance.

Evidence includes but is not limited to:

The technology in the resources aligns with the curriculum’s scope and approach to mathematics skill progression. Materials contain an eBook with a “Go Online” option for students. This option contains direct links to watch lesson animations and videos, worksheets, vocabulary, a personal tutor, tools, and checks for understanding. Each option includes a pictorial reference that appears in various places throughout the lessons to allow students to interact digitally with tasks. The beginning of Lesson 1-4 includes a pictorial reference for students to watch the lesson video space.

The technology components align with the scope and sequence of the materials. The materials provide recommendations for when to use the technology components through the “Plan and Present” section. When teachers expand each section of the lesson, any suggested technology components are clearly labeled along the right-hand side. It has the suggested videos, tutorials, and whether or not virtual manipulatives may be appropriate. When appropriate, the lesson has an expandable section for “Geometers Sketchpad.” Also, the bottom of the textbook pages have links to the technology components that support instruction at that specific time in the scope and sequence. If something doesn’t apply, there is not a link.

Technology icons are placed strategically through the chapter that provide students with an additional reference as they matriculate throughout the resource. Students can watch videos and complete activities as needed. Virtual manipulatives are included to help students see the material in a hands-on way using technology. The materials provide recommendations for teachers on when to utilize technology with students and if there is a time during lessons that the technology would enhance student learning within most lessons. This is outlined in the “Teach with Tech” section under the “Teach the Concept” tab of the Plan and Present resource. In Lesson 1-4, Scientific Notation, the Teach with Tech prompts teachers to have students use the Internet to research the sizes of extremely large and small objects and write the sizes of all the objects in scientific notation.

The technology also supports and enhances student learning as appropriate, as opposed to distracting from it, and includes appropriate teacher guidance. The digital Student Edition, eBook, of the math book is age-appropriate for sixth through eighth-grade students. Students’ pages have navigation buttons for digital copies of the student text, tutorial videos, and online skills practice. For example, the student edition contains a “Quick Check” at the beginning of each chapter, which includes a “Chapter Readiness Quiz” where students may go to practice and receive feedback. In Chapter 7, Connect Algebra with Geometry, students practice finding the area of various shapes.

The materials provide teachers with sufficient guidance on how to utilize the technology components provided. The “Implementation” professional development platform provides teachers with a section on how to use the online planning tools, as well as a section on how to integrate print and digital instruction. There is also a section provided within the professional development section of the resource for teachers to seek help in implementing the “Geometer’s Sketchpad” tool. The help section also provides teachers with video tutorials on using the components of the online teaching platform. For example, they can watch videos on how to create and manage their classes. The “Professional Development” section provides multiple videos that educate teachers on how to use technology with students. The materials give teachers appropriate and sufficient guidance on how to use technology with students and how to support students with technology use. There are several professional development resources for students and teachers on the sketchpad and Texas Instruments Nspire and TI-84 tech labs.