Great Minds PBC + Zearn

Supplemental English Mathematics, K

Math Catalyst Texas + Zearn Math for Texas, Grade K

MATERIAL TYPE	ISBN	FORMAT	ADAPTIVE/STATIC
Supplemental	**9798894179025**	**Both Print and Digital**	**Adaptive**

Rating Overview

TEKS SCORE	TEKS BREAKOUTS ATTEMPTED	ERROR CORRECTIONS (IMRA Reviewers)	SUITABILITY NONCOMPLIANCE	SUITABILITY EXCELLENCE	PUBLIC FEEDBACK (COUNT)
100%	121	3	Flags Addressed	Not Applicable	0

Quality Rubric Section

RUBRIC SECTION	RAW SCORE	PERCENTAGE
1. Intentional Instructional Design	26 out of 28	93%
2. Progress Monitoring	21 out of 21	100%
3. Supports for All Learners	40 out of 43	93%
4. Depth and Coherence of Key Concepts	16 out of 16	100%
5. Balance of Conceptual and Procedural Understanding	38 out of 38	100%
6. Productive Struggle	19 out of 19	100%

Breakdown by Suitability Noncompliance and Excellence Categories

SUITABILITY NONCOMPLIANCE FLAGS BY CATEGORY	IMRA REVIEWERS	PUBLIC	Flags NOT Addressed by November Vote
1. Prohibition on Common Core	9	0	0
2. Alignment with Public Education's Constitutional Goal	0	0	0
3. Parental Rights and Responsibilities	4	0	0
4. Prohibition on Forced Political Activity	0	0	0
5. Protecting Children's Innocence	0	0	0
6. Promoting Sexual Risk Avoidance	0	0	0
7. Compliance with the Children's Internet Protection Act (CIPA)	0	0	0

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

IMRA Quality Report

1. Intentional Instructional Design

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

1.1 Course-Level Design

GUIDANCE	SCORE SUMMARY	RAW SCORE
1.1a	All criteria for guidance met.	5/5
1.1b	All criteria for guidance met.	3/3
1.1c	All criteria for guidance met.	2/2
1.1d	All criteria for guidance met.	2/2
1.1e	All criteria for guidance met.	2/2
—	**TOTAL**	14/14

1.1a – Materials include an alignment guide outlining the TEKS, ELPS, and concepts covered, with a rationale for learning paths across grade levels (vertical alignment) and within the same grade level (horizontal alignment) as designed in the materials.

In *Math Catalyst*, the "Alignment Guide" aligns the Texas Essential Knowledge and Skills (TEKS), the learning path for each concept, connects to the TEKS Mathematical Process Standards (MPS), and organizes the English Language Proficiency Standards (ELPS) into a K–3 grouping.

In *Zearn Math*, a comprehensive scope and sequence chart and a Progression of Mathematical Concepts visually illustrate the intentional vertical alignment of mathematical topics from Kindergarten through grade 5, using color coding to clarify concept development across grade levels. Accompanying this chart, the Progression of Mathematical Concepts section offers a rationale for the learning paths across grade levels, emphasizing that this purposeful progression ensures meaningful connections and continuity across grade levels, enabling students to build a deep, lasting mathematical understanding.

In *Math Catalyst*, while the "Implementation Guide" states, "the sequence of objectives across a concept highlights the horizontal alignment embedded in *Math Catalyst*," there is no explicit explanation of the rationale for learning paths across grade levels (vertical alignment) and within the same grade level (horizontal alignment) as designed in the materials.

1.1b – Materials include an implementation guide with usage recommendations and strategies for effective educator use in various contexts, such as just-in-time supports, advanced learning, or as a course.

In *Math Catalyst*, the materials provide an "Implementation Guide" with usage recommendations and strategies to support effective educator use, including just-in-time supports, advanced learning

opportunities, and full-course implementation. The guide defines the program as "a supplemental instructional resource designed to be used with a Multi-Tiered System of Supports (MTSS)" and clarifies its focus on Tier 2 and Tier 3 instruction delivered outside of Tier 1 core instruction. The guide includes visual representations of this definition, the covered concepts, and their vertical and horizontal alignment.

In *Math Catalyst*, the Program Implementation section provides teachers with practical tools such as Possible Ways to Use Components and Sample Schedules in 15- and 30-minute formats. To support emergent English bilingual learners, the guide offers strategies for setting up center rotations, accompanied by a sample lesson schedule.

In *Zearn Math*, the materials emphasize differentiated instruction by offering just-in-time scaffolds, built-in feedback, and flexible teaching strategies. Both digital and small-group components are designed to meet students where they are, with accessible pathways to grade-level content and adaptable instruction based on student needs. Teachers are equipped with tools like Individual Student Reports, Tower Alerts, and Sprint Alerts to monitor student performance and adjust instruction accordingly. These features support timely interventions, enrichment opportunities, and personalized lesson assignments, enabling responsive and targeted teaching.

1.1c – Materials include a TEKS correlation guide with recommended skill entry points based on diagnostic assessment results.

In *Math Catalyst*, the materials include a Concept Diagnostic Assessment available at the start of each Concept, designed to measure student mastery of the skills in the Concept. The assessment includes a rubric, and each assessment item is labeled with the correlating TEKS for the objectives assessed. The "Implementation Guide" states that the provided rubric is "to help teachers analyze student responses, determine a student's proficiency level, and identify skill entry points."

In *Math Catalyst*, the materials include a "Strand by Grade Scope and Sequence" and an "Implementation Guide" used as a TEKS correlation guide. The "Implementation Guide" directs educators, under "Determining Intervention Needs for Students," to administer a district- or school-selected screening tool and analyze the resulting data to determine next steps. These assessments, combined with the Concept Diagnostic Assessment," provide data that can be used to inform instruction and provide timely intervention.

In *Math Catalyst*, the Concept Diagnostic Assessment guides educators to specific objectives within the Concept of the materials. For example, in the kindergarten "Concept Diagnostic Assessment: Perceptual Subitizing Within 5," the materials direct educators to consider several statements when making "instructional decisions about skill entry points based on the data collected from the Concept Diagnostic Assessment," such as "Can the student instantly recognize up to 5 objects in a linear arrangement? (Objective 1)," "Can the student instantly recognize up to 5 objects in an organized arrangement?

(Objective 2)," and "Can the student instantly recognize up to 5 objects in various arrangements? (Objective 3)."

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

In *Math Catalyst*, the materials include protocols to help teachers internalize units. The "Implementation Guide" offers guidance on Concept Internalization and includes guiding questions that support teachers in using the three components of the materials. The Progress Check section asks, "What does proficiency look like with the content of this concept?" For example, in kindergarten, the "Progress Check: Conceptual Subitizing Within 10" component encourages teachers to make instructional decisions using data they collect with the Progress Check Tool.

In Math Catalyst, the "Concept Guide" outlines teacher and student materials, suggests preparation strategies, and explains how to address student misconceptions. It also includes illustrations and step-by-step actions for both teachers and students. For example, in kindergarten "Concept Guide: Perceptual Subitizing Within 5, Addressing Student Misconceptions," the materials instruct teachers to use familiar objects when introducing subitizing. Teachers are prompted to support students by asking the provided guiding questions.

In *Zearn Math*, "Kindergarten Missions" include a detailed Mission Overview that breaks down the unit by topic, highlights connections to prior learning, and outlines the conceptual progression of mathematical ideas. Every lesson follows a predictable routine—Fluency Warm-Up, Concept Exploration, Independent Practice, and Wrap-Up (including Lesson Synthesis and Exit Ticket), enabling teachers to effectively plan, anticipate student thinking, and differentiate instruction based on real-time student responses.

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

In *Zearn Math*, administrators are provided with a variety of reporting tools, including Admin Reports that offer real-time insights into implementation and student progress at the school, grade, and classroom levels. The School Goals Report tracks metrics such as teacher log-ins, student engagement, lesson completion, digital usage, and Tower Alerts, enabling leaders to celebrate achievements and identify areas for targeted support.

In *Zearn Math*, resources such as the "Classroom Walk-Through Guide and District and School Lead Playbooks" equip instructional leaders with practical tools to monitor instruction, set expectations, and foster meaningful conversations with educators. The "District and School Lead Playbooks" offer step-by-step guidance on preparing, launching, and sustaining *Zearn Math*. They include checklists, training videos, communication templates, and scheduling aids—empowering leaders to build effective support systems, promote teacher and student success, and continuously refine implementation across school years.

In *Math Catalyst*, the materials include an "Implementation Guide" that instructional leaders can use to support effective program implementation. This "Implementation Guide" outlines the program's structure, offers suggestions for using each component, and provides a sample schedule. Additionally, the "Concept Guide" lists the teacher and student materials, recommended preparations, and key considerations for instruction.

1.2 Lesson-Level Design

GUIDANCE	SCORE SUMMARY	RAW SCORE
1.2a	The materials do not include ELPS in either objectives or assessments.	5/7
1.2b	All criteria for guidance met.	5/5
1.2c	All criteria for guidance met.	2/2
—	**TOTAL**	12/14

1.2a – If designed to be static, materials include detailed lesson plans with learning objectives, teacher and student materials, lesson components with suggested timeframes, and assessment resources aligned with the TEKS and ELPS.

In *Math Catalyst*, the materials include ten-minute lesson plans with clear objectives, time frames, summaries, differentiation strategies, and progress monitoring tools. Each "Concept Guide" lists required materials, preparation tips, supports for addressing misconceptions, language scaffolds, and family math pages. For example, the grade one "Concept Guide: Compare and Order Numbers to 120" includes Progress Checks, Mini Lessons, Manipulatives, Templates, and Student Pages for Objectives 1–4.

In *Math Catalyst*, assessments are directly aligned with TEKS and increase in complexity across objectives. In the kindergarten "Progress Check: Composition and Decomposition Within 10," students move from using objects to drawing pictures to representing number bonds. These assessments build in complexity across Objectives 1–3.

In *Math Catalyst*, teachers track progress using tools like the Observational Data Recording Sheet and informal notes. Lessons incorporate ELPS-aligned tasks involving listening, speaking, reading, and writing. However, the materials do not include assessment resources or learning objectives explicitly aligned to the ELPS.

1.2b – If designed to be adaptive, materials include detailed lesson overviews with learning objectives, lesson components with suggested timeframes, and assessment resources aligned with the TEKS and ELPS.

In *Zearn Math*, the materials include comprehensive Mission Overviews that outline key concepts and learning progressions aligned to the TEKS. Each mission clearly defines objectives that build foundational understanding and prepare students for future mathematical concepts.

In *Zearn Math*, suggested time frames for each component of the teacher-led lesson materials are found in the "Course Guide." This is designed to help teachers plan and pace small-group instruction more efficiently and implement lessons with confidence.

In *Zearn Math*, each mission includes assessment keys that identify the specific TEKS standards addressed and where they appear in the lesson sequence. The assessments also feature a table outlining the ELPS objectives, with each row in the rubric aligned to specific ELPS goals. This comprehensive approach enables educators to evaluate how student responses demonstrate progress in both content mastery and language development.

1.2c – Materials contain support for families in Spanish and English for each unit, with suggestions on supporting the progress of their student(s).

In *Math Catalyst*, the materials contain support for families in both English and Spanish for each unit, for families to use at home to support learning. For example, each concept has a Family Math letter for families available in both languages. This letter states and explains the objective, and then provides simple practice for home. The letter presents illustrations, sample questions, and correct student answers.

In *Math Catalyst*, the Family Math letter presents direct support for students at home using academic vocabulary in both languages. For example, in the kindergarten "Concept Guide" for "Early Numeracy: Perceptual Subitizing within 5," the Family Math letter reads, "Your student is working on perceptual subitizing within 5. Perceptual subitizing involves instantly recognizing the total of a small group of objects without counting them." The letter ends with sample questions, correct answers, and illustrations of the objective.

In *Zearn Math*, Family Materials are provided for each mission, offering overviews of the unit and its topics, along with explanations of key terms and models students will encounter. The Family Materials include sample problems and practical ideas—such as games, questions, and everyday activities—that families can use to support their child's math learning at home.

2. Progress Monitoring

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

2.1 Instructional Assessments

GUIDANCE	SCORE SUMMARY	RAW SCORE
2.1a	All criteria for guidance met.	2/2
2.1b	All criteria for guidance met.	2/2
2.1c	The materials do not include printable versions of digital assessments, nor do they include the enabling or disabling of text-to-speech features, content and language supports, or calculators.	Not Scored
2.1d	All criteria for guidance met.	4/4
2.1e	All criteria for guidance met.	4/4
—	**TOTAL**	12/12

2.1a – Materials include the definition and intended purpose for the types of instructional assessments.

In *Math Catalyst*, the materials define various instructional assessments and their purposes. The "Implementation Guide" describes Core Math Assessments as formative and summative tools for measuring student proficiency in specific skills and concepts, useful for identifying intervention needs. It also presents the Pause and Monitor Tool as a way for students to reflect on and track their progress.

In *Math Catalyst*, according to the "Implementation Guide," the Analyze Student Progress section in Concept Mini Lessons includes questions for informally assessing student proficiency on current objectives. It also offers guidance on using the Observational Data Recording Sheet to document performance and make instructional notes during any lesson component. Additionally, the Progress Check Tool serves as both a pre- and post-assessment, with a rubric to evaluate student responses and determine proficiency.

In *Zearn Math*, the materials define and explain the intended purpose of various instructional assessments across lesson and mission levels. These include Lesson Checkpoints—low-stakes, formative assessments embedded in digital lessons that provide immediate, scaffolded support—and the Tower of Power, a scaffolded, mastery-based assessment that ensures students have internalized key concepts before progressing in their digital sequence.

2.1b – Materials include guidance to ensure consistent and accurate administration of instructional assessments.

In *Zearn Math*, materials include detailed teacher guidance to support consistent and accurate administration of Mission-Level Assessments. Scripts are provided with specific language for teachers to

use, along with instructions for translating for emergent bilingual students, managing student unresponsiveness, and taking detailed observation notes to capture student understanding.

In *Zearn Math*, assessment materials, such as answer keys and teacher guides, support consistent administration practices by including preparation steps, timing suggestions, and examples of expected student behavior. Clear procedures are outlined for scoring and interpreting student responses, including directions on how to adjust scoring based on the level of support provided during the assessment. For example, if a student requires significant prompting, the materials instruct teachers to lower the demonstrated level of understanding, ensuring results reflect independent performance.

In *Math Catalyst*, each lesson's "Concept Guide" outlines materials and preparation steps for administering the Progress Check and Pause and Monitor Tool. Each Progress Check includes detailed steps for administration, such as a teacher script, specific actions, and expected student responses to ensure consistency. For instance, the kindergarten "Take Away to Subtract Within 10" check includes an overview, guiding questions, and a proficiency rubric.

2.1c – Digital assessments include printable versions and accommodations, including text-to-speech, content and language supports, and calculators, that educators can enable or disable to support individual students.

In *Math Catalyst*, the materials neither include digital assessments, nor offer printable versions or accommodations such as text-to-speech, content and language supports, or calculators that educators can enable or disable to support individual students.

In *Zearn Math*, digital assessments include on-screen read-aloud capability, where students can click an audio icon to hear text read aloud. However, there is no feature for educators to enable or disable this support for individual students, limiting the ability to personalize accommodations based on specific student needs.

In *Zearn Math*, the materials do not include a built-in calculator feature, nor do they offer options for educators to customize (enable/disable) content and language supports. This limits teachers' ability to tailor digital assessments to support students' specific needs.

2.1d – Materials include diagnostic assessments with TEKS-aligned tasks or questions, including interactive item types with varying complexity levels.

In *Math Catalyst*, the materials include a Concept Diagnostic Assessment at the beginning of each Concept with TEKS-aligned tasks or questions and interactive item types with varying complexity levels. The "Implementation Guide" states, "The Concept Diagnostic Assessment can be used before or during instruction to collect data about a student's current understanding, skills, strengths, and areas for growth. It enables educators to monitor students' progress, identify learning gaps, and adapt instruction to meet students' needs."

In *Math Catalyst*, each Concept Diagnostic Assessment includes a rubric that ranks student proficiency from "Not Yet Proficient," "Partially Proficient," and "Proficient," and lists the TEKS for each objective assessed in the Concept. Tasks and questions within each assessment are sequenced from simple to complex, and include various tasks and responses that allow students to demonstrate progression toward mastery. Teachers are directed to end the assessment if the student is unable to answer the first questions and try again after the student receives more instruction.

In *Math Catalyst*, in the kindergarten "Concept Diagnostic Assessment: Perceptual Subitizing Within 5," students begin by verbally responding to a subitizing task before using counters to model a number in an arrangement, before finally recording their own answer using a writing tool and the included student assessment page.

2.1e – Materials include a variety of formative assessments with TEKS-aligned tasks or questions, including interactive item types with varying complexity levels.

In *Math Catalyst*, the materials include an Analyze Student Progress section in each Concept Mini Lesson with questions for teachers to use to informally monitor students' progress. Questions include Monitor, which assesses students in the moment, and Questions to Advance Student Thinking, which extend the objectives in the lesson for teachers to informally assess depth of learning.

In *Zearn Math*, the materials offer a range of formative assessments aligned to the TEKS, including digital lesson checkpoints, scaffolded Towers of Power, Exit Tickets, Mission-Level Assessments, and selected response practice. A TEKS alignment chart is included to help teachers connect assessment items to standards within each mission.

In *Zearn Math*, the assessments feature interactive item types with varying complexity levels, including multiple choice, text entry, drag-and-drop, open numeric entry, and the use of digital manipulatives. These formats offer diverse ways for students to demonstrate understanding and help teachers gather detailed diagnostic information.

2.2 Data Analysis and Progress Monitoring

GUIDANCE	SCORE SUMMARY	RAW SCORE
2.2a	All criteria for guidance met.	3/3
2.2b	All criteria for guidance met.	1/1
2.2c	All criteria for guidance met.	2/2
2.2d	All criteria for guidance met.	2/2
2.2e	All criteria for guidance met.	1/1
—	**TOTAL**	9/9

2.2a – Instructional assessments include scoring information and guidance for interpreting student performance, including rationale for each correct and incorrect response.

In *Zearn Math*, the materials provide rationales for correct answers in all Selected Response Practice. For example, in Mission 1, Question 1 informs teachers of the problem type and details students' understanding by selecting the correct answer.

In *Zearn Math*, the instructional materials include scoring rubrics and answer keys for Mid-Mission and End-of-Mission Assessments, offering clear guidance to help teachers interpret student performance across multiple scoring levels. These rubrics outline expected behaviors at each level of mastery, from minimal understanding to fully accurate and independent responses.

In *Math Catalyst*, the materials contain instructional assessments, scoring information, and guidance for interpreting student performance. The materials provide a Progress Toward Proficiency Rubric, which outlines how to assess students' proficiency levels at the end of each unit's Progress Check. The rubric guides teachers in rating students as "Not Yet Proficient," "Partially Proficient," or "Proficient" based on descriptors that progress from simple to complex problems.

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

In *Zearn Math*, the instructional materials include multiple reports and tools—such as the Tower Alerts Report and Progress Reports—that help teachers identify where students are repeatedly struggling. Teachers have the ability to assign lessons, given the alerts regarding challenging topics. These tools provide specific follow-up recommendations, enabling teachers to assign targeted small-group lessons and foundational content based on individual student needs.

In *Zearn Math*, the "Course Guide" and educator dashboard support real-time instructional adjustments by offering visualizations of class and student-level data. Teachers are guided to use this information to

address unfinished learning, reinforce grade-level concepts, and support student progress through small-group instruction and differentiated tasks.

In *Math Catalyst*, the "Implementation Guide" provides direction for using tools like the Analyze Student Progress section, the Observational Data Recording Sheet, and the Progress Check Tool to respond to performance trends. These tools help track proficiency, record notes during lessons, and analyze student work to determine next steps.

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

In *Math Catalyst*, the materials include tools for teachers to track student progress and growth, as well as tools for students to monitor their own development. One such tool is the Observational Data Recording Sheet, embedded in every concept. This sheet allows teachers to document performance on each objective and make notes during any lesson component, including written practice.

In *Math Catalyst*, the Progress Check Tool is used as a pre- and post-assessment to evaluate proficiency with skills taught in Concept Mini Lessons. It includes a rubric to help teachers analyze responses, celebrate progress, and plan for mastery. Additionally, the Progress Check Tool is used as a pre- and post-assessment to evaluate proficiency with skills taught in Concept Mini Lessons. It includes a rubric to help teachers analyze responses, celebrate progress, and plan for mastery.

In *Zearn Math*, students have access to tracking tools such as the Weekly Goal Tracker, Challenge Tracker, and Digital Badges, which promote accountability and motivation by visually representing lesson completion and goal achievement. The Brainy Challenge further supports goal setting and family engagement.

2.2d – If designed to be static, materials provide prompts and guidance to support educators in conducting frequent checks for understanding at key points throughout each lesson or activity.

In *Math Catalyst*, the materials provide prompts and guidance to support educators in conducting frequent checks for understanding at key points throughout each lesson or activity. Teacher Tips in the Application section offer strategies for monitoring progress and differentiating instruction. For example, in kindergarten, "Conceptual Subitizing Within 10," a tip suggests facilitating a small-group activity to informally assess understanding and provide support.

In *Math Catalyst*, each Concept Mini Lesson includes an Analyze Student Progress section with targeted questions to help teachers assess understanding. In the kindergarten Place Value lesson, teachers monitor learning by asking if students can represent and describe teen numbers as 10 ones and some more ones using objects.

In *Math Catalyst*, scripted questions embedded in each Concept Mini Lesson guide teachers in checking for understanding during instruction. For example, in kindergarten, "Addition: Composition and Decomposition Within 10," the teacher asks students to identify parts of a story, represent them on a whiteboard, and express their thinking in a number sentence.

2.2e – If designed to be adaptive, materials provide frequent checks for understanding at key points throughout each lesson or activity.

In *Zearn Math*, the digital lessons incorporate multiple checkpoints throughout each lesson to ensure continuous monitoring of student understanding. These frequent checks help identify misconceptions early and provide opportunities for immediate feedback and correction.

In *Zearn Math*, when students encounter challenges, the digital platform offers immediate, integrated support features such as dividing problems into smaller steps, providing digital manipulatives, and delivering targeted guidance. This scaffolded support enables students to progress at their own pace and develop confidence as they work toward independent mastery.

In *Zearn Math*, each lesson concludes with a Tower of Power assessment—a scaffolded, mastery-based task that gradually increases in difficulty while providing decreasing levels of support as students advance. This structure, combined with resources such as Math Chats and interactive videos, enables students to learn at their own pace and receive targeted assistance when necessary.

3. Supports for All Learners

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

3.1 Differentiation and Scaffolds

GUIDANCE	SCORE SUMMARY	RAW SCORE
3.1a	All criteria for guidance met.	1/1
3.1b	All criteria for guidance met.	4/4
3.1c	All criteria for guidance met.	2/2
3.1d	*Math Catalyst*, a static program without digital components, and *Zearn Math* do not include digital materials with accommodations, including text-to-speech, content and language supports, and calculators that educators can enable or disable to support individual students.	0/3
3.1e	All criteria for guidance met.	2/2
—	**TOTAL**	9/12

3.1a – Materials include explicit educator guidance for lessons or activities scaffolded for students who have not yet reached proficiency in prerequisite or grade-level concepts and skills.

In *Math Catalyst*, the materials provide explicit guidance for lessons and activities scaffolded for students who have not yet mastered prerequisite or grade-level concepts and skills. According to the Determining Intervention Needs for Students section of the "Implementation Guide," teachers should collect informal data by asking students to explain their thinking during math instruction. Recording classroom observations and student conversations offers an additional data point when identifying appropriate interventions.

In *Math Catalyst*, the Possible Ways to Use Components section of the "Implementation Guide" explains how to incorporate the Concept Mini Lessons. These Mini Lessons give explicit guidance and activities for students who have not yet reached proficiency. The materials suggest that teachers review or preview concepts in small groups and embed the appropriate content within lessons to strengthen skills.

In *Zearn Math*, the materials include explicit educator guidance for scaffolding during small-group instruction, particularly in Concept Exploration and Fluency Practice, where teachers address misconceptions, provide hands-on modeling, and give immediate feedback. Additionally, the digital components of the program adapt in real time based on student performance, offering step-by-step guidance, targeted hints, video tutorials, and scaffolded support.

3.1b – Materials include explicit educator guidance for language supports, including pre-teaching and embedded supports for developing academic vocabulary and unfamiliar references in text.

In *Math Catalyst*, the materials include explicit educator support for pre-teaching unfamiliar references in text or for developing academic vocabulary. The Development of Academic Mathematical Language section of the "Implementation Guide" describes the embedded support for teachers to help students understand and use precise mathematical language, such as using manipulatives and visuals, and following the Language Support notes in Concept Mini Lessons to scaffold vocabulary growth. Further, the materials include Key Terminology cards in each "Concept Guide." The cards include "student-friendly definitions and visual representations that provide a flexible opportunity for pre-teaching and reinforcing of academic mathematical language." Each set of cards can be used as flashcards, portable word walls, and sorting activities.

In *Math Catalyst*, the materials embed supports for unfamiliar references in text. In the kindergarten lesson "Addition: Compose and Decompose Numbers to 10," a picture shows various vehicles, and the Language Support section instructs the teacher to define a vehicle as "a machine that moves people or things, such as a car, truck, or bus." Students are encouraged to name other vehicles, such as trains, airplanes, or helicopters, and to identify the vehicles they see in the picture.

In *Zearn Math*, the materials include embedded language supports within the Mission Overviews to promote the development of academic vocabulary. For example, in the Mission 4 Overview, the Terminology section highlights English–Spanish cognates—such as addition (*adición*), equals (*igual*), minus (*menos*), and part (*parte*)—to help teachers intentionally build connections between the two languages. These supports are designed to ensure that all students, including emergent bilinguals, can access and engage with grade-level mathematical content.

3.1c – Materials include explicit educator guidance for enrichment and extension activities for students who have demonstrated proficiency in grade-level and above grade-level content and skills.

In *Math Catalyst*, the "Strand by Grade: Scope and Sequence" document shows how concepts build across grades, enabling teachers to identify opportunities for extending learning beyond the current grade level. The "Start here if students can . . ." statements in each Progression of Mini Lesson Objectives chart allow teachers the opportunity to work with students on above-grade-level skills for enrichment or extension. Teachers then use the Solve a Task in the Application activities to promote enrichment through open-ended problem-solving and flexible reasoning.

In *Math Catalyst*, the "Implementation Guide" states that the Practice and Application sections are to "provide enrichment and extension opportunities." Each Practice and Application has a chart with listed

activities, the purpose of the activity, and considerations. These considerations make suggestions on how to modify the activities to meet the needs of the student based on proficiency level.

In *Zearn Math*, the materials offer suggestions for students who demonstrate proficiency in grade-level content and skills. The "Course Guide" indicates that optional practice problems may be used to extend and flexibly reinforce grade-level learning. These resources support problem solving, conceptual understanding, and connecting mathematical ideas beyond the core digital lesson.

3.1d – Digital materials include accommodations, including text-to-speech, content and language supports, and calculators that educators can enable or disable to support individual students.

In *Math Catalyst*, the materials do not include any digital materials. There are no accommodations, including text-to-speech, content and language support, and calculators that educators can enable or disable to support individual students. In the "Implementation Guide," under the Components section, the materials state, "The Concept Mini Lessons station gives teachers an opportunity to provide direct instruction to small groups of students. The Practice and Application stations can be used flexibly to engage students in aligned practice and enrichment activities."

In *Zearn Math*, the materials do not include accommodations, including text-to-speech, content and language supports, and calculators that educators can enable or disable to support individual students. In kindergarten lessons, prompts are automatically presented with audio support, and text-to-speech functionality is accessible to all students. Additionally, instructional prompts and directions can be replayed using embedded audio buttons.

3.1e – Materials include educator guidance on offering options and supports for students to demonstrate understanding of mathematical concepts in various ways, such as perform, express, and represent.

In *Zearn Math*, the Teacher Lesson Materials include educator guidance on offering options and supports for students to demonstrate their understanding of mathematical concepts in various ways. For example, in Lesson 24, under "Multiple Means of Action and Expression," the materials note that "some students may benefit from using manipulatives to create a house instead of drawing," illustrating how students can perform, express, and represent their understanding through concrete models rather than abstract representations.

In *Math Catalyst*, in the "Implementation Guide," under "TEKS Mathematical Process Standards," the materials state, "The TEKS Mathematical Process Standards (MPS) are seamlessly woven into different components of the program." Students use objects, drawings, numeric representations, and precise language to communicate mathematical ideas. In the Application section, students select tools and

techniques to solve problems, and in Concept Mini Lessons, they analyze relationships to connect prior learning to new concepts.

In *Zearn Math*, the Teacher Lesson Materials also provide options to support students in demonstrating understanding through varied approaches. For example, students may use manipulatives such as attribute blocks before drawing, or work with a partner to sort data before graphing. The materials emphasize an intentional balance between whole-group and independent practice, ensuring all students have multiple opportunities to represent, engage with, and express their mathematical thinking.

3.2 Instructional Methods

GUIDANCE	SCORE SUMMARY	RAW SCORE
3.2a	All criteria for guidance met.	5/5
3.2b	All criteria for guidance met.	2/2
3.2c	All criteria for guidance met.	3/3
3.2d	All criteria for guidance met.	2/2
3.2e	All criteria for guidance met.	2/2
—	**TOTAL**	14/14

3.2a – Materials include explicit (direct) prompts and guidance for educators to build knowledge by activating prior knowledge, anchoring big ideas, and highlighting and connecting key patterns, features, and relationships through multiple means of representation.

In *Zearn Math*, the materials include explicit prompts and guidance to help educators build mathematical knowledge. In Mission 4, Lesson 18, teacher notes explain that "students are moving toward a more abstract understanding of the relationships between numbers to 5," supported by the Sprint format, which promotes pattern recognition through repeated practice with combinations that make 5. Teachers are also prompted to "briefly recall previous Sprint preparation activities" to activate prior knowledge and connect to familiar routines.

In *Zearn Math*, in Mission 5, Lesson 4, teacher notes emphasize that students decompose teen numbers, such as 17, into 10 and 7 rather than adding to find a total. This supports conceptual understanding of part-whole relationships and reinforces the idea that teen numbers are "ten ones and some more ones." Teachers are guided to prompt students to represent 17 = 10 + 7 visually to deepen understanding.

In *Zearn Math*, in Mission 5, Lesson 10, "Fluency Practice" includes guidance for using multiple means of representation to teach teen numbers. A teacher note suggests relating the group of 10 on the Rekenrek to students' fingers to help internalize base-ten structure. The combination of visual and physical representations reinforces conceptual understanding.

3.2b – If designed to be static, materials include educator guidance for effective lesson delivery and facilitation using various instructional approaches.

In *Math Catalyst*, the materials offer educator guidance for effective instruction using strategies like "sharing the learning objective with students visually and verbally," which the "Implementation Guide" calls "an essential instructional approach" for supporting students not yet proficient in math. This practice connects new learning to prior knowledge, introduces terminology, and builds student confidence. Additional strategies, such as choral reading, partner reading, and visual support, enhance understanding.

In *Math Catalyst*, the Implementation Guide outlines how to structure instruction through components like Possible Ways to Use Components, Sample Schedules, and Station Rotations. For example, the Concept Mini Lessons station provides small-group instruction, while the Practice and Application stations support aligned practice and enrichment. The Bring Your Own Tech station allows students to complete teacher-selected digital activities related to the concept.

In *Math Catalyst*, under "Tiered Instructional Recommendations," the guide states, "For supplemental support, instruction can be delivered in a small-group setting," and for intensive support, it "can be individualized, adapted, and delivered in a group size that meets the needs of students." *Math Catalyst* offers short, targeted Tier 2 and Tier 3 lessons outside of core instruction. These lessons follow three–four sequenced objectives and use the Progression of Mini Lesson Objectives to address specific student needs.

3.2c – Materials include multi-tiered intervention methods for various types of practice and structures and educator guidance to support effective implementation.

In *Zearn Math*, the materials provide clear, embedded guidance for implementing intervention across instructional settings. Each small-group lesson includes structured components like Fluency Practice, Concept Exploration, Lesson Synthesis, and Exit Tickets, along with prompts and routines (e.g., Turn and Talk, Think-Pair-Share) to support effective delivery and promote student engagement and understanding. Additionally, teachers are guided to use real-time digital lesson data, such as Tower Alert Reports, to identify student needs and determine when to intervene.

In *Math Catalyst*, the materials offer multi-tiered intervention strategies and educator guidance for implementation. In the Possible Ways to Use Components section of the "Implementation Guide," Concept Mini Lessons are recommended for small-group instruction to "review, preview, strengthen skills and concepts," while Practice and Application components can "build stations" or offer direct instruction. Practice Pages support "spaced retrieval, spiral review, and interleaved practice," and Application tasks offer "enrichment and extension opportunities" and help "build fluency and automaticity."

In *Math Catalyst*, according to the "Implementation Guide," "Math Catalyst is a supplemental instructional resource designed to be used within a Multi-Tiered System of Supports (MTSS) to maximize student achievement in mathematics." It supports Tier 2 and Tier 3 instruction through short, targeted lessons delivered outside of core instruction and sequenced across 3–4 objectives. Lessons can be used in small groups or individualized settings, with Practice and Application activities offering aligned, guided, or independent practice; in kindergarten, these are combined into a single Practice & Application component.

3.2d – Materials include enrichment and extension methods that support various forms of engagement, and guidance to support educators in effective implementation.

In *Zearn Math*, the materials provide specific activities to deepen student learning. The Mission 5, Lesson 21, warm-up activity includes a specific enrichment suggestion: "Challenge students to double the number of puppies in the cage using two 10-frames to show 10 and some more." This guidance encourages teachers to extend learning by building on core content and engaging students in deeper mathematical thinking.

In *Math Catalyst*, the materials include enrichment and extension methods that promote varied student engagement, along with implementation guidance for educators. The "Implementation Guide" states, "The Practice and Application stations can be used flexibly to engage students in aligned practice and enrichment activities," allowing them to "work independently, with a partner, or in a small group" to build fluency and automaticity. These components support differentiated instruction through targeted practice.

In *Math Catalyst,* Concept Internalization in the "Implementation Guide" provides guiding questions for planning enrichment and extension across lesson components. In Concept Mini Lessons, teachers are prompted to ask, "What do my students already know? What can they already do? What do they need support with?" Similarly, in Practice and Application and Progress Check, teachers reflect on questions such as, "How do the Practice Pages progress from simple to complex?" and "What does proficiency look like with the content of this concept?"

3.2e – Materials include prompts and guidance to support educators in providing timely feedback during lesson delivery.

In *Zearn Math*, the Teacher Lesson Materials include prompts to support educators in providing timely feedback during lesson delivery. Throughout Warm-Ups (Fluency Practices), Concept Explorations, and Exit Tickets, multiple prompts are embedded to help teachers gauge student understanding of the content in real time. This guidance enables educators to adjust instruction promptly and support student learning effectively.

In *Zearn Math*, digital lessons include features that provide students with timely, real-time feedback and adaptive support as they work independently through grade-level content. These lessons are designed to maintain rigor while allowing students to progress at their own pace. When students struggle, the system generates a Tower Alerts Report that alerts teachers and recommends specific Foundational Lessons to address gaps in understanding, enabling targeted, just-in-time intervention aligned with core instruction.

In *Zearn Math*, the materials include prompts that support educators in providing timely feedback during lesson delivery through strategic questioning. In Mission 4, Lesson 40, teachers are guided to check for understanding as students work on decomposition using cubes. Questions such as "How many more

cubes does two need to make ten?" and "How do you know?" encourage students to explain their thinking, allowing teachers to assess understanding and respond with immediate feedback.

3.3 Support for Emergent Bilingual Students

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

GUIDANCE	SCORE SUMMARY	RAW SCORE
3.3a	All criteria for guidance met.	4/4
3.3b	All criteria for guidance met.	4/4
3.3c	All criteria for guidance met.	1/1
3.3d	All criteria for guidance met.	8/8
3.3e	This guidance is not applicable to the program.	N/A
—	**TOTAL**	17/17

3.3a – If designed to be static, materials include educator guidance on providing and incorporating linguistic accommodations for all levels of language proficiency [as defined by the English Language Proficiency Standards (ELPS)], which are designed to engage students in using increasingly more academic language.

In *Math Catalyst*, the materials include educator guidance on providing linguistic accommodations for all English language proficiency levels, as outlined by the ELPS. Although the "Implementation Guide" states that "Guidance for supporting EB students in making cross-linguistic connections through oral and written discourse is embedded in the Concept Guide," this guidance is uniform across grades K–2. The materials offer tips for EBs, including differentiated accommodations by proficiency level at the beginning of each concept's "Alignment Guide," which supports advancing students toward higher levels of academic language across lesson components.

In *Math Catalyst*, the "Implementation Guide" notes that the "Alignment Guide for each concept includes alignment to the English Language Proficiency Standards and highlights embedded supports for different levels of language proficiency," but these supports are minimal. Most lessons include fewer than one embedded support, which often consists only of gestures or visuals like number cards, and are similar across all lessons. These strategies are limited to beginner and intermediate proficiency and do not address more advanced language needs.

In *Math Catalyst*, the materials include Language Support notes within some Concept Mini Lessons, offering guidance to build vocabulary, comprehension, and background knowledge. However, not every lesson contains this support, and when provided, it typically consists of teacher-modeled phrases and simple sentence frames. These methods primarily assist students at the beginning level of language acquisition and lack scaffolds for students progressing toward advanced proficiency.

3.3b – If designed to be adaptive, materials include embedded linguistic accommodations for all levels of language proficiency [as defined by the English Language Proficiency Standards (ELPS)], which are designed to engage students in using increasingly more academic language.

In *Zearn Math*, the materials include embedded linguistic accommodations for all language proficiency levels, as defined by the ELPS. Found in the Multiple Means notes, supports include sentence frames, modeled vocabulary, and oral language routines.

In *Zearn Math*, the materials include embedded linguistic accommodations for beginning and intermediate emergent bilingual students, as defined by the ELPS, to support their development of academic language. For example, in Mission 2, Lesson 3, the materials suggest using pictures and concrete examples to help students connect to key vocabulary such as *straight*, *sides*, and *corners*.

In *Zearn Math*, in the Lesson Synthesis of Mission 1, the materials include embedded linguistic accommodations for varying levels of language proficiency. For example, students are prompted to "turn and talk to your neighbor," giving them the opportunity to rehearse their thinking with a partner before sharing with the whole class. The guidance also suggests that beginning and intermediate emergent bilingual students may benefit from strategic pairings that support the use of their native language to encourage idea sharing.

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

In *Math Catalyst*, the materials include implementation guidance to support educators in effectively using the materials in state-approved bilingual/ESL programs. The "Implementation Guide" contains support in the "Using *Math Catalyst* in State-Approved Bilingual/ESL Programs" guidance. A table is presented for educators with the Instructional Model, Recommended Structure, and Recommended Modification available to support educators in their specific program.

In *Math Catalyst*, the "Using *Math Catalyst* in State-Approved Bilingual/ESL Programs" guidance includes references to the other sources of support available to the teacher. For example, in the row designated as the Transitional Bilingual Early Exit/Late Exit program, educators can use the materials "as designed, allowing the certified bilingual teacher to use materials (Key Terminology, Play a Game, Family Math) creatively to support learning."

In *Zearn Math*, the materials include implementation guidance to support educators in effectively using the materials in state-approved bilingual/ESL programs. Guidance found in the "Course Guide" outlines how the resource can be flexibly implemented across a variety of models, including dual language, transitional bilingual, ESL pull-out, and ESL content-based. Suggestions for adapting instruction, using digital lessons effectively, and incorporating scaffolds are provided.

3.3d – Materials include embedded guidance to support emergent bilingual students in developing academic vocabulary, increasing comprehension, building background knowledge, and making cross-linguistic connections through oral and written discourse.

In *Math Catalyst*, the materials include embedded guidance to support emergent bilinguals in increasing comprehension, building background knowledge, or making cross-linguistic connections through written discourse or increasing comprehension through oral discourse. Each "Concept Guide" contains Key Terminology cards and a Family Math page that references the same cards. When used in the classroom and at home, the cards increase "comprehension through discourse, leveraging home language through cross-linguistic connections, or supporting writing or spelling of key vocabulary."

In *Math Catalyst*, the materials include guidance to support emergent bilingual students in building academic vocabulary, background knowledge, and making cross-linguistic connections through oral discourse. For example, in "Subtraction: Take Away to Subtract Within 10," students "turn and talk" using manipulatives to explain their thinking, and in "Composition and Decomposition Within 10, Objective 3," the teacher defines *vehicle* and uses images before introducing a story problem.

In *Zearn Math*, the materials include embedded guidance for supporting emergent bilingual students in developing academic vocabulary, increasing comprehension, building background knowledge, or making cross-linguistic connections through written discourse. Activities found throughout the Concept Exploration prompt students to write about key grade-level concepts—such as describing the attributes of a triangle or comparing solid shapes using sentence frames and modeled responses. Teachers are also prompted to review cognates in Spanish and other languages and integrate the terms into sentence writing activities.

3.3e – If designed for dual language immersion (DLI) programs, materials include resources that outline opportunities to address metalinguistic transfer from English to the partner language.

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

4. Depth and Coherence of Key Concepts

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

4.1 Depth of Key Concepts

GUIDANCE	SCORE SUMMARY	RAW SCORE
4.1a	All criteria for guidance met.	2/2
4.1b	All criteria for guidance met.	4/4
—	**TOTAL**	6/6

4.1a – Practice opportunities throughout learning pathways (including instructional assessments) require students to demonstrate depth of understanding aligned to the TEKS.

In *Math Catalyst*, the materials provide TEKS-aligned practice opportunities that develop conceptual understanding. Each concept includes worksheets, games, and hands-on activities in the Practice and Application section. Students demonstrate understanding by responding to teacher questions and completing structured tasks. In the kindergarten "Early Numeracy" lesson, the teacher uses a show-and-respond subitizing activity and guides students to recreate numbers with counters. The Monitor section helps identify learning gaps or misunderstandings.

In *Zearn Math*, instructional and assessment tasks are aligned to the TEKS and vary in complexity to meet diverse learner needs. Examples include Mid-Mission and End-of-Mission assessments that require students to explain their reasoning, model with manipulatives, and solve real-world problems using multiple representations such as drawings, equations, and number sentences.

In *Zearn Math*, students demonstrate their understanding throughout the learning pathways through guided practice, open-ended discussions, and math chats. Teacher guidance encourages probing for reasoning and explanation, supported by rubrics that track progress from minimal to solid reasoning, ensuring that assessments measure conceptual understanding aligned with the TEKS.

4.1b – Questions and tasks, including enrichment and extension materials, increase in rigor and complexity, leading to grade-level and above grade-level proficiency in the mathematics TEKS.

In *Zearn Math*, the materials include practice opportunities and scaffolded assessments that build conceptual understanding and align with the TEKS, with tasks that increase in rigor and complexity. Above-grade-level content is integrated into both digital core lessons and optional supports such as Digital Bonuses and teacher-guided extensions. For example, in the Digital Bonus for Mission 5, Lesson

18, students apply place value understanding to distinguish between visual representations of numbers greater than 30—extending their kindergarten work with K.2C into grade 1 expectations.

In *Zearn Math*, the materials include practice opportunities and scaffolded assessments that build conceptual understanding and align with the TEKS, with tasks that increase in rigor and complexity. For example, Mission 5 supports understanding of teen numbers through decomposition, while the Tower of Power gradually reduces support to help students demonstrate proficiency.

In *Math Catalyst*, each Concept Mini Lesson concludes with an Analyze Student Progress section, which includes questions and tasks designed to assess understanding and guide instruction. While enrichment and extension are embedded in the core content, they are limited in number—typically only two–three questions and three–four activities. This may not provide enough opportunities for students to engage with content beyond grade level.

4.2 Coherence of Key Concepts

GUIDANCE	SCORE SUMMARY	RAW SCORE
4.2a	All criteria for guidance met.	1/1
4.2b	All criteria for guidance met.	1/1
4.2c	All criteria for guidance met.	4/4
—	**TOTAL**	6/6

4.2a – Materials demonstrate coherence across concepts horizontally within the grade level by connecting patterns, big ideas, and relationships.

In *Math Catalyst*, the "Strand by Grade: Scope and Sequence" outlines both horizontal and vertical alignment, showing how concepts build across and within grades. It states, "Concepts and Objectives within each strand build upon each other to form a ladder of mathematical understanding." In kindergarten, students progress from "Verbal and Object Counting to 5" through "Counting to 20," then transition to "Number Symbols to 10."

In *Zearn Math*, the instructional materials demonstrate coherence within each grade level by connecting concepts across missions and lessons. Mission Overviews consistently explain how each mission builds on prior knowledge and prepares students for future learning, such as progressing from number composition in Mission 4 to working with teen numbers in Mission 5.

In *Zearn Math*, mission and lesson overviews emphasize conceptual progression across content areas, such as number sense and geometry. For example, students move from understanding simple number relationships to decomposing teen numbers and from identifying basic shapes to classifying two- and three-dimensional figures based on their attributes.

4.2b – Materials demonstrate coherence vertically across concepts and grade bands, including connections from grade K–6, by connecting patterns, big ideas, and relationships.

In *Zearn Math*, the materials demonstrate clear connections from kindergarten through grade 6 by intentionally building patterns, big ideas, and relationships across grade levels. The scope and sequence outlines how core concepts are introduced, extended, and deepened through a coherent K–8 learning progression. Examples of coherence include place value, multiplication/division, and fractions, each developed systematically across multiple grades.

In *Zearn Math*, specific examples, such as the use of number bonds in kindergarten through grade 2 and the development of place value understanding through the Say Ten method, illustrate how key concepts evolve across grade levels. Overviews within missions explicitly identify how current lessons prepare students for more advanced work in future grades.

In *Zearn Math*, this progression is outlined in overarching documents and reinforced within individual lessons, where prior knowledge is routinely activated and new concepts are presented as part of a continuous mathematical journey. The instructional materials extend patterns of thinking, strengthen connections among concepts, and equip students for success in future grade-level learning.

4.2c – Materials demonstrate coherence across lessons or activities by connecting students' prior knowledge of concepts and procedures to the mathematical concepts to be learned in the current grade level and future grade levels.

In *Zearn Math*, the materials demonstrate coherence across lessons by consistently building on students' prior knowledge to support current learning and prepare for future grade-level content. Concepts such as decomposing teen numbers into 10 ones and some ones and using the Say Ten method help students develop a foundational understanding of place value that supports later mathematical learning.

In *Zearn Math*, Mission Overviews and Teacher Lesson Materials explicitly connect early number sense skills—like counting, composing, and decomposing numbers—to the development of operations and equations. Tools such as number bonds and manipulatives bridge concrete and abstract representations, reinforcing part–part–whole relationships and supporting readiness for addition and subtraction.

In *Zearn Math*, teachers are supported through scripted lesson notes and visual progressions that show how kindergarten content connects to grade 1 and beyond. These resources clarify how early mathematical experiences prepare students for more advanced concepts, ensuring coherence within and across grade levels.

4.3 Coherence and Variety of Practice

GUIDANCE	SCORE SUMMARY	RAW SCORE
4.3a	All criteria for guidance met.	2/2
4.3b	All criteria for guidance met.	2/2
—	**TOTAL**	4/4

4.3a – Materials provide spaced retrieval opportunities with previously learned skills and concepts across learning pathways.

In *Zearn Math*, the materials provide consistent opportunities for spaced retrieval by incorporating fluency practice that revisits previously learned skills at the start of each lesson. These warm-ups reinforce foundational concepts such as number sense, counting, and part–whole relationships, helping students retain and strengthen prior knowledge.

In *Zearn Math*, adaptive activities like those found in the Number Gym—such as Make and Break, Number Bond Dash, and Tell the Hidden Number—are designed to reinforce learning from earlier missions while preparing students for upcoming content. These activities connect new and prior concepts through concrete, pictorial, and symbolic representations.

In *Zearn Math*, teacher guidance and lesson overviews emphasize how fluency practice builds coherence over time. By repeatedly engaging with earlier skills such as decompositions, number bonds, and counting strategies, students deepen their understanding and are better equipped for more advanced mathematical learning.

4.3b – Materials provide interleaved practice opportunities with previously learned skills and concepts across learning pathways.

In *Zearn Math*, the materials offer interleaved practice by encouraging students to apply previously learned skills and concepts in new contexts. For example, in Mission 4, students use addition strategies learned earlier, such as number bonds, cubes, and drawings, to solve problems and explain their reasoning.

In *Zearn Math*, missions build on earlier content to deepen understanding, such as Mission 6 extending students' knowledge of two- and three-dimensional shapes from Mission 2, while also integrating skills from measurement, number, and operations through engaging activities like the Math Olympics.

In *Zearn Math*, fluency practices and lesson tasks regularly revisit foundational skills, such as counting, number recognition, and composition/decomposition, across multiple missions. This allows students to reinforce and integrate their learning through varied methods and problem-solving scenarios.

5. Balance of Conceptual and Procedural Understanding

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

5.1 Development of Conceptual Understanding

GUIDANCE	SCORE SUMMARY	RAW SCORE
5.1a	All criteria for guidance met.	3/3
5.1b	All criteria for guidance met.	2/2
5.1c	All criteria for guidance met.	1/1
—	**TOTAL**	6/6

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

In *Zearn Math*, the questions and tasks provide opportunities for students to interpret, analyze, and evaluate models and representations for mathematical concepts and situations. In Kindergarten Mission 5, Lesson 21, students use two-color beans, number bonds, and equations to explore teen number decompositions. They interpret quantities, analyze different visual and symbolic models, and evaluate which representation best shows their thinking.

In *Zearn Math*, in multiple lessons across kindergarten, students are prompted to analyze and compare visual representations—such as number bonds, object groupings, and graphs—and explain their reasoning. The materials also engage students in evaluating shape models and combinations through hands-on activities. In Mission 6, Topic A, students construct shapes with straws and clay and investigate how changing side lengths affects the shape, encouraging critical thinking and reflection.

In *Math Catalyst*, the "Implementation Guide" explains that the program balances conceptual understanding and procedural skills through progressively complex Concept Mini Lessons and supporting Practice activities. Application tasks extend learning by having students transfer knowledge to new contexts using tools and strategies of their choice. TEKS Mathematical Process Standards are integrated throughout as students use objects, drawings, numeric representations, and precise language to build understanding.

5.1b – Questions and tasks provide opportunities for students to create concrete models and pictorial representations to represent mathematical situations.

In *Math Catalyst*, the materials include tasks that prompt students to create concrete and pictorial models of math situations. The "Implementation Guide" highlights the Read–Draw–Write Tool, which uses visuals, prompts, and questions to support problem-solving. Students read the problem, create or adjust drawings as new information is discovered, and write number sentences or equations to represent their thinking.

In *Math Catalyst*, each Concept Mini Lesson provides questions and tasks for students to create models and pictorial representations. For example, in kindergarten, "Early Numeracy: Concept Mini Lessons: Verbal and Object Counting to 5," students use linking cubes and their own hands to show one-to-one correspondence of numbers through 5. Later in the lesson, students use the "mark and count" strategy to count items in a given image.

In *Zearn Math*, questions and tasks provide opportunities for students to create concrete models to represent mathematical situations. The materials include tasks that prompt students to draw pictures and diagrams to represent mathematical ideas. In kindergarten Mission 5, Lesson 8, students create and compare number bonds of 13 and draw matching visuals to explain their thinking, supporting conceptual understanding through pictorial modeling.

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

In *Math Catalyst*, the materials provide opportunities for students to apply conceptual understanding to new contexts through all curriculum components. The "Implementation Guide" states, "The objectives in Concept Mini Lessons progress in complexity and provide opportunities for students to develop conceptual understanding and procedural fluency," while the Practice and Application components help students "solidify" skills and "transfer knowledge to new applications and build fluency."

In *Math Catalyst*, students extend learning in the Practice and Application section by applying conceptual understanding in new situations. For example, in the kindergarten "Composition and Decomposition Within 10," students play Shake Those Disks and use Part–Total Pictures to complete number bonds and show thinking with or without manipulatives, helping build part–whole understanding.

In *Zearn Math*, the materials prompt students to use number bonds and drawings to solve story problems, identify unknowns, and connect mathematical representations with real-world examples. Digital and print tasks also encourage students to reflect on the relevance of math concepts like part-whole relationships, one more/less, and shape attributes beyond the classroom.

5.2 Development of Fluency

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

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

In *Zearn Math*, the materials provide tasks designed to build student automaticity and fluency through daily, embedded fluency practice. For example, digital lessons begin with a fluency warm-up such as Number Train or 5-Frame Peek-a-Boo, which helps students build number recognition and subitizing skills. These repetitive, fast-paced tasks strengthen the foundational fluency required for success in grade-level math.

In *Zearn Math*, lessons include adaptive fluency activities, such as Number Gym, and lesson-aligned sprints, like Make and Break or Number Bond Dash, tailored to reinforce prior learning and prepare students for upcoming content. Real-time feedback and visual supports keep students engaged while targeting unfinished learning. This structure ensures fluency and automaticity are built through consistent, individualized practice that connects directly to core lesson content.

In *Math Catalyst*, the "Implementation Guide" explains, Practice and Application supports fluency-building through "spaced retrieval, spiral review, and interleaved practice" as well as through games. In kindergarten, "Place Value: Compose, Decompose, and Represent Teen Numbers," students trace number sentences, use 10-frames, and organize objects from 11 to 19 to reinforce TEKS K.2B by representing teen numbers as "10 ones and some more ones."

5.2b – Materials provide opportunities for students to practice the application of efficient, flexible, and accurate mathematical procedures throughout learning pathways.

In *Zearn Math*, the materials provide opportunities for students to practice efficient, flexible, and accurate mathematical procedures through sequenced tasks that build conceptual understanding. For example, in Mission 5, students develop strategies for counting "10 and some more" using objects, ten-frames, and drawings, which support procedural fluency in place value. As they move through digital lessons and receive immediate feedback in Tower of Power, students refine their accuracy and efficiency.

In *Zearn Math*, lessons offer multiple pathways for solving problems, encouraging students to apply and compare different strategies. In Mission 5, Lesson 21, students show teen numbers using number bonds, drawings, hide zero cards, and Rekenreks, then discuss which strategy worked best. This promotes

flexibility in mathematical thinking and supports the development of efficient and accurate problem-solving approaches.

In *Math Catalyst*, Concept Mini Lessons include tasks that build procedural fluency through a progression of strategies. For example, in kindergarten, "Addition: Count All to Add Within 10," students begin with linking cubes to model joining, then count using a number path, and finally create number sentences. During the Progress Check, students demonstrate procedural accuracy and flexibility by choosing among multiple methods to solve problems.

5.2c – Materials provide opportunities for students to evaluate mathematical representations, models, strategies, and solutions for efficiency, flexibility, and accuracy throughout learning pathways.

In *Zearn Math*, the materials provide opportunities for students to evaluate mathematical representations, models, and strategies by comparing their approaches with peers. For example, in Mission 5, Lesson 5, students solve a word problem and then compare drawings with a partner, discussing similarities and differences and representing their thinking with a number bond. These conversations help students reflect on the efficiency and accuracy of different solution paths.

In *Math Catalyst*, the materials provide opportunities for students to evaluate mathematical representations, models, strategies, and solutions for efficiency, flexibility, and accuracy. In the kindergarten Concept Mini Lessons for "Subtraction: Take Away to Subtract Within 10," students build sets with linking cubes to model 5 − 1 = 4, then apply this understanding to pictorial representations by identifying the subtrahend, minuend, and difference.

In *Math Catalyst*, the Practice and Application component allows students to evaluate models and strategies independently or with a partner. In kindergarten, "Subtraction: Take Away to Subtract Within 10," students trace subtraction sentences, tell subtraction stories, roll dice to subtract and cross off items, and match picture cards to number sentences using printed or self-made number bonds. These activities reinforce subtraction concepts through multiple representations.

5.2d – Materials contain guidance to support students in selecting increasingly efficient approaches to solve mathematics problems.

In *Zearn Math*, the materials prompt teachers to guide students in discussing and applying efficient counting strategies. For example, in Mission 4, Lesson 9: "Fluency Practice," students practice decomposing numbers through structured tasks like grouping and crossing out fish. Teachers are encouraged to pause and ask students to explain how they located groups efficiently.

In *Math Catalyst*, the materials contain guidance to support students in selecting the most efficient approaches when solving mathematics problems. For example, in the "Implementation Guide" under the About the Read–Draw–Write Tool section, the materials state, "the tool provides visuals, prompts, and

questions to remind students how they can approach solving a variety of problems." Students approach problem-solving by carefully reading the problem, breaking it into parts, and using drawings to represent their thinking.

In *Math Catalyst*, the Progression of Mini Lesson Objectives in each concept provides guidance in the progression of approaches to mathematics problems from least to most efficient. For example, in kindergarten "Subtraction: Take Away to Subtract Within 10," the materials begin with using linking cubes and curriculum-provided pictorial models to using a number path and number bonds. Finally, the student solves subtraction problems by creating their own pictorial representation of simple dots.

5.3 Balance of Conceptual Understanding and Procedural Fluency

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

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

In *Math Catalyst*, the materials explicitly state how the conceptual and procedural emphasis of the TEKS are addressed. The "Implementation Guide" states that program components are "structured to balance the development of conceptual understanding with procedural skills," with Concept Mini Lessons building complexity, Practice solidifying understanding, and Application promoting fluency through real-world contexts. This structure ensures students develop a deep understanding while gaining procedural accuracy and flexibility.

In *Zearn Math*, the materials explicitly state how the procedural emphasis of the TEKS is addressed. In the Mission 4 Overview, students develop procedural fluency by engaging with number sentences and word problems that reinforce composition and decomposition. The materials highlight that by the end of the mission, students will be able to write equations and represent word problems, supporting procedural skill development aligned to the TEKS.

In *Zearn Math*, by guiding students through experiences that develop understanding of number composition and decomposition, the materials explicitly express how the conceptual and procedural emphasis of the TEKS are addressed. In Mission 4, Topic A, students engage in concrete and representational activities, such as using number bonds and drawings, to explore and record relationships between quantities. This approach supports both conceptual understanding and procedural skill development aligned to the TEKS.

5.3b – Questions and tasks provide opportunities for students to use concrete models, pictorial representations, and abstract models as required by the TEKS.

In *Math Catalyst*, the materials include questions and tasks that provide opportunities for students to use concrete models, pictorial representations, and abstract models as required by the TEKS. In the "Implementation Guide" under About the Read–Draw–Write Tool, the materials state that the tool "provides visuals, prompts, and questions to remind students how they can approach solving a variety of problems." Prompts include "Can I draw something? What can I draw?" followed by drawing, labeling known and unknown values, writing equations, solving, and stating the answer.

In *Zearn Math*, the Mission 4, Lesson 2 materials provide opportunities for students to use concrete models, pictorial representations, and abstract models as required by the TEKS. The lesson begins with students acting out a word problem using hula hoops and classmates as a concrete model. Students then draw number bonds and representations on whiteboards, concluding by writing numerals, reinforcing the progression from concrete to pictorial to abstract understanding.

In *Zearn Math*, questions and tasks provide opportunities for students to use concrete models, pictorial representations, and abstract models as outlined by the TEKS. In Mission 2, Lesson 1, students initially use pattern blocks to count and discuss quantities as a concrete representation. They then collaborate with a partner to create pictorial illustrations and write equations, supporting a transition from hands-on exploration to abstract reasoning.

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

In *Math Catalyst*, the materials support students in connecting and creating concrete and representational models to abstract concepts through tools like the Read–Draw–Write Tool, which provides visuals, prompts, and guiding questions. Additionally, embedded support in lessons and take-home activities reinforces connections between models and abstract ideas. The "Implementation Guide" highlights that students use drawings, numeric representations, and precise language to communicate mathematical thinking. In both classwork and Family Math pages, students analyze relationships, apply strategies, and explain their thinking using visual models and guided questions.

In *Zearn Math*, the materials include structured supports that help students connect, create, define, and explain concrete and representational models to abstract concepts, as required by the TEKS. In Mission 4, Lesson 21, teachers guide students to transition from using linking cubes to model subtraction story problems to writing and reading corresponding number sentences. Through repeated practice and partner discussions, students explicitly link physical tools and visual models to symbolic notation, deepening their understanding.

In *Zearn Math*, the materials include supports for students in defining and explaining concrete and representational models to abstract concepts, as required by the TEKS. For example, in Mission 2, students progress from describing and identifying attributes of two- and three-dimensional shapes using concrete models and visuals to defining shapes abstractly based on their attributes. This progression supports deeper conceptual understanding of geometric concepts.

5.4 Development of Academic Mathematical Language

GUIDANCE	SCORE SUMMARY	RAW SCORE
5.4a	All criteria for guidance met.	1/1
5.4b	All criteria for guidance met.	2/2
5.4c	All criteria for guidance met.	1/1
5.4d	All criteria for guidance met.	2/2
5.4e	All criteria for guidance met.	2/2
—	**TOTAL**	8/8

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

In *Math Catalyst*, the materials provide opportunities for students to develop academic mathematical language using visuals, manipulatives, or other language development strategies using the Read–Draw–Write Tool. For example, the "Implementation Guide" states, "The tool provides visuals, prompts, and questions to remind students how they can approach solving a variety of problems." Prompts include, "Ask, 'Can I draw something?' Then ask, 'What can I draw?' Draw to represent the problem as you reread . . . Label what is known and unknown. Ask, 'What does my drawing show me?' Write number sentences or equations to represent your thinking. Solve. Write a statement that answers the original question."

In *Math Catalyst*, students use manipulatives in the Practice and Application sections of the materials to develop their academic language. For example, in kindergarten "Early Numeracy: Verbal and Object Counting to 10," students practice verbal counting and one-to-one correspondence by using "concrete objects for counting to 10 . . . pictures of cats and of dots on dice . . . items in various arrangements . . . [and] count cubes, matching each cube to a numeral."

In *Zearn Math*, the materials provide opportunities for students to develop academic mathematical language using manipulatives and guided teacher questioning. In Mission 2, Lesson 2, students describe two-dimensional shape attributes using mathematical vocabulary such as *sides*, *corners*, and *curves*, while engaging with shape visuals. The teacher reinforces language development by recording and labeling shapes like *triangle* on the board, supporting students in making connections between attributes, terminology, and visual representations.

5.4b – Materials include embedded educator guidance to scaffold, support, and extend students' use of academic mathematical vocabulary in context when communicating with peers and educators.

In *Math Catalyst*, the materials include embedded educator guidance to scaffold and support students' use of precise mathematical vocabulary during communication with peers and teachers. The "Implementation Guide" states, "*Math Catalyst* includes embedded support to help students understand

and use precise mathematical language," noting that teachers model precision by restating student responses and using visuals. Language Support notes in Concept Mini Lessons provide additional scaffolding strategies to develop and reinforce vocabulary.

In *Zearn Math*, the materials include embedded educator guidance to scaffold, support, and extend students' use of academic mathematical vocabulary in context when communicating with peers and educators. For example, in Mission 1, Lesson 3, the teacher guides students through a matching activity where they describe similarities using precise language and sentence frames. The guidance extends vocabulary use by having students explain how items are used together in complete sentences, with teachers circulating to support correct usage and encourage rich mathematical communication.

In *Zearn Math*, the Mission 4, Lesson 14 materials include embedded educator guidance to scaffold and support students' use of academic mathematical vocabulary in context. During Concept Exploration, students use linking cubes to model addition stories and are encouraged to use terms like *join*, *the same as*, and *total* when writing equations. The materials guide teachers to circulate and listen for accurate vocabulary and mathematical discussion, supporting vocabulary development through observation and feedback.

5.4c – Materials include embedded guidance to support student application of appropriate mathematical language and academic vocabulary in discourse.

In *Math Catalyst*, the materials include embedded guidance to support student use of appropriate mathematical language and academic vocabulary in discourse. The "Implementation Guide" recommends the Read–Draw–Write Tool, which "provides visuals, prompts, and questions to remind students how they can approach solving a variety of problems." It offers two versions of the tool, advising teachers to "select and print the version appropriate for your students" and to consider laminating it for repeated use throughout the year.

In *Zearn Math*, the materials include embedded guidance to support student application of appropriate mathematical language and academic vocabulary in discourse. For example, in Mission 2, Lesson 6, the guidance recommends facilitating student talk by providing sentence frames such as, "These two solids are the same because they have . . ." and, "This one rolls, but this one just . . .," encouraging students to use precise vocabulary and the names of solids. This support promotes clearer communication and deeper engagement with mathematical concepts.

In *Zearn Math*, each lesson includes a Warm-Up featuring fluency practice and a word problem that introduce new concepts and review prior learning, providing students opportunities to engage in conversations using academic language. For example, in Mission 4, Lesson 3, students use manipulatives and drawings to represent word problems, then discuss their work with a partner. These discussions encourage the use of vocabulary such as *total*, *in all*, *join, separate*, and *number bond*, supporting development of mathematical language in context.

5.4d – Materials include embedded guidance to facilitate mathematical conversations allowing students to hear, refine, and use math language with peers.

In *Math Catalyst*, the materials include embedded guidance to facilitate mathematical conversations, allowing students to hear, refine, and use math language with peers in Concept Mini Lessons. For example, in kindergarten, "Subtract: Take Away to Subtract Within 10," students review the use of mathematical symbols to relay information. The materials state, "We use special symbols to write a subtraction number sentence. Instead of writing the words take away, we write a subtraction sign. Instead of writing the word is, we write an equal sign. Read the number sentence like this: 5 minus 1 equals 4. Try it."

In *Math Catalyst*, the materials include Teacher Tips and Language Support in the Concept Mini Lessons to facilitate mathematical conversations. For example, in kindergarten, "Addition: Composition and Decomposition Within 10," the "Teacher Tip" states, "Students may begin to informally discover the commutative property of addition. For example, students may say, "5 is 1 and 4" or "5 is 4 and 1." Consider using this discovery to emphasize that the order of the parts does not change the total." The Language Support states, "Support students with language production by using the Number Sentences template from Objective 1. Consider posting and pointing to these sentence frames as students share their number sentences."

In *Zearn Math*, the materials include embedded guidance to facilitate mathematical conversations, allowing students to hear, refine, and use math language with peers. For example, in Mission 3, Lesson 17, teachers are guided to prompt students to compare sets of linking cubes and discuss their observations with a partner. The materials also instruct teachers to model precise comparative statements such as "more than" or "the same as," and to circulate, supporting students as they practice using accurate mathematical language in context.

5.4e – Materials include embedded guidance to anticipate a variety of student answers including exemplar responses to questions and tasks, including guidance to support and/or redirect inaccurate student responses.

In *Math Catalyst*, the materials include embedded guidance to anticipate a variety of student answers, including exemplar responses to questions and tasks, including guidance to support or redirect inaccurate student responses through structured teacher guidance. For example, the Concept Mini Lessons in each unit include crafted sample dialogues with anticipated student responses, exemplar answers, and strategies for refining or redirecting student thinking.

In *Zearn Math*, the materials include support for redirecting inaccurate student responses. For example, in Mission 1, Lesson 9, "Checkpoint 1 (0:42)," students are asked to count 5 train cars and select the number 5. If students provide an inaccurate response, a video launches to support students. The on-

screen teacher models counting 1, 2, 3, 4, 5, with highlighting of the cars on the screen to further support the students' developing one-to-one correspondence.

In *Zearn Math*, the materials include embedded guidance with exemplar responses but do not anticipate a variety of student answers or provide strategies to redirect inaccurate responses. For example, in Mission 6, Lesson 1, students build shapes using sticks and clay, and teachers are prompted to ask questions that elicit student thinking. The materials include exemplar student responses such as "I used four sticks. I made a square," and "There are four sides, and they are all the same! It has four corners. It is closed," but the materials do not include teacher guidance for addressing inaccurate responses.

5.5 Process Standards Connection

GUIDANCE	SCORE SUMMARY	RAW SCORE
5.5a	All criteria for guidance met.	1/1
5.5b	All criteria for guidance met.	2/2
5.5c	All criteria for guidance met.	1/1
—	**TOTAL**	4/4

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

In *Math Catalyst*, the materials include the TEKS process standards integrated appropriately into the materials. The Family Math page for each unit contains visual representations of the concepts to be taught, along with information for families. Additionally, in Practice and Application, students access the integrated TEKS process standards by using appropriate tools and techniques to solve problems, and communicating and justifying their mathematical thinking using various representations.

In *Zearn Math*, the materials integrate the TEKS process standards appropriately into instruction. According to the "Course Guide," each lesson is intentionally designed to embed the TEKS Mathematical Process Standards (MPS), providing opportunities for reasoning, modeling, communication, and problem-solving (process). These process standards are incorporated throughout lessons to ensure students engage meaningfully with grade-level mathematics.

In *Zearn Math*, the Mission 1 Overview materials appropriately integrate the TEKS process standards by addressing standard 1.1F, which focuses on analyzing mathematical relationships to connect and communicate ideas. Students decompose numbers, explore multiple combinations, and apply strategies such as counting on and part–whole relationships (content) to solve addition and subtraction problems. These activities help students make meaningful connections and communicate (process) their mathematical thinking effectively.

5.5b – Materials include a description of how process standards are incorporated and connected throughout the learning pathways.

In *Math Catalyst*, the materials include a description of how process standards are incorporated and connected throughout the learning pathways. For example, the "Implementation Guide" states, "The TEKS Mathematical Process Standards (MPS) are seamlessly woven into different components of the program." Integration of the process standards includes students communicating mathematical ideas using various representations and precise language, choosing appropriate tools and methods to solve problems in Application, and exploring relationships between past and current concepts to deepen understanding in Concept Mini Lessons.

In *Math Catalyst*, the "Alignment Guide" for each strand lists the TEKS and the process standards for each concept. For example, the Place Value strand lists process standards 1.C, 1.D, 1.E, 1.G for kindergarten

"Compose, Decompose, and Represent Teen Numbers," process standards 1.A, 1.C, 1.D, 1.E, 1.G for grade 1 "Compose, Decompose, and Represent Numbers to 120," and process standards 1.A–1.G for grade 2 "Compose, Decompose, and Represent Numbers to 1,200."

In *Zearn Math*, the materials include a description of how process standards are incorporated and connected throughout the learning pathways. For example, the Mission 4 Overview explains how Process Standard 1G is integrated by guiding students to display, explain, and justify mathematical ideas using precise language. Students use comparison symbols and vocabulary to express and support their reasoning, both orally and in writing, helping them develop clarity and accuracy in their mathematical communication.

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

In *Zearn Math*, the materials include an overview of the TEKS process standards incorporated into each lesson. The "Course Guide" provides a table that outlines which process standards are addressed in each mission, helping educators understand how these standards are integrated throughout the curriculum.

In *Zearn Math*, the materials include an overview of the TEKS process standards incorporated into each mission, as found in the Mission Overview documents. For example, Mission 2 highlights focus standards like K.1A, K.1E, and K.1G, with teacher background explaining how students connect geometric concepts to real-world objects.

In *Zearn Math*, the Mission 1 Overview materials explain how process standard K.1D is addressed throughout the mission. Students are encouraged to communicate their mathematical ideas, reasoning, and implications using multiple representations, such as symbols, diagrams, and language. For example, when decomposing numbers, students write number sentences and name them, supporting both conceptual and procedural understanding of numbers and operations.

6. Productive Struggle

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

6.1 Student Self-Efficacy

GUIDANCE	SCORE SUMMARY	RAW SCORE
6.1a	All criteria for guidance met.	3/3
6.1b	All criteria for guidance met.	3/3
6.1c	All criteria for guidance met.	3/3
—	**TOTAL**	9/9

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

In *Math Catalyst*, the materials provide opportunities for students to think mathematically during Concept Mini Lessons and Questions to Advance Student Thinking. Additionally, the materials provide opportunities for students to persevere through solving problems using the Read–Draw–Write Tool from the "Implementation Guide," which "provides visuals, prompts, and questions to remind students how they can approach solving a variety of problems." Students persevere by reading parts of the problem, asking themselves questions about the problem, creating drawings and representations, labeling the known and unknown, and finally adding number sentences and statements to their solutions.

In *Zearn Math*, students are supported in thinking mathematically through tasks that require them to explore mathematical concepts using multiple representations and approaches. For example, in Mission 4, Lesson 4, students use clay and number bonds to represent various ways to decompose five bananas, while reflecting on their reasoning with partners. Similarly, in Mission 6, Lesson 3, students use geoboards to create and compare shapes, naming and identifying attributes of polygons, fostering exploration and mathematical thinking.

In *Zearn Math*, students are prompted to make sense of mathematics through reflection, justification, and visual pattern recognition. In Mission 4, Lesson 32, students are asked to notice and describe patterns in number decompositions and explain how tools like 5-group drawings help solve problems. Similarly, in Mission 4, Lesson 34, students reflect on how visual aids support their understanding of number bonds and subtraction sentences, reinforcing conceptual understanding and metacognitive thinking.

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

In *Math Catalyst*, the materials support students in understanding that there can be multiple ways to solve problems and complete tasks. For example, in the kindergarten "Concept Mini Lesson: Addition: Composition and Decomposition Within 10," the Questions to Advance Student Thinking asks, "How can

you break apart the total to show the parts? Can you do it another way? How does your number bond match the parts and total in the picture?"

In *Math Catalyst*, the materials support students in explaining that there can be multiple ways to solve problems and complete tasks. For example, in kindergarten, Practice and Application for "Addition: Composition and Decomposition Within 10," students explore part–total relationships by composing and decomposing numbers using number bonds, pictures, and objects, both independently and with partners. In each task, students must determine the parts "in more than one way."

In *Zearn Math*, the materials provide explicit opportunities for students to justify their reasoning and engage in mathematical discourse. In Mission 4, Lesson 25, students explain the strategies they used to complete number bonds and justify the placement of parts and wholes. Similarly, in Mission 3, Lesson 27, lesson synthesis prompts students to compare multiple methods of determining quantity, justify which was easiest, and explain how today's activity connects to real-life problem-solving—all fostering justification and critical thinking.

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

In *Math Catalyst*, the materials are designed to require students to make sense of mathematics through multiple opportunities for students to do math with peers and educators using Practice and Application. For example, in kindergarten, "Subtraction: Take Away to Subtract Within 10," students work in pairs to practice subtraction within 10 by tracing numerals and symbols, telling subtraction stories, using dice and crossing off items, and matching picture cards to number sentences.

In *Zearn Math*, students are given regular opportunities to write about math using visual models and number sentences. In Mission 4, Lesson 5, students draw their own number bonds and write number sentences to match, then share with a partner. In Mission 3, Lesson 7, students write about strategies for comparing lengths and include math vocabulary in their explanations, strengthening their ability to communicate mathematical thinking in written form.

In *Zearn Math*, the materials prompt students to discuss math regularly with peers and educators, encouraging reasoning and verbal explanation. In Mission 4, Lessons 3, 29, and 30, teachers guide students with prompts such as, "What happens if we turn the number bond around?" and "Talk about how you knew which number should go where," leading to dialogue about mathematical relationships. Similarly, in Mission 3, Lesson 8, students compare the weights of objects with partners and explain their reasoning using comparative language, fostering rich mathematical discussion.

6.2 Facilitating Productive Struggle

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

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

In *Math Catalyst*, the materials support educators in guiding students to share their problem-solving approaches, including explanations, arguments, and justifications. For example, in kindergarten, "Concept Mini Lesson: Addition: Compose 10," students use linking cubes to compose the number 10 and explore the commutative property. Students are encouraged to "turn and talk about why 6 + 4 and 4 + 6 both equal 10" while using their linking cubes, explaining, arguing, and justifying their reasoning.

In *Zearn Math*, the materials support educators in eliciting arguments and encouraging students to construct and respond to claims based on their mathematical understanding. In Mission 4, Lesson 8, students correct the teacher's number bond placements, and in Mission 5, Lesson 2, students are asked to justify whether the same strategy can be applied to different problem types. Similarly, in Mission 3, Lesson 4, students compare measurements and use reasoning to agree or disagree with their peers' conclusions.

In *Zearn Math*, educators are equipped with questions and prompts that encourage students to justify their strategies and mathematical decisions. In Mission 4, Lesson 32, students reflect on their choices in decomposing numbers, justifying the remaining part needed after choosing a first part, while in Lesson 35, they justify their subtraction strategies using drawings and equations during class discussions. In Mission 5, Lesson 14, students defend which configurations are easier to count and justify that quantities remain constant when rearranged.

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

In *Math Catalyst*, the materials include prompts and guidance to support educators in providing explanatory feedback based on anticipated misconceptions; however, the guidance is found at the beginning of the unit and not in the lessons. For example, in the "Concept Guide" of kindergarten, "Subtraction: Take Away to Subtract Within 10," the common misconception among students is not understanding where the total belongs in a subtraction number bond. Teachers are prompted to "Remind students that a number bond models how a total can be broken up into parts, with the total in the circle where two arms connect."

In *Zearn Math*, the materials include prompts to support educators in providing explanatory feedback based on student responses. In Mission 4, Lesson 16, teachers are guided to ask follow-up questions such as "How do you know?" to encourage students to elaborate on their thinking, revise their representations, and explain changes in their reasoning.

In *Zearn Math*, the materials include prompts and guidance that support educators in providing explanatory feedback based on student responses. In Mission 4, Lesson 15, during an activity about decomposing the number 8, the teacher prompts students to generate and share different number sentences based on how rocks or cubes are grouped. The materials guide teachers to build on student responses by encouraging multiple representations (e.g., 8 = 2 + 6, 2 + 6 = 8), prompting further exploration, and helping clarify the roles of the addends and totals.