Carnegie Learning, Inc.

Supplemental English Mathematics, Algebra II

Texas Supplemental Math Solution Algebra II–Student 1 Year License

MATERIAL TYPE	ISBN	FORMAT	ADAPTIVE/STATIC
Supplemental	**9798896388715**	**Digital**	**Adaptive**

Rating Overview

TEKS SCORE	TEKS BREAKOUTS ATTEMPTED	ERROR CORRECTIONS (IMRA Reviewers)	SUITABILITY NONCOMPLIANCE	SUITABILITY EXCELLENCE	PUBLIC FEEDBACK (COUNT)
100%	103	0	Flags Not in Report	Not Applicable	0

Quality Rubric Section

RUBRIC SECTION	RAW SCORE	PERCENTAGE
1. Intentional Instructional Design	10 out of 21	48%
2. Progress Monitoring	14 out of 23	61%
3. Supports for All Learners	11 out of 37	30%
4. Depth and Coherence of Key Concepts	12 out of 16	75%
5. Balance of Conceptual and Procedural Understanding	24 out of 38	63%
6. Productive Struggle	11 out of 21	52%

Breakdown by Suitability Noncompliance and Excellence Categories

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

SUITABILITY EXCELLENCE FLAGS BY CATEGORY	IMRA REVIEWERS
Category 2: Alignment with Public Education's Constitutional Goal	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	Materials do not include an alignment guide outlining the ELPS or a rationale for learning paths across grade levels (vertical alignment).	3/5
1.1b	Materials do not include an implementation guide.	2/3
1.1c	Materials do not include a TEKS correlation guide with recommended skill entry points based on diagnostic assessment results.	0/2
1.1d	Materials do not include protocols with corresponding guidance for unit and lesson internalization.	0/2
1.1e	All criteria for guidance met.	2/2
—	**TOTAL**	7/14

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.

Materials include a "Table of Contents" that shows Texas Essential Knowledge and Skills (TEKS) alignment for each lesson and provides an overview of the concepts addressed in each lesson.

The correlation document reflects horizontal alignment, which lists the specific location each TEKS appears in the program.

Materials include vertical alignment from grade 6 through Algebra I in the Topic Readiness Resources provided in each topic. Materials do not include vertical alignment for courses beyond Algebra II.

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

Materials include strategies to support effective educator practices in different instructional contexts. For example, LiveLab provides real-time alerts that show which students are active or idle while working in MATHia. The materials include guidance to help teachers support students, such as "Redirect students to use the assistance features in MATHia before providing them with direct teacher support" and "Connect MATHia problems to classroom experiences, prior knowledge, real-world experiences, tools, and/or

technology." In addition, teachers are advised to use the "Group by Workspace" feature in LiveLab to pair students who can support one another.

Materials provide intervention suggestions for topic readiness and re-engagement activities.

Materials do not include an implementation guide or provide usage recommendations.

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

Materials do not include a TEKS correlation guide that provides recommended skill entry points based on diagnostic assessment results.

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

The materials do not include protocols with corresponding guidance for unit and lesson internalization.

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

Texas Supplemental Math Overview provides an implementation guide that gives instructional leaders guidance for effectively implementing the program, including coherence across lessons and grade levels and TEKS correlation and skill entry points.

1.2 Lesson-Level Design

GUIDANCE	SCORE SUMMARY	RAW SCORE
1.2a	This guidance is not applicable to the program.	N/A
1.2b	Detailed overviews include all parts of the rubric except ELPS alignment.	3/5
1.2c	Materials do not contain support for families in Spanish and English for each unit or suggestions on supporting the progress of their students.	0/2
—	**TOTAL**	3/7

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.

This guidance is not applicable because the program is not designed to be static.

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.

Materials include detailed overviews with learning objectives and TEKS, as well as suggested time frames.

Lesson materials and assessments do not include English Language Proficiency Standards (ELPS) correlations.

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

The publisher has indicated there is no family/caregiver guide for supporting the progress of students.

Resources for families to support student progress are not present in the materials.

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	Materials do not include printable versions of digital assessments, nor do they provide accommodations such as text-to-speech, content and language supports, or calculators that educators can enable or disable to support individual students.	0/4
2.1d	Materials do not include diagnostic assessments.	0/4
2.1e	All criteria for guidance met.	4/4
—	**TOTAL**	8/16

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

For MATHstream, the materials define the lesson stream questions (formative) and the dynamic skills practice (summative) in the provided video for teachers and explain when these questions appear in each lesson in the Help Center.

Materials give key differences between the various types of workspaces that the students interact with. The MATHia Reports FAQs define the Concept Builder Workspaces, the Mastery Workspaces, and the intended use of each type of activity. In Concept Builder Workspaces, students engage with various instructional strategies to develop their understanding of math concepts for a set number of problems. In Mastery Workspaces, students engage in self-paced, adaptive instruction to meet their individual needs and deepen their conceptual understanding.

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

Materials provide guidance to support consistent administration of instructional assessments, including recommended teacher actions before and during assessment administration. For example, the article "Learning through Assessments" states, "Before starting a new module, gain insight into student strengths and anticipate student learning by collecting data using the ReadyCheck Assessments and Getting Ready resources at the beginning of each module."

The Educator Help Center provides suggestions for preparing the learning environment, facilitating MATHia, and setting clear expectations while students are working within the materials.

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.

While digital assessments include features such as text-to-speech, these accommodations are automatically embedded, and educators cannot enable or disable them to support individual student needs or differentiate instruction.

There are content language supports, including pop-up definitions and word glossaries for unfamiliar terms. These features are available to the students automatically and without exception. The educator cannot enable or disable these supports.

There are no printable versions of the digital assessments or workspace questions. The educator must be able to enable or disable the features to support the individual needs.

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

No evidence of diagnostic assessments was found in the materials.

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

Materials provide a variety of opportunities for students to engage with interactive item types, including fill-in-the-blank, select from a drop-down menu, plot points, and graph equations. For example, in Module 1, Topic 2, MATHia Adaptive Problem-Solving: "Forms of Quadratic Functions, Exploring and Analyzing Patterns," students are asked to describe multiple quadratic functions using a variety of interactive item types, including select from a drop-down menu and drag and drop.

In Module 1, Topic 3, MATHia Adaptive Problem-Solving: "Applications of Systems of Equations, Writing a Quadratic Functions Given Three Points," students complete a series of questions in order to write a system of three linear equations, and within each step, there are varying levels of complexity.

2.2 Data Analysis and Progress Monitoring

GUIDANCE	SCORE SUMMARY	RAW SCORE
2.2a	Materials do not include rationales for each correct response in instructional assessments. Scoring information and guidance for interpreting student performance, along with a rationale for each incorrect response, is included.	2/3
2.2b	All criteria for guidance met.	1/1
2.2c	All criteria for guidance met.	2/2
2.2d	This guidance is not applicable to the program.	N/A
2.2e	All criteria for guidance met.	1/1
—	**TOTAL**	6/7

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

Materials provide multiple reports with scoring information and guidance for interpreting student performance, which are accessible within the Teacher Help Center. For example, the "Understanding the Progress Report" states, "The Group Progress Report provides detailed information about a group of students and their progress and performance at the module, unit, and workspace levels in MATHia."

Teachers are provided with real-time scoring information and guidance for interpreting student performance through the LiveLab Overview. The LiveLab Overview provides teachers with "in-the-moment, actionable data to enable them to efficiently and effectively manage students working in MATHia during a classroom lab."

Materials provide rationales for incorrect responses called Just-In-Time Hints, but do not provide rationales for correct responses through the LiveLab Data Insights.

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

Materials include guidance to ensure consistent administration of instructional assessments. For example, the Learning through Assessments section of the Help Center states, "Before starting a new module, gain insight into student strengths and anticipate student learning by collecting data using the ReadyCheck Assessments and Getting Ready resources at the beginning of each module."

Materials provide guidance in the "Getting Started: MATHia Class and Student Reports" section on how to respond to student performance trends on MATHia Assessments by describing multiple teacher scenarios and the corresponding data reports to use.

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

Materials include Progress Reports, accessible in the "Data Insights tab," that track student progress and performance at the module, unit, and workspace levels in MATHia. Teachers can see the status of every workspace, each student's current placement within the assigned content, the number of workspaces completed, the syllabus completion percentage, and the average performance score for a selected date range, allowing teachers to monitor student growth.

Materials include MATHstream Reports, accessible in the Data Insights tab, that allow teachers to track student progress and growth. For example, teachers can monitor which topics require the most repeats across the class to identify where whole-class instruction may be beneficial.

Materials include tools for students to track their progress and growth, such as viewing the percentage of the course completed, the total number of workspaces completed, total time spent in each unit, and a performance score for each completed workspace.

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.

This guidance is not applicable because the program is not designed to be static.

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

Materials provide frequent checks for understanding at key points throughout each lesson or activity. For example, MATHstream Video lessons include multiple embedded checkpoints. Students answer questions at key moments during each lesson and earn digital badges for maintaining streaks of correct answers.

MATHia Mastery Workspaces include adaptive Skillometer circles that change as students answer questions correctly or incorrectly and as rigor builds throughout the workspace. For example, in Module 1, Topic 1, MATHia Adaptive Problem-Solving: "Graphing Linear Inequalities in Two Variables, Exploring Linear Inequalities," materials provide checks for understanding by asking students to examine cases where a point is included and excluded from the solution set of an inequality. Students then connect graphical solutions with algebraic solutions, and the Skillometer measures progress.

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	Materials do not provide explicit pre-teaching support for educators to develop academic vocabulary or to support unfamiliar references in the text.	2/4
3.1c	Materials do not include explicit educator guidance for enrichment and extension activities for students that have demonstrated proficiency at or above grade level.	0/2
3.1d	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.	0/3
3.1e	Materials do not include educator guidance or options and supports for students to demonstrate understanding of mathematical concepts in various ways.	0/2
—	**TOTAL**	3/12

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.

Materials provide educator guidance for scaffolding activities that educators can use with MATHia. For example, in "Scaffolding Support in MATHia," suggested scaffolds include demonstrating step-by-step examples as a whole class, meeting with small groups during a Concept Builder Workspace, or providing one-on-one instruction based on trends in student performance analyzed through "Data Insights" reports.

Materials include Topic Readiness Resources in each lesson to activate prerequisite concepts and skills for students who have not yet reached proficiency. Educator guidance for Topic Readiness Resources includes skill descriptions and vertical alignment details.

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.

Materials include explicit educator guidance for embedded language support for developing academic vocabulary. For example, the MATHia Glossary, available throughout the course, provides definitions, pictorial representations when possible, and examples for each entry as embedded supports for developing academic vocabulary.

Materials do not include pre-teaching supports to develop academic vocabulary or support unfamiliar references in text; therefore, there is no explicit educator guidance for pre-teaching supports present.

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.

Materials do not include enrichment or extension activities for students who have demonstrated proficiency in grade-level or above-grade-level content and skills; therefore, no explicit educator guidance for enrichment or extension is present.

While materials state that if a student completes all units in their assigned grade-level MATHia course before their classmates, the student may serve as a peer tutor or begin work in the next course if the school has purchased it, these options do not provide explicit educator guidance for enrichment or extension within the program.

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.

Materials do not include content and language support or calculators that educators can enable or disable to support individual students.

While a student-controlled text-to-speech feature is present in the materials, educators cannot enable or disable this accommodation to support individual students.

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.

Materials do not include options or supports for students to demonstrate understanding of mathematical concepts in various ways; therefore, no educator guidance for offering these options and supports is present.

3.2 Instructional Methods

GUIDANCE	SCORE SUMMARY	RAW SCORE
3.2a	Materials do not include explicit prompts and guidance for educators to build knowledge by highlighting and connecting key patterns, features, or relationships through multiple means of representation.	2/5
3.2b	This guidance is not applicable to the program.	N/A
3.2c	All criteria for guidance met.	3/3
3.2d	Materials do not include enrichment or extension activities for students, except for the option to work at a faster pace through the course's materials.	0/2
3.2e	All criteria for guidance met.	2/2
—	**TOTAL**	7/12

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.

Materials include explicit prompts and guidance for educators to activate prior knowledge; for example, within the *Texas Supplemental Math Overview*, "Appendix B" provides recommended TEKS entry points that teachers can use to connect new instruction to students' prior learning.

Materials also include explicit prompts and guidance for anchoring big ideas. "Appendix D" of the *Texas Supplemental Math Overview* provides guidance for lesson internalization, including identifying and understanding the big idea for each unit.

Materials do not include explicit prompts or guidance for highlighting and connecting key patterns, features, or relationships through multiple means of representation.

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

This guidance is not applicable because the program is not designed to be static.

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

Materials include multi-tiered intervention methods for various types of practices and teacher guidance to support effective implementation. For example, guidance is provided in "Creating an Engaged and Productive MATHia Classroom." Teachers are instructed to "allow students to collaborate with other

students on a problem-by-problem basis. Even when receiving support from others, students will still receive individualized practice within their MATHia profile." Additionally, teachers should "provide time for spaced review as students work through MATHia at their own pace. Use this time to place students in small groups that you can support during MATHia lesson days." Materials also include multi-tiered intervention methods for various types of structures and teacher guidance to support effective implementation. For example, in "Cultivating a Blended Learning Approach," teacher guidance states, "Replace a traditional practice assignment with time to complete a MATHia Workspace. Students who are working at the pace of the class will be completing a workspace aligned to the concept you are currently studying. Students who need additional support may be completing workspaces for prerequisite skills. Students who are working at a faster pace may be working on more advanced workspaces." The teacher is guided to utilize "Data Insights" to structure the classroom for effective implementation of a variety of workspaces. Materials provide live reports as students work and provide suggestions for student-grouping structures based on similar learning gaps.

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

Materials do not include enrichment or extension methods that support various forms of engagement. While students may move through the course materials at a faster pace, this option does not constitute enrichment or extension because it does not provide additional opportunities for depth, complexity, or alternative forms of engagement.

Materials also do not include guidance to support educators in the effective implementation of enrichment or extension methods.

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

Materials include prompts to support educators in providing timely feedback during lesson delivery. For example, LiveLab includes real-time dashboards that display dynamic indicators identifying which students are working or idle, while providing alerts to educators for students who may need additional support. Live notifications allow teachers to celebrate individual student academic growth and identify those who may need additional support to reach proficiency. Materials include guidance to support educators in providing timely feedback during lesson delivery. For example, LiveLab alerts provide teachers with the ability to view a detailed summary of student work, including activity and total workspaces completed, so that the teacher can provide individualized support on a specific problem, small group support, or whole group instruction. Guidance for teachers includes recommendations for student grouping. LiveLab provides teachers with the ability to prioritize at-risk students and group students by current workspace to support multiple students at the same time.

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	This guidance is not applicable to the program.	N/A
3.3b	Materials do not include embedded linguistic accommodations for at least two or more levels of language proficiency; materials do include embedded linguistic accommodations for at least one level of language proficiency.	1/4
3.3c	Materials do not include implementation guidance to support educators in effectively using the materials in state-approved bilingual/ESL programs.	0/1
3.3d	Materials do not 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.	0/8
3.3e	This guidance is not applicable to the program.	N/A
—	**TOTAL**	1/13

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.

This guidance is not applicable because the program is not designed to be static.

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.

Materials include embedded linguistic accommodations to engage students in using increasingly more academic language for at least one level of language proficiency through use of the Glossary. For example, in Module 5: "Inverting Functions," Topic 1: "Exponential and Logarithmic Functions," MATHia Adaptive Problem-Solving: "Transforming Exponential and Logarithmic Functions," students can click on a mathematical term to view both the definition and a visual representation, providing immediate support. Students can also toggle between English and Spanish throughout the materials.

Materials do not include embedded linguistic accommodations for more than one additional level of language proficiency.

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

Materials do not include implementation guidance to support educators in effectively using the materials in state-approved bilingual/ESL programs. While the materials provide general guidance for emergent bilingual (EB) support in the Help Center, no evidence of implementation in state-approved programs is 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.

The materials do not include specific suggestions or embedded guidance to support EB students in developing academic vocabulary, comprehension, and making cross-linguistic connections. In the *Texas Supplemental Math Overview,* the "Developing and Using Academic Mathematical Language" section in *Making Sense of Mathematics* provides general guidance for developing academic language but does not specifically include strategies to support EB students. For example, the materials do not provide students with structured opportunities for written or oral discourse of the academic content. While the materials provide general guidance for EB support in the Help Center, there is no evidence of guidance for support through oral and written discourse.

The materials provide a glossary for students under the "Tools Tab" and other resources without integrating vocabulary instruction into the lessons. The glossary does not differentiate or provide vocabulary support to emergent bilingual students, and there are no additional embedded vocabulary support resources.

The materials do not provide students with opportunities to develop academic vocabulary through written discourse or foster making cross-linguistic connections through oral discourse. The materials consist of individual activity sheets or tasks without structured opportunities for students to discuss or write about the content.

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	Materials do not include questions, tasks, or enrichment or extension materials that increase in rigor and complexity, leading to above-grade-level proficiency.	2/4
—	**TOTAL**	4/6

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

Materials include practice opportunities throughout learning pathways that require students to demonstrate depth of understanding aligned to the TEKS. For example, in the Mastery Workspace, the materials state, "Students move on when they have mastered all of the skills in a workspace (workspace is Mastered) or when they reach the maximum number of problems in a workspace without demonstrating mastery on all of the skills (workspace is Not Mastered)."

In Module 1, Topic 1, MATHia Adaptive Problem-Solving: "Absolute Value Equations and Inequalities," Workspace 5 "Reasoning About Absolute Value Inequalities," students use equations of quadratic models, the solver, and graphs to answer questions.

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.

Materials include questions and tasks, including enrichment materials, increasing in rigor and complexity, leading to grade-level proficiency in the mathematics TEKS. For example, in Module 1, Topic 1, MATHia Adaptive Problem-Solving: "Absolute Value Equations and Inequalities," Workspace 5 "Reasoning About Absolute Value Inequalities," students learn to write equivalent compound inequalities for absolute value inequalities. Students determine solution sets that meet or do not meet specifications in real-world situations using linear absolute value inequalities.

In Module 5, Topic 1, MATHia Adaptive Problem-Solving: "Transforming Exponential and Logarithmic Functions," students use four animations demonstrating the different ways of transforming an exponential function to investigate how changing the equation for an exponential function changes the

graph of the function. Students answer questions related to horizontal and vertical translations and dilations of exponential functions, leading to grade-level proficiency in the Algebra II TEKS.

Materials do not include extension activities or opportunities for demonstrating above-grade-level proficiency in the Algebra II TEKS.

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	Materials do not demonstrate coherence across lessons or activities by connecting to students' prior knowledge of concepts or procedures to be learned in future grade levels. Materials demonstrate connections across lessons and activities by connecting to students' prior knowledge of concepts and procedures in the current grade level.	2/4
—	**TOTAL**	4/6

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

The MATHia Skillometer connects skills horizontally throughout the materials. For example, in Module 4, Topic 1, students rewrite rational expressions in the Mastery Workspace. The skills demonstrated in this lesson include canceling common factors, factoring out a common factor, and factoring a trinomial, which connects patterns and big ideas throughout the course.

Materials provide coherence horizontally with the structure of the "Scope and Sequence," connecting the big ideas in Algebra II. For example, the materials introduce transformations using the general form and then apply them throughout multiple units to examine how they affect key characteristics of functions, such as domain, range, and critical points. Each component builds on the previous concept as students progress through the unit.

4.2b – Materials demonstrate coherence vertically across concepts and grade bands, including connections from grades 3–12, by connecting patterns, big ideas, and relationships.

Materials demonstrate coherence vertically by connecting big ideas and key characteristics across grade levels and courses. The "Algebra II Scope and Sequence Overview Video" explains that the program takes a function-based approach, introducing functions early so later content builds on this foundation. For example, in Module 1, Topic 1, MATHia Adaptive Problem-Solving: "Graphing Linear Inequalities in Two Variables, Exploring Linear Inequalities," students respond to questions about linear inequalities that increase in difficulty throughout the problem set. This gives students an opportunity to make connections to learning from previous courses, as well as apply patterns and relationships throughout Algebra II.

Topic Readiness Resources include MATHia Workspaces and MATHstream Videos aligned to prerequisite standards from previous courses necessary for topic mastery and connect patterns and big ideas across grade levels.

In the "Course Overview Video," the materials demonstrate coherence vertically across concepts and grade bands. For example, in the Algebra II video, instructors explain the vertical alignment of concepts built from grades 6–8, as well as Algebra I, as students deepen their understanding of linear functions.

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.

Materials include a "Scope and Sequence" that supports connections to prior knowledge across the concepts and procedures in the current course. The "Correlation Guide" identifies all learning standards and indicates the lessons and activities where these standards are addressed, demonstrating how they connect throughout the course.

Materials do not demonstrate coherence or connections to future grade levels. While Algebra I course materials provide Intervention Resources within each module that demonstrate coherence and connections to future grade levels, these resources are not present in the Algebra II course.

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.

Materials provide spaced retrieval opportunities for previously learned concepts across learning pathways. For example, in Module 4, Topic 1, when students work in the "Rewriting Rational Expressions" Mastery Workspace, they practice skills such as canceling common factors, factoring a common factor, and factoring a trinomial, which require applying previously learned concepts.

MATHia Workspaces, located in the Intervention Resources, support prerequisite skills and reengagement with concepts related to the topic. For example, in Module 1, Topic 3, Workspace 4: "Writing Inverses of Linear and Quadratic Functions," practice problems progress from identifying key characteristics of sequences to writing equations that represent the sequence, and matching graphs that model those sequences. This lesson reinforces foundational concepts before extending into graphing.

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

Materials provide a variety of interleaved practice opportunities with previously learned skills and concepts across learning pathways. For example, in Module 1, Topic 1, MATHia Adaptive Problem-Solving: "Absolute Value Equations and Inequalities," Workspace 5, students use graphical representations to solve absolute value inequalities. They learn to write equivalent compound inequalities for absolute value inequalities. Students determine solution sets that meet or do not meet specifications in real-world situations using linear absolute value inequalities, building upon previously mastered skills.

In the Mastery Workspace for Algebra II, students are provided with interleaved practice opportunities by using equations of quadratic models and graphs of quadratic functions to answer questions about each function's key attributes as they apply previously learned skills and concepts.

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	The materials do not provide questions and tasks that provide opportunities for students to create concrete models of mathematical representations.	1/2
5.1c	All criteria for guidance met.	1/1
—	**TOTAL**	5/6

5.1a – Questions and tasks provide opportunities for students to interpret, analyze, and evaluate mathematical concepts and complex, real-world situations.

Materials include questions that provide opportunities for students to interpret, analyze, and evaluate complex, real-world situations. For example, in Module 4, Topic 1, MATHia Adaptive Problem-Solving: "Solving Work, Mixture, Distance, and Cost Problems," Workspace 3: "Solving Work, Mixture, and Distance Problems," students analyze and evaluate how flying with and against the wind affects average speed, time traveled, and distance traveled. They interpret quantity descriptions for given expressions and conclude by writing an equation to represent the situation. Students are then prompted to complete a similar progression of questions for a mixture problem. Materials include tasks that provide opportunities for students to interpret, analyze, and evaluate mathematical concepts and complex, real-world situations. For example, in Module 2, Topic 1, MATHia Adaptive Problem-Solving: "Introduction to Cubic Functions, Modeling Polynomial Functions," students solve two contextual problems involving polynomial, specifically cubic, functions. In each problem, the first part requires students to use the function to solve for the dependent variable. The second part requires students to use the graph to solve for the independent variable and interpret a minimum or maximum point on the graph.

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

Materials include questions and tasks that provide opportunities for students to create representations of mathematical situations. For example, in Module 1, Topic 1, MATHia Adaptive Problem-Solving: "Graphing Linear Inequalities in Two Variables, Systems of Linear Inequalities," students determine the intersections between two inequalities, graph the inequalities, and shade the regions representing the solution sets and their intersections.

Materials do not provide questions or tasks that prompt students to create concrete models of mathematical situations using virtual or physical tools.

The "Features and Functionality" article references opportunities to create, use, and connect concrete representations of mathematical ideas; however, the materials lack prompts for students to do that.

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

Materials include questions that provide opportunities for students to apply conceptual understanding to new problem situations involving cubic functions. In Module 2, Topic 1, MATHia Adaptive Problem-Solving: "Introduction to Cubic Functions, Modeling Polynomial Functions," students solve two contextual problems: first, using the function to find the dependent variable and then using the graph to find the independent variable and interpret a minimum or maximum point on the graph. The problem contexts involve jet pilots and a biologist.

Materials include tasks that provide opportunities for students to apply conceptual understanding to new problem situations and contexts. For example, in Module 3: "Developing Structural Similarities," Topic 1: "Relating Factors and Zeros," MATHia Adaptive Problem-Solving: "Polynomial Multiplication and Division," students first connect algebraic representations to the graphs of polynomial functions by exploring $f(x) = 0$ and polynomial equations set equal to zero. They begin solving polynomial equations using both graphical and algebraic methods (factored form). Students then address cubic equations with multiple or imaginary roots, again connecting graphical and algebraic approaches. Later, they solve cubic equations not initially set equal to zero, not in factored form, or requiring the quadratic formula for some roots. Finally, students practice solving quartic equations using the same skills.

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.

Materials provide tasks that are designed to build the automaticity necessary to complete grade-level mathematical tasks. For example, in Algebra II, automaticity is built by using factors to solve polynomial equations. Students first solve quadratic equations by factoring in Module 1, Topic 2: "Exploring and Analyzing Patterns, Solving Quadratic Equations Using Multiple Strategies, Solving Quadratic Equations by Factoring." Then, in Module 3: "Developing Structural Similarities," Topic 1: "Relating Factors and Zeros," MATHia Adaptive Problem-Solving: "Polynomial Multiplication and Division, Solving Polynomial Functions," students apply skills for solving polynomial equations using both graphical and algebraic methods (using factored form) for the same equation. Students then practice solving quartic equations using these same skills. Materials provide tasks that are designed to build the fluency necessary to complete grade-level mathematical tasks. For example, Module 1: "Exploring Patterns in Linear and Quadratic Relationships," Topic 2: "Exploring and Analyzing Patterns," MATHia Adaptive Problem-Solving "Observing Patterns," Workspace 3: "Identifying Key Characteristics of Graphs of Functions" includes adaptive exercises that focus on identifying key characteristics of graphs of the various types of functions studied throughout the course. Based on student performance, the module adjusts the difficulty and pace of the exercises, providing immediate feedback and scaffolded support to help students build fluency and automaticity in foundational algebraic procedures.

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

Materials provide opportunities for students to practice the application of flexible mathematical procedures in Module 3: "Developing Structural Similarities," Topic 1: "Relating Factors and Zeros," MATHia Adaptive Problem-Solving: "Polynomial Multiplication and Division, Solving Polynomial Functions," where students solve polynomial equations using both graphical and algebraic methods (factored form) for the same equation. Students then focus on cubic equations with multiple or imaginary roots, connecting graphical and algebraic solution methods. Next, they solve cubic equations that are not originally set equal to zero, are not in factored form, or require the quadratic formula to determine some roots. Finally, students practice solving quartic equations using these skills. Materials provide opportunities for students to practice efficiency and accuracy in mathematical procedures in Module 1:

"Exploring Patterns in Linear and Quadratic Relationships," Topic 2: "Exploring and Analyzing Patterns," MATHia Adaptive Problem-Solving: "Imaginary and Complex Numbers, Solving Quadratic Equations with Complex Roots," where the program prompts students on the most efficient method to solve quadratic equations.

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

Materials provide opportunities for students to evaluate mathematical representations and models for efficiency, flexibility, and accuracy throughout learning pathways. For example, in Module 3: "Developing Structural Similarities," Topic 1: "Relating Factors and Zeros," MATHia Adaptive Problem-Solving: "Polynomial Multiplication and Division, Solving Polynomial Functions," students evaluate multiple methods for solving a polynomial equation. In this activity, students begin by solving polynomial equations using both graphical and algebraic methods for the same equation. They then focus on cubic equations with multiple or imaginary roots, again connecting graphical and algebraic solution methods. Throughout the activity, students compare the efficiency, flexibility, and accuracy of these methods. Materials provide opportunities for students to evaluate mathematical strategies and solutions for efficiency, flexibility, and accuracy throughout learning pathways. For example, in Module 2: "Analyzing Structure," Topic 1: "Composing and Decomposing Functions," MATHia Adaptive Problem-Solving: "Introduction to Cubic Functions," students identify the key attributes of the parent linear function, parent quadratic function, parent cubic function, and other cubic functions.

5.2d – Materials contain guidance to support students in selecting the most efficient approaches when solving mathematics problems.

Materials contain guidance to support students in selecting the most efficient approaches when solving mathematics problems. For example, in Module 3: "Developing Structural Similarities," Topic 1: "Relating Factors and Zeros," MATHia Adaptive Problem Solving: "Polynomial Multiplication and Division," Workspace 4: "Factoring Higher Order Polynomials," students complete tasks that require them to choose and apply the best strategy for solving for the factors of a polynomial based on the characteristics of the equation (for example, does it have a GCF?) and receive guidance when they select the less-appropriate method as to why that is not the best choice.

Materials include embedded supports, such as Just-in-Time Hints and On-Demand Hints within MATHia, that guide students toward selecting efficient approaches to problem-solving.

5.3 Balance of Conceptual Understanding and Procedural Fluency

GUIDANCE	SCORE SUMMARY	RAW SCORE
5.3a	Materials do not explicitly state how the conceptual emphases of the TEKS are addressed.	1/2
5.3b	Materials do not include questions and tasks that provide opportunities for students to use concrete models, as required by the TEKS.	2/3
5.3c	Materials do not include supports for students in connecting, creating, defining, or explaining concrete models to abstract concepts; materials do not include supports for students in creating, defining, or explaining representational models to abstract concepts.	1/6
—	**TOTAL**	4/11

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

Texas Supplemental Math Overview describes how procedural skills are built through adaptive, targeted practice in Concept Builder and Mastery Workspaces, gradually increasing in complexity until mastery is reached.

Materials do not explicitly state how the conceptual emphasis of the TEKS is addressed due to the lack of TEKS-specific MATHstream instructional support. The course includes MATHstream Videos only for prior courses.

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

Materials do not include questions and tasks that provide opportunities for students to use concrete models as required by the TEKS.

Materials include questions and tasks that provide opportunities for students to use pictorial representations and abstract models as required by the TEKS. For example, in Module 5: "Inverting Functions," Topic 1: "Exponential and Logarithmic Functions," MATHia Adaptive Problem-Solving: "Transforming Exponential and Logarithmic Functions, Transforming Logarithmic Functions," students manipulate sliders to explore how *A*, *B*, *C*, and *D* affect the function $g(x) = A*\log(B(x - C)) + D$. Students then move the sliders in specified ways to represent transformations and connect these changes to the corresponding table and equation. The activity concludes by asking students to analyze a graph without sliders, name the transformations, and write the equation. This progression supports students in moving from pictorial representations using sliders to abstract models with verbal and symbolic descriptions of transformations.

Materials include questions that provide opportunities for students to use pictorial representations and abstract models in Module 3: "Developing Structural Similarities," Topic 1: "Relating Factors and Zeros," MATHia Adaptive Problem-Solving: "Polynomial Multiplication and Division," Workspace 5: "Solving Polynomial Functions," where students solve polynomial functions graphically and then algebraically in order to make connections between the factors and the solutions found using each method.

The "Features and Functionality" article references connections among concrete, pictorial, and abstract representations; however, the materials do not include opportunities for students to use concrete models.

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.

Materials do not include supports for students in connecting, creating, defining, or explaining concrete models to abstract concepts as required by the TEKS.

Materials do not include supports for students in creating, defining, or explaining representational models to abstract concepts as required by the TEKS.

Materials include supports for students in connecting representational models to abstract concepts as required by the TEKS. For example, in Module 4: "Extending Beyond Polynomials," Topic 1: "Rational Functions," MATHia Adaptive Problem-Solving: "Solving Work, Mixture, Distance, and Cost Problems," students solve rational equation problems using a graphic organizer with separate columns for the independent quantity, numerator, denominator, and rational expressions. Questions provide either the independent or dependent quantity, with the Solver available to find the unknown values.

5.4 Development of Academic Mathematical Language

GUIDANCE	SCORE SUMMARY	RAW SCORE
5.4a	All criteria for guidance met.	1/1
5.4b	Materials do not include scaffolding and support for students' use of academic vocabulary in context when communicating with peers and educators; therefore, no educator guidance for the scaffolding and support is present.	0/2
5.4c	All criteria for guidance met.	1/1
5.4d	Materials do not provide opportunities to hear math language with peers; therefore, no embedded guidance to facilitate mathematical conversations is present.	0/2
5.4e	Materials do not include embedded guidance to anticipate a variety of student answers, including exemplar responses to questions and tasks; materials include embedded guidance to support and/or redirect inaccurate student responses.	1/2
—	**TOTAL**	3/8

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

Materials do not provide opportunities for students to develop academic mathematical language using manipulatives; materials include opportunities for students to develop academic mathematical language using visuals, manipulatives, or other language development strategies. For example, in Module 4: "Extending Beyond Polynomials," Topic 1: "Rational Functions," MATHia Adaptive Problem-Solving: "Introduction to Rational Functions and Transformations," students are given examples of visuals in the form of graphs to develop the idea of asymptotes. As the examples are shown, students can click on the word *asymptote* to see the definition and an additional visual example. The continued use of graphs in connection with asymptotes provides opportunities for students to develop their academic language using visuals throughout the lesson. Another example of opportunities for students to develop academic mathematical language using visuals is in Module 3: "Developing Structural Similarities," Topic 1: "Relating Factors and Zeros," when students sketch the graph of a polynomial function and identify its key characteristics, applying academic vocabulary to a visual representation of functions. Students practice skills including composing polynomial functions from linear and quadratic factors. Given a polynomial function, students identify the number of zeros; given its graph, they determine whether the roots are real or imaginary and whether they are distinct or have varying degrees of multiplicity.

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.

Materials do not include scaffolding and support for students' use of academic vocabulary in context when communicating with peers and educators; therefore, no educator guidance for the scaffolding and support is present. The Help Center offers scaffolding support in MATHia; however, it is not specific to academic language.

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

Materials include embedded guidance to support student application of appropriate mathematical language and academic vocabulary in discourse. Besides multiple examples found in the materials through the MATHstream lessons referenced in our evidence guide, the materials also provide a four-page article, "Making Sense of Mathematics in Texas Supplemental Math," which details the ways that the materials support students' development of academic and mathematical language, including ideas and examples on how to use MATHia and MATHstream in peer interactions and whole group discussion. The article also guides the educator to model precise vocabulary to support students in applying mathematical language themselves. MATHstream includes interactive video lessons that allow for student collaboration. This encourages students to articulate their reasoning for problem-solving strategies. The article also explains that MATHia provides interactive tools to support the internalization of key terms and problem-solving skills.

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

Materials do not include embedded educator guidance to facilitate mathematical conversations allowing students to hear, refine, and use math language with peers.

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.

Materials do not provide anticipated answers to questions or tasks.

Materials include embedded guidance to support and/or redirect inaccurate student responses. For example, the digital platform includes automated feedback on student responses as seen in Module 4: "Extending Beyond Polynomials," Topic 1: "Rational Functions," MATHia Adaptive Problem-Solving: "Introduction to Rational Functions and Transformations." Students must categorize equations as rational functions or not. If a student places an equation in the wrong category, the program provides feedback

explaining the error. For example, if *q(x)* = (*x*^3 – 2*x* + 1) / sqrt(*x*) is categorized as a rational function, the program says, "Try again. The function *Q(x)* = sqrt(*x*) is equal to *Q(x)* = *x*^1/2, so it is not a polynomial function." Students are then redirected to place the equation in the correct category.

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	Materials do not include an overview of the TEKS process standards incorporated into each lesson.	0/1
—	**TOTAL**	3/4

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

Materials include TEKS process standards integrated appropriately into MATHia practices. For example, in Module 1: "Exploring Patterns in Linear and Quadratic Relationships," Topic 1: "Extending Linear Relationships," MATHia Adaptive Problem-Solving: "Absolute Value Equations and Inequalities, Reasoning About Absolute Value Inequalities," students use graphical representations to solve absolute value inequalities before writing equivalent compound inequalities. Students determine solution sets that meet or do not meet specifications in real-world contexts using linear absolute value inequalities. These activities require students to analyze given information and select appropriate tools and techniques for problem-solving. Materials include TEKS process standards integrated appropriately into MATHstream Videos. For example, in Module 4: "Extending Beyond Polynomials," Topic 2: Radical Functions," MATHia Adaptive Problem-Solving: "Square Root and Cube Root Functions, Relating the Graphs of Cubic and Cube Root Functions," students analyze graphs of cubic and cube root functions to determine their relationship and characteristics. This requires students to analyze mathematical relationships and connect mathematical ideas.

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

Texas Supplemental Math Overview "Appendix A" describes how process standards are incorporated and connected throughout MATHia and MATHstream, utilizing real-world scenarios, multiple representations, making predictions, and testing hypotheses.

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

Materials do not include an overview of the TEKS process standards incorporated into each lesson. While a correlation guide including the content TEKS is provided for each lesson, the TEKS process standards are not included.

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	Materials do not require students to write about math with peers and/or educators.	2/3
—	**TOTAL**	8/9

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

Materials provide opportunities for students to think mathematically. For example, in Module 1: "Exploring Patterns in Linear and Quadratic Relationships," Topic 3: "Applications of Systems of Equations," MATHia Adaptive Problem-Solving: "Applications of Systems of Equations," Workspace 1: "Solving Systems of a Linear and a Quadratic Equation," students solve systems of linear and quadratic equations both graphically and algebraically. Students apply mathematical reasoning to write and solve systems of equations. The module includes a step-by-step example with embedded hints that address common misconceptions.

Materials provide opportunities for students to persevere through solving problems and make sense of mathematics through the student-directed use of the Hint feature in MATHia and MATHstream. The Hint feature in MATHia and MATHstream provides step-by-step guidance intended to scaffold learning by breaking down complex problems into manageable parts, offering optional explanations, visuals, or cues to support student understanding as they work through a task. However, in MATHia, a student can click the Next button three times within a Hint, and the program will provide the correct answer without requiring the student to do any work or attempt a response. Students are not prompted to attempt a response before receiving the answer, and the program does not alert the teacher that additional support may be needed. This significantly limits the effectiveness of the Hint feature in providing opportunities for students to persevere through solving problems or to make sense of mathematics.

The Help Center article "Building on Student Strengths Through a Variety of Problem Types" states, "MATHbook is a record of student thinking, reasoning, and problem solving, which includes a variety of problem types to actively engage and challenge students. Activities are sequenced to ensure investigation, classification, worked examples, peer analysis, and real-world and mathematical problem-solving." However, Algebra II does not include access to the MATHbook component. As a result, students

are not provided a space within the supplemental materials to record or reflect on their thinking, reasoning, or problem solving.

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

Materials support students in understanding, explaining, and justifying that there can be multiple ways to solve problems and complete tasks. The "Making Sense of Mathematics" article states that "MATHia and MATHstream help students recognize that there are often multiple valid ways to solve problems, while requiring them to make sense of mathematics through active engagement. Streams and workspaces present tasks in multiple representations—verbal, algebraic, graphical, and numerical—and prompt learners to solve problems using different strategies, compare approaches, and justify their reasoning."

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 the Help Center, the "Making Sense of Mathematics" article addresses how materials are designed to require students to make sense of mathematics through multiple opportunities to do and discuss math with peers and/or educators. It details that "[Students] in the same workspace receive similar, but not identical, problems, encouraging student-to-student discussions about strategies rather than just sharing answers." The materials do not provide opportunities for students to write about math with peers or educators.

6.2 Facilitating Productive Struggle

GUIDANCE	SCORE SUMMARY	RAW SCORE
6.2a	Materials do not include opportunities for students to share and reflect on their problem-solving approaches; therefore, educator guidance for guiding students in their responses is not present.	0/8
6.2b	Materials do not include prompts to support educators in providing explanatory feedback based on anticipated misconceptions.	3/4
—	**TOTAL**	3/12

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

Materials do not include opportunities for students to share and reflect on their problem-solving approaches, including explanations, arguments, justifications, and multiple points of entry; therefore, educator guidance for supporting students in their responses is not present.

Materials include tools, such as animations, that allow students to observe various solution methods visually; however, the materials do not include prompts for students to discuss or write about their reflections, including explanations, arguments, justifications, or multiple points of entry. The teacher would need to create and implement their own opportunities for students to share and reflect on their problem-solving approaches. Materials do not include a teacher's guide, implementation guide, or any other resource to support this process.

The "Instructional Tools in the Student MATHia Software" Help Center article outlines the embedded features of the MATHia program that are designed to support student learning. However, these features do not assist students in sharing and reflecting on their problem-solving approaches, nor do they provide guidance for educators in facilitating this sharing or reflection. A publisher-provided rationale states, "Explore Tools invite students to investigate concepts, discern patterns, and articulate their thinking: ideal for sharing approaches. Animations let students observe and discuss various solution methods visually, encouraging reflection on alternative strategies. Classification Tools require students to justify categorizations, promoting discussion of reasoning pathways. Problem-Solving Tools provide adaptive, individualized support while prompting students to explain their method as they progress. Worked Examples encourage students to compare and critique different solution steps, helping them justify why certain approaches work and identify misconceptions. Together, these instructional tools give educators structured, embedded ways to facilitate student explanation, justification, and reflection, reinforcing the idea that multiple valid approaches exist." However, support is not provided for educators on how to use these features to guide students to share and reflect on their problem-solving approaches, including explanations, arguments, justifications, and multiple points of entry.

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

Materials do not include prompts to support educators in providing explanatory feedback based on anticipated misconceptions.

Materials include prompts and guidance to support educators in providing explanatory feedback based on student responses. For example, in Module 2: "Analyzing Structure," Topic 2: "Characteristics of Polynomial Functions," the Intervention Resources SkillStream Video "Identifying Key Characteristics from Graphs" tasks students with identifying key characteristics of functions from graphs. At the 6:27 mark, students are asked to determine the domain and range of various functions. If students respond incorrectly, the program plays a two-minute instructional video. In the video, the teacher provides targeted support, stating, "If you remember, this is a special type of function that is going to approach $y = -8$ but never touch it. That means my range is all values greater than, but not equal to -8." These teacher-led tips serve as explanatory feedback without providing direct answers.

Materials include a real-time view of student progress in MATHia, identifying students who are stuck, idle, or in need of support. Teachers can also access the solution to a question using the Solve It feature. However, these features do not include prompts or guidance to support educators in providing explanatory feedback based on common misunderstandings, nor do they offer support to help educators prepare for anticipated misconceptions. Educators must independently analyze progress data or sample solutions to deliver actionable feedback.

The "Making Sense of Mathematics" article provides guidance to support educators, including prompts to support educators in providing explanatory feedback based on student responses, and guidance to support educators in providing explanatory feedback based on student responses and anticipated misconceptions. It states that the graphing tools in MATHia can be used to give visual feedback for misconceptions involving graphs.