McGraw Hill LLC

Supplemental English Mathematics, 8
ALEKS Course 3 (Grade 8)

MATERIAL TYPE	ISBN	FORMAT	ADAPTIVE/STATIC
Supplemental	**9780076867899**	**Digital**	**Adaptive**

Rating Overview

TEKS SCORE	TEKS BREAKOUTS ATTEMPTED	ERROR CORRECTIONS (IMRA Reviewers)	SUITABILITY NONCOMPLIANCE	SUITABILITY EXCELLENCE	PUBLIC FEEDBACK (COUNT)
100%	110	0	Flags Addressed	Not Applicable	0

Quality Rubric Section

RUBRIC SECTION	RAW SCORE	PERCENTAGE
1. Intentional Instructional Design	17 out of 21	81%
2. Progress Monitoring	19 out of 23	83%
3. Supports for All Learners	26 out of 37	70%
4. Depth and Coherence of Key Concepts	12 out of 16	75%
5. Balance of Conceptual and Procedural Understanding	30 out of 38	79%
6. Productive Struggle	16 out of 21	76%

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	1	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	The materials do not include an alignment guide outlining the ELPS.	4/5
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	Materials do not provide guidance for instructional leaders to support educators in implementing the materials as designed.	1/2
—	**TOTAL**	12/14

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.

The *ALEKS Reference Guide* includes a section titled "Personalized Modules," which provides a rationale for the vertical learning paths. This section states that the personalized modules are "front-loaded with prerequisite skills to help students revisit previous skills for success in the course." A section titled "The ALEKS Student Experience" explains that students are assigned lessons that address prerequisite skills based on diagnostic tests called Knowledge Checks. The "Sequence Check" section discusses the algorithm ALEKS uses to "structure different topics in the course based on historical student learning data."

The "Standards Correlation" material lists the Texas Essential Knowledge and Skills (TEKS) for grade 8 that are aligned to the ALEKS Course 3 course topics, and the correlation guide lists the concepts covered within each TEKS. For example, TEKS 8.2.A includes a bulleted list of standards met within ALEKS, including "Identifying numbers as rational or irrational" and "Constructing a Venn diagram to classify real numbers." The materials do not include an alignment guide that outlines the English Language Proficiency Standards (ELPS).

The Teacher Dashboard includes materials that list each TEKS along with the number of topics in ALEKS that address that standard in the "Standards Report." For example, TEKS 8.3.C includes four topics: "The effect of dilation on side length," "Finding a scale factor given a dilation in the coordinate plane," "The effect of dilation on area," and "Writing a rule to describe a dilation." The materials display these standards individually when each standard is expanded. When selected, the "Standards" drop-down

menu lists topics from prior grade levels, such as "round decimals to tenths or hundredths," and "Simplify expressions that do not involve exponents." Additionally, the "Class Customization" feature, located within the "Class Summary," allows educators to assign specific topics, including grade-level standards, "Prior grade level prerequisites," and "Topics Not Aligned to These Standards."

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.

The *ALEKS Reference Guide* encompasses a range of topics to support implementation, including "The ALEKS Blend," "Personalized Modules," and "ALEKS Reports." This guidance helps educators identify students' levels of mastery throughout the course and recommend topics for optimal learning. The materials explain how personalized modules enable educators to make adjustments based on student needs through prerequisite assignments or a series of just-in-time assignments. The section titled "The ALEKS Student Experience" explains how the materials are adapted to meet student needs in various contexts: "ALEKS will identify and celebrate what a student already knows coming into the course and create a personalized learning path so they can efficiently focus on what they are most ready to learn next."

The "Training & Resources" materials provide "On-Demand Resources," such as videos and reading materials to support implementation. The "Reports" section includes "Progress Reports," which explain how to view and read reports for entire classes as well as individual students. This "Progress Report" indicates a student's performance in class and on assessments. The video titled "QuickTables Report" explains how to use student data to determine the next steps regarding topics to assign to individual students as they progress through their learning paths. The "Administrator Resources" section includes "What to Look for in an ALEKS Classroom." This resource is divided into weeks based on the program start date. The material gives examples of possible instructional groupings, teacher actions, student actions, and classroom arrangements based on the implementation of ALEKS.

The "ALEKS Resources for TX" Padlet includes the "ALEKS Recommendations and Implementation" video, which explains that students should use ALEKS for 60 minutes per week and study five to nine new topics within that timeframe.

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

The *ALEKS Reference Guide* describes how the *ALEKS Pie Report* is tailored to an individual student's needs: "By the time the student has completed the Initial Knowledge Check, ALEKS has developed a precise picture of the student's knowledge of the course, knowing which topics they have mastered and which they have not. A multicolored pie chart then represents the student's knowledge. Each pie slice depicts

an area of the course; the student knows exactly how many topics they know and do not know in each area."

The materials include resources within the Teacher Dashboard that allow teachers to view the TEKS correlation. The "Standards Correlation" material lists the TEKS for grade 8 aligned to the ALEKS Course 3 course topics, and the correlation guide lists the concepts covered within each TEKS. For example, TEKS 8.5.D includes a bulleted list of standards met within the ALEKS, including "Scatter plots and correlation" and "Predictions from the line of best fit." The guide includes recommended skill entry points for students generated by a diagnostic test. The "Standards Report," located under the "Report" tab, displays initial student progress based on grade-level TEKS alongside current data. Teachers can view data for all students simultaneously or for individual students. As individual students complete their skills pathways, the "Standards Report" displays their mastery levels of specific TEKS.

"Getting Started With Your ALEKS Implementation" provides guidelines that utilize initial assessment data to indicate when teachers should move students to more or less challenging courses. For example, the guide suggests that teachers use the 15/85 guideline, which is defined as follows: "If a student assesses above 85%, we recommend moving him to a more challenging course. If a student assesses below 15%, we recommend moving him to a less challenging course." Additionally, the materials include "Filtering a Learning Path as a Student," which helps students understand their learning paths and the order in which they should complete the path.

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

The "ALEKS Resources for TX" Padlet includes a document titled "Implementation" under the Teacher Resources section. The document includes a protocol for teachers to follow to support unit and lesson internalization by helping teachers identify "Ready to Learn" topics for students. The next steps guide teachers to view the "Explanation" pages for those topics and practice corresponding problems to help anticipate student responses and misconceptions.

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

The *ALEKS Reference Guide* provides educational leaders with supportive information and guidance, including sections on "Class Creation," "Select Class Content," "Lockdown Browser," and "ALEKS Administrator Features." The "ALEKS Administrative Features" section includes instructions that help leaders quickly navigate the Modules to monitor student progress and teacher implementation. This section also outlines steps instructional leaders should take to utilize the Learning Management System to upgrade courses.

The "Training & Resources" materials include video and print resources that support educators in using the ALEKS program. These resources include the "What to Look for in an ALEKS Classroom" guide, "How

to Create Master Templates," and an "End-of-Year Guide." The "What to Look for in an ALEKS Classroom" implementation guide provides instructional leaders with information regarding what an ALEKS classroom might look like when they enter the room. The document is organized by the time of year or the length of time the teacher has been using the program. The guide provides leaders with suggestions on what to look for from the teacher and students, depending on the type of instructional grouping. Prompts for interacting with teachers and students guide leaders in supporting program implementation.

The materials include guidance for instructional leaders on managing reports, accounts, and data. The materials include suggestions regarding what instructional leaders can look for in classrooms throughout the year. The materials do not guide instructional leaders in strategies to support educators in implementing the materials as designed or in teaching specific topics. For example, the materials do not include guidance for leaders regarding how to best support teachers in teaching decimal multiplication.

1.2 Lesson-Level Design

GUIDANCE	SCORE SUMMARY	RAW SCORE
1.2a	This guidance is not applicable to the program.	N/A
1.2b	Materials do not include detailed lesson overviews with learning objectives, and assessment resources aligned with the ELPS.	3/5
1.2c	All criteria for guidance met.	2/2
—	**TOTAL**	5/7

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.

The *ALEKS Reference Guide* explains that the program begins when students complete the Initial Knowledge Check, which helps ALEKS determine where each student should start their learning.

The "Training & Resources" materials include a print resource that explains that the *ALEKS Pie Report* is based on the results of the Knowledge Checks assessments and traditional ALEKS Homework, Tests, and Quizzes. These data provide educators with real-time insights into student performance and pinpoint TEKS-aligned topics based on whole-class or individual difficulties. This data enables educators to provide students with targeted additional resources, thereby improving students' progress through their pathways.

The Teacher Dashboard includes the "Standards Correlation" document, which lists the Course 3 topics aligned to TEKS for grade 8. The materials identify each assignment topic with asterisks to provide lesson overviews and a breakdown of lesson components. For example, the document lists all grade 8 TEKS along with course topics that address each TEKS. Two asterisks indicate assignment topics included in the ALEKS student lessons. The "Class Administration" tab of the "Class Summary" page allows educators to assign modules. It shows the estimated time students will need to complete the individual lessons and the entire module.

For example, "Module 1: Exponents and Scientific Notation" in Course 3 includes 11 topics, each lasting two to five minutes. The entire module has an estimated duration of 32 minutes. The *Getting Started with Your ALEKS Implementation* materials include suggested pacing for individual lesson components. The

recommendations specify that students should work in Learning Mode to learn 20 topics within five hours after completing their Knowledge Check.

The *Emerging Bilingual Guidebook* includes the section "How to Incorporate English Language Proficiency Standards (ELPS)," which provides strategies for integrating content and language goals in conjunction with a lesson example that differentiates the language objective by proficiency level. The "How to Use the ELPS Proficiency Levels" section presents assessment tools that adjust to students' progress across the four language domains. The "Initial Assessment and Placement" section guides educators in interpreting students' proficiency levels to determine their current language abilities and to implement ongoing assessment practices. Nevertheless, the materials do not support learning objectives or assessment resources at the individual lesson level that are aligned to the ELPS.

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 "Encourage Your Child's Math Learning at Home" letter and the "Parents' Guide to Student Reports" are available in both English and Spanish. These resources offer families strategies to reinforce new learning, monitor student progress, and seek support as needed. The "Encourage Your Child's Math Learning at Home" letter provides parents with their student's login, summarizes the terminology used within the ALEKS program, and outlines the recommended amount of time their student should spend using the ALEKS program each week.

The "Parents' Guide: Student Reports" provides guidance to parents on how to track their child's progress and understand what their child has been working on within the ALEKS platform. The resource provides parents with a thorough explanation of the *ALEKS Pie Report*, demonstrating that each pie slice corresponds to specific topics in their child's Learning Path. While the darker portion of each slice represents mastered topics, the lighter portion represents topics that students are learning. The "ALEKS for Parents" video demonstrates how to access the student's pie chart, understand which concepts students have mastered, identify which concepts they are learning, and monitor daily progress through the platform. The video also shows how students can access learning supports while working through the program. Additionally, the "Parents' Guide: Student Report" explains how to interpret various reports, including the "Learning Sequence Log," "Time and Topic Report," and "Progress History Report." These resources are available to educators under the "Training & Resources" section of the Teacher Dashboard.

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 accommodations that teachers can turn on and off for individual students, including text-to-speech, content and language supports, and calculators.	1/4
2.1d	All criteria for guidance met.	4/4
2.1e	All criteria for guidance met.	4/4
—	**TOTAL**	13/16

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

The "Overview of the Initial Knowledge Check" video defines the Initial Knowledge Check as an "adaptive assessment that is designed to evaluate each student's current knowledge state." This assessment creates a customized learning path for the student by identifying what they know, what they do not know, and what they are ready to learn next.

The video "What are Knowledge Checks?" explains that the purpose of this Initial Knowledge Check is to set the course for the student and assign lessons where the student needs support. ALEKS automatically recommends that students complete a Progress Knowledge Check after they have learned about twenty topics or spent five hours in the program. Additionally, teachers can manually assign Knowledge Checks. The purpose of the Progress Knowledge Check is to update the lessons that students are receiving and allow students to revisit topics that they are not mastering.

The article "Scheduling a Knowledge Check in ALEKS" explains that the materials include a Comprehensive Knowledge Check, defined as a 30-question assessment that educators can assign to assess students on all topics within the course. The article states that teachers can assign Knowledge Checks to individual students or an entire class.

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

The materials include a document titled "Using the 'Course Placement Check'" that provides instructions and screenshots to help teachers ensure that students log in to the program successfully. This document also includes tips, reminders, and time allotments to guide the implementation of assessments. After

students complete the "Course Placement Check," a class report shows color-coded symbols educators can use to determine a student's course placement. When results indicators indicate that a student's recommended placement is in a higher- or lower-level course, the material prompts the educator to "use the roster to move the student to the recommended course."

The materials provide a video titled "Overview of the Initial Knowledge Check" that guides educators in administering the Initial Knowledge Check. The video encourages educators to allocate 30–45 minutes for students to complete the assessment, but if students do not finish, the program saves their progress. The material recommends that educators provide students with resources, such as a pencil and paper, to show their work. It also recommends that teachers encourage students to try their best, even if they are unsure of the answer. The material suggests that educators should not offer too much help to allow the program to identify "the ideal personalized learning path."

A video titled "Student Experience in ALEKS" introduces the program to students. This video provides an overview of the available tools, the Initial Knowledge Check, and the individualized learning path. The video explains the purpose of the Initial Knowledge Check and instructs students on using the "I Don't Know" button, which is available to them when they genuinely do not know how to solve a problem.

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.

The materials enable educators to print digital assessments in the Teacher Dashboard, located under the "Assignments" tab. By clicking the "New" button, teachers can create assignments, including quizzes and tests, and choose the type, complexity, and number of questions to include on the assessment from the ALEKS Topics, textbook topics, or TEKS. After creating the assessment, teachers can determine whether the language should be English or Spanish and print the assessment by exporting it to PDF format.

The materials explain how to upload content and language support for specific items. For example, the "Class Tools" icon in the "Class Summary" tab of the Teacher Dashboard enables educators to upload content supports, such as text, web links, images, symbols, and equations. An educator can turn the content supports on or off by linking the resource to specific topics or questions. The materials do not allow teachers to turn the content supports on or off for individual students.

The materials include both a graphing calculator and accommodations for visually impaired students. The "Course Specific Settings" section in the *ALEKS Reference Guide* describes how to create a class and enable accommodations for students with visual impairments. The materials include a screenshot that shows how to toggle Spanish translation on or off. The materials do not include embedded text-to-speech or content and language support for student items; however, they provide recommendations for uploading screen readers. The materials turn on the graphing calculator for all students by default, but teachers may turn it off. If a teacher disables the calculator, any mathematics topics that require its use will be

removed from the course. The materials do not include calculator supports that educators can turn on or off for individual students.

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

The video "Getting Started with ALEKS" defines the material as an adaptive resource that avoids using multiple-choice questions and instead utilizes flexible input tools that mimic how students would work with paper and pencil. The materials use adaptive questioning within an open-response environment, allowing students to solve problems or input answers. The adaptive questioning includes varying interactive item types, such as text entry, equation editor, and graphing. The Tools Tutorial assists students if they struggle with answering specific item types.

The "Student View" section of the Teacher Dashboard includes a student's view of the types of problems in the diagnostic assessment, known as the Initial Knowledge Check. These problems address varying levels of complexity and align with the TEKS. For example, questions include writing an expression to represent a word problem, operating with rational numbers, calculating the surface area of a cylinder, calculating the surface area of a composite three-dimensional shape made of a rectangular prism and a rectangular pyramid, calculating the area of a composite figure, and using equations to find the missing angle measures of a triangle.

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

The *ALEKS Reference Guide* includes a section titled "Question Authoring Tool," which shows how teachers can create their own Knowledge Checks or design assessment questions. Teachers may utilize multiple interactive question types, including multiple-choice, numeric entry, formula entry, matching, and free response. This tool also allows teachers to adjust the complexity of a task.

The "Learning Mode" section guide explains that students begin the program with the topic they are most Ready to Learn. Each topic includes a "Learning Page" with a sample problem and explanation, followed by practice problems. The variability of problems ensures students truly understand the concept. Once students demonstrate consistent accuracy with a topic, the topic is marked as learned, and the student advances to a more complex level within that topic. For example, students may start by reviewing how to write a direct variation equation given the x and y values before transitioning to writing a direct variation equation from a real-world situation (TEKS 8.5.E). The same TEKS includes an additional lesson where students begin to interpret direct variation from a graph and connect it to slope (8.4.C). The guide states, "ALEKS periodically reassesses the student through Knowledge Checks and provides extra remediation—through mixed-question assessments that cannot be predicted."

The video "Getting Started with ALEKS" states that the materials include opportunities for educators to create assignments to meet instructional goals and support students' needs through a variety of

formative assessments, such as homework, quizzes, and Knowledge Checks. When creating the assignment, the topic aligned to the standard is selected using student data. Once a topic is chosen, ALEKS generates questions that include multiple levels of complexity and a variety of interactive item types.

"Student View" identifies the review activities with varying levels of complexity, including writing scientific notation with a positive exponent (TEKS 8.2.C), writing an equation to represent a real-world problem (TEKS 8.8.A), and using informal arguments to establish facts about the interior angles of a triangle (TEKS 8.8.D).

2.2 Data Analysis and Progress Monitoring

GUIDANCE	SCORE SUMMARY	RAW SCORE
2.2a	The materials do not include rationales for incorrect responses on instructional assessments.	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.

The *ALEKS Reference Guide* discusses the *ALEKS Pie Report*. It explains that the *ALEKS Pie Report* shows student progress from the Initial Knowledge Check and from the most recent data from the Progress Knowledge Checks. The Sequence Check explains how the program links student learning data to different topics in the course, allowing for the identification of connections a student has already made between topics. It states, " . . . when we move a topic into a different module, it is because our data shows a strong relationship with one or more topics in that module."

The "ALEKS Pie Report" document explains how teachers can interpret student performance on Knowledge Checks. This document includes screenshots with guidance for accessing reports that explain whole-class and individual student data. The guidance enables teachers to view "Ready to Learn Topics" for the entire class and individual students. The report helps teachers determine what students need by grouping them into four different categories: "Progress Remaining," "Ready to Learn," "Attempted," and "Not Yet Learned."

The "Progress Report" document explains how the "Progress Report" displays overall student growth in both "Learning" and "Assessment" modes, along with average learning rates. This document includes screenshots and information about specific report sections. Educators can use this report to monitor individual and class-wide progress and identify students who need intervention. The "Standards Report" document explains that educators can monitor student progress on state standards. This report displays the class average for each TEKS and specific performance data on individual standards. Educators can examine prerequisite standards to assess class-wide understanding and identify any foundational gaps that may impact mastery of current content. The materials do not include a rationale for students' incorrect responses on the instructional assessments.

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

The *ALEKS Reference Guide* explains that after students complete the Initial Knowledge Check, the program assigns them appropriate lessons. Students can filter these topics to target specific areas of focus, including previously learned and mastered content or concepts that require additional practice. To support their learning, students can access resources such as the eBook, lecture videos, and problem-specific explanations. When a student consistently demonstrates mastery by solving problems correctly, the program marks the topic as learned and unlocks the next appropriate topic in the learning path. Students only move on to the next topic after consistently answering problems correctly. The "Ready to Learn" drop-down menu enables navigation between modules or pie slices, displaying progress at a glance. As students learn new topics, ALEKS updates its knowledge map and regularly checks retention through Knowledge Checks. These mixed-question assessments are unpredictable, ensuring demonstrated mastery reflects accurate understanding. The materials provide remediation as needed to support long-term retention and mastery of the course.

The *ALEKS Pie Report* includes screenshots and detailed guidance for teachers regarding how to align instructional content with assessment data while addressing specific learning gaps through targeted instruction. This report explains that teachers can view assessment results according to the topics students have mastered, the topics students are ready to learn, or the topics students have not yet understood. The guidance specifies that this stratification enables teachers to group students based on their readiness levels. For example, the report guidance specifies how teachers can utilize data to better plan targeted instruction for small groups or assignments for the whole class based on trend data.

The video "ALEKS Pie Report: Class Level" explains how teachers can click on student objectives to determine students' learning progress; teachers can utilize this report to respond to trends on assessments and to review the progress of students individually or as a whole class.

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

The *ALEKS Reference Guide* explains how teachers can create student groups to manage large class rosters better and monitor students who require additional support. Teachers can use this feature to filter data in reports, the grade book, and assignments, making it easier to target instruction and track progress. Teachers can also share access to these groups with colleagues through the Share Class Access feature.

The materials include a "Progress Report" document, which provides a comprehensive overview of student performance in both "Learning" and "Assessment" modes, along with average learning rates. The "Progress Report" displays the number of topics a student has completed since their last Knowledge Check, showing the percentage of content the student has mastered, their progress in "Learning Mode,"

and the content remaining for the student to learn. Color-coded performance bars, which change in real time, provide teachers with an overall view of how the class is performing in "Learning Mode."

The "ALEKS Insights" document explains how teachers can use the "Insights Report" to identify patterns of topic failure, unusual learning, or procrastination. For example, the "Failing Topics" report updates in real time, while other reports update on Sunday nights. Additionally, the materials include the "Progress Goal Setting" printable, which helps students track their progress based on a student-created End-of-Year Progress Goal.

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.

Progress Knowledge Checks automatically trigger after students either complete 20 lessons or work for five hours in their learning path. After completing a knowledge check, ALEKS tags any topics in which students have lost mastery as "Needs More Practice"; ALEKS then automatically queues these topics for the student in their pathway.

The first time a student makes a mistake in solving a problem in the "Learning Mode" of the student-facing materials, the program directs them to "Check Again" or "Try Again." After a second mistake, the program walks the student through a correct problem solution. As students complete problems on learning pages, a Progress Indicator bar appears to show how many problems students need to answer to earn the "learned" status. This Progress Indicator bar changes color from green to red.

The "QuickTables" option in the "Student View" visually prompts students to "Be careful" or "Try to answer faster." This option also provides students with a prompt designed to guide them to the correct answer.

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 include educator guidance for pre-teaching, developing academic vocabulary, and unfamiliar references in the text.	2/4
3.1c	The materials do not include explicit educator guidance for enrichment or extension activities for students who have demonstrated proficiency in grade-level content and skills.	1/2
3.1d	Materials do not include digital materials that 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	All criteria for guidance met.	2/2
—	**TOTAL**	6/12

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 include explicit educator guidance for scaffolding students who have not yet reached proficiency, such as video training that explains how ALEKS automatically adjusts the learning path using "Prior Grade Level Prerequisite" content, as shown in the "How ALEKS Works" video. The materials provide additional guidance through training videos, such as "Creating a Sub-Class in Open Learning" and "Moving a Student to a Sub-Class in Open Learning," which help teachers customize lessons for targeted intervention. Teachers can also assign prerequisite skills as described in the *Reference Guide* and monitor student progress using the Progress Reports and Insights Reports to identify struggling students and plan support.

The *New ALEKS Student Module Reference Guide* provides students with scaffolded guidance for lesson topics. Progress Indicator bars indicate whether students' answers are correct or incorrect. The scaffolds are fixed; if a student answers a problem incorrectly on their second attempt, they receive a programmed response: the progress indicator turns yellow, a message informs them that the answer is incorrect, or an explanation is automatically displayed.

"Student View" explains that the materials include pre-recorded tutorial videos that support students as they work on problems in their Learning Paths. These videos are organized topically.

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.

The program embeds support that explains unfamiliar references and helps students develop academic vocabulary; "Student View" shows how to access these tools, as well as how to use the Dictionary. Academic vocabulary is notated with blue text and underlined. When students click on a vocabulary word, a dictionary pop-up provides definitions, diagrams, and related vocabulary to support student understanding. The student can access the dictionary tool by clicking the "Aa" book icon. When clicked, this icon displays terms related to the current topic and concept. For example, in grade 8, Course 3, under the topic "Whole numbers and integers and the concept integer subtraction: Problem type 3," clicking the dictionary icon reveals links to "Additional Terms," such as *negative integer*, *positive integer*, *distance*, and *number line*. These links provide definitions and supporting information to reinforce student understanding.

The program provides students with video explanations of concepts located within the "Learning Mode" of "Student View." Students can click on the icon with the triangle to access videos that explain concepts related to the lesson they are completing. If the textbook is linked to the program, students may access the lessons that correlate with the topic.

The materials do not include any guidance for pre-teaching academic vocabulary or unfamiliar references in text.

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.

"Using the Course Placement Check" explains that the Course Placement Check, used for middle and high school students, determines a student's course placement before the Initial Knowledge Check. Teachers can use the results of the Course Placement Check to determine whether students should begin at a lower or higher course.

"What happens in ALEKS when my student completely masters everything in the course she or he is in?" explains that when students fill their pie to 100% complete, an automatic Knowledge Check is triggered to assess the student's knowledge of the course contents. Depending on the results, students may or may not need to complete additional Knowledge Checks. Once students complete the course, a congratulatory message appears, and the student's pie remains 100% full. ALEKS explains, "The teacher can move the student to a new (more advanced) ALEKS course."

The materials include explicit educator guidance for extension activities for students who have demonstrated proficiency in content and skills above their grade level. The "How ALEKS Works" video

explains that the program automatically pulls from the "Topics Not Aligned to These Standards" folder to support advanced learners. Examples of these topics, which extend learning beyond the current grade level, include factoring a binomial expression, graphing a compound inequality on a number line, constructing an angle bisector, and identifying arithmetic and geometric sequences. Teachers can also assign these topics to students in the "Assignments" tab in the Teacher Dashboard. Materials do not include explicit educator guidance for enrichment and extension activities for students who have demonstrated proficiency in grade-level content and skills.

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.

The materials explain how to upload content and language support for specific items. For example, the "Class Tools" icon in the "Class Summary" tab of the Teacher Dashboard enables educators to upload content supports, such as text, web links, images, symbols, and equations. An educator can turn the content supports on or off by linking the resource to specific topics or questions. The materials do not allow teachers to turn the content supports on or off for individual students.

The materials include both a graphing calculator and accommodations for visually impaired students. The "Course Specific Settings" section in the *ALEKS Reference Guide* describes how to create a class and enable accommodations for students with visual impairments; the materials also show how to toggle Spanish translation on or off. The materials do not include embedded text-to-speech or content and language support for students, but they do provide recommendations for uploading screen readers. The materials turn on the graphing calculator for all students by default, but teachers may turn it off. If a teacher disables the calculator, any mathematics topics that require its use will be removed from the course. The materials do not include calculator supports that educators can turn on or off for 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.

In the Teacher Dashboard, teachers can create assignments for students that allow them to demonstrate their understanding of concepts shown under the "Assignments" tab. Teachers may select questions from various topics, allowing students to use interactive visual models and tools, such as sliders. This feature also provides teachers with options for students to demonstrate their understanding in various ways, including multi-select and drag-and-drop. For example, in grade 8, Course 3, the topic "Sketching the line of best fit" allows students to interact with a coordinate plane model by using the drawing tool to sketch a line that best matches the arrangement of the ordered pairs. The article titled "ALEKS: Creating an Assignment" provides step-by-step guidance explaining how to create custom assignments.

The materials explain how to post a communication thread for the whole class using Class Forum. The Class Forum option is a tool that allows educators and students to "facilitate discussion among students and with the instructor." Educators and students can "post a new thread, answer questions, add comments, and upload attachments" to allow students to demonstrate, express, and represent their understanding of the concepts they are learning through writing and adding attachments.

The video titled "Authoring a Student File Upload Question" provides instructions on uploading written work; this feature allows students to demonstrate their understanding in a variety of ways by using the "free response" authoring option.

3.2 Instructional Methods

GUIDANCE	SCORE SUMMARY	RAW SCORE
3.2a	All criteria for guidance met.	5/5
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 educator guidance for the effective implementation of enrichment and extension methods.	1/2
3.2e	Materials do not include prompts to support educators in providing timely feedback during lesson delivery.	1/2
—	**TOTAL**	10/12

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.

The ALEKS Notebook Guide includes prompts and guidance for educators to help students build knowledge by activating prior knowledge, anchoring big ideas, and highlighting and connecting key patterns, features, and relationships through multiple means of representation. The sentence starters and helpful tips include explicit guidance for educators by including examples for each type of activity that can be completed in the student's individual notebook. The reflection prompts help students to activate background knowledge prior to beginning a new topic, while the visual aids, mini lessons, and the learning logs sections allow students to anchor big ideas and connect them to key patterns and relationships.

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.

The "What to Look for in an ALEKS Classroom" document provides guidance for educators on when to initiate whole-group, small-group, and individual instruction. In the first few weeks, teachers focus on whole-group instruction and transition to small-group instruction around three to four weeks. After three to four weeks in the program, the document suggests that teachers begin using "Breakout Centers." While teachers lead small groups, students work on various activities in the centers, including topics in the "Learning Mode," QuickTables, Assignments, Worksheets, Performance Tasks, and Project Work. After 10 weeks in the program, teachers can begin utilizing independent work within the classroom.

The document "Creating an Assignment" includes guidance for teachers on how to create targeted assignments, such as homework, quizzes, or tests, for practice or intervention by domain. They can select specific topics from the program table of contents, the textbook table of contents, or the TEKS, or they can allow the program to randomly generate questions aligned to a chosen standard, or include both options on the assignment. When using the textbook table of contents, teachers have the option to include course readiness topics to help students prepare for upcoming content.

The adaptive materials provide live reports, such as the *ALEKS Pie Report*, based on student work, along with suggestions for student grouping structures based on identified learning gaps. For example, the "ALEKS Pie Report" document includes recommendations for how an educator can use the report data to target multi-tiered intervention structures, stating, "this kind of information makes targeted, small-group instruction a viable strategy for any classroom . . . the instructor might look for a group of students who are ahead of the rest. . . and spend time with them on an enrichment activity." It also provides guidance on how to use the data from the Knowledge Checks to see what topics students did not retain and "pull small groups to reteach those concepts."

Teachers can use the "Progress Report" to identify which students require targeted intervention. The "Progress Report Recommendations" video guides teachers on how to identify students who are not making expected progress in the program and how to select students for targeted intervention.

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

The "Grading and Motivation in ALEKS" document includes ideas that teachers can use for enrichment and extension, such as "Challenge of the Day/Week," "Head to Head Challenge," and "ALEKS Madness." While teachers can utilize these methods for enrichment and extension, the materials do not provide guidance on how to implement them effectively in the classroom.

The "What to Look for in an ALEKS Classroom" document names practices that support various forms of engagement, such as Math Centers, manipulatives, and math games, which could utilize enrichment and extension methods. The materials do not include guidance to support educators in effectively implementing the practices.

The "Create Your Own Questions" section of the Training & Resources link in the Teacher Dashboard includes videos that provide a general overview of the process for creating questions and offer quick tips. Additionally, videos explain how to make each type of question option. The videos clarify for educators how to create custom questions, such as free-response and two-part questions, to enrich and extend learning and support varied forms of student engagement. Free-response questions offer flexibility for open-ended tasks and deeper thinking. The two-part questions, with manual grading, will allow teachers to extend student thinking beyond grade level by having students answer a question and then justify their reasoning. Teachers can insert images, graphs, links, and mathematical symbols to design tasks that go beyond procedural practice. The overview video explains that these questions can be assigned

alongside existing content in Homework, Tests, or Quizzes and organized using customizable folders across courses; however, the materials do not include guidance on effective implementation.

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

The "ALEKS Insights" document provides guidance to support educators in providing students with timely feedback during or after digital lessons through the use of the "Insights Report." The materials include guidance for educators on how to view specific student insights and provide timely feedback regarding one of four behaviors that may require interventions: failed topics, decreased learning, unusual learning, and procrastination. The "failed topics" report updates in real time, while the other three reports update weekly on Sunday evenings. Teachers can select individual students within the report and message them directly from the report "to address their learning needs immediately." The materials do not include prompts that teachers can use in their feedback.

The "Progress Report" document explains the materials, including a progress report that displays a student's pace and accuracy as they work through digital tasks. The purpose of the "Progress Report," as stated in the materials, is "to monitor progress and identify intervention students by comparing data points" from both "Learning" and "Assessment" modes. As an educator monitors the bar graphs representing content mastered, learned, in progress, or unmastered, they can provide written feedback to the student by sending a message directly to the student from the report.

The *ALEKS Pie Report* supports educators in providing timely feedback during lesson delivery by keeping track of student progress in real time. The report pinpoints the skills where students need support or where they have achieved mastery.

The live dashboard that teachers use to monitor student work, displays student responses, pace, and accuracy as they work through tasks. As educators identify who is struggling or excelling, they can step in and give immediate feedback to the student. However, the report does not include prompts for teachers to utilize in their 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	This guidance is not applicable to the program.	N/A
3.3b	All criteria for guidance met.	4/4
3.3c	The materials do not include implementation guidance to support educators in effectively using the materials in state-approved bilingual/ESL programs.	0/1
3.3d	The materials do not include embedded guidance to support emergent bilingual students in building background knowledge through oral and written discourse.	6/8
3.3e	This guidance is not applicable to the program.	N/A
—	**TOTAL**	10/13

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.

The grade 8, Course 3 materials include embedded videos that provide linguistic accommodations within lesson topics. For example, the "Learning Page" within "Student View" for the topic "Introduction to solving a linear equation with a variable on each side" includes two videos that demonstrate how to solve the problems.

The "Learning Page" for a topic in "Student View" offers a clear explanation of how to solve related questions. This explanation underlines key vocabulary terms and links each term to its definition in the Dictionary; it also includes examples, visuals, models, and additional language supports that enhance students' conceptual development and academic language development. For instance, in the topic

"Scientific notation with a positive exponent," students use a visual example that uses visual models to explain the placement of decimals when expressing values in scientific notation. Students can access the Dictionary by clicking on underlined words such as *scientific notation* and *power* to view the definition of a word and see it used in a table. The lightbulb icon directs students to more information about the content and explanations, providing additional details or vocabulary support to clarify the question.

Each lesson topic includes embedded dictionary links. Students can access the Dictionary from the main menu or by clicking on linked words within a topic. Each dictionary entry consists of a definition, a visual representation of the term, and related vocabulary words, enabling students to match vocabulary with concepts and use models to understand both the language and the instruction. For example, in the "Learning Page" for the topic "Identifying corresponding and alternative angles," the words *angle*, *line*, and *angles formed by a transversal* link to the Dictionary. The Dictionary link for *angle* includes a visual representation of the different types of angles, as well as a protractor to show how angles are measured. Additional vocabulary words include *ray*, *acute*, *right angle*, *right triangle*, *obtuse*, *vertex*, and *side*. By selecting the English/Spanish toggle, students can view the vocabulary and definitions displayed in each language, but not simultaneously, to help connect English words to their Spanish cognates.

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

The *ALEKS Reference Guide* includes a section with guidance on how to implement accommodations for visually impaired students, but does not include specific examples tailored to emergent bilingual students.

The "What to Look For in an ALEKS Classroom" document provides guidelines for teachers on how to use the program with their class through multi-tiered intervention strategies that support a variety of instructional models. This guide provides guidelines on how and when to implement instructional methods, such as breakout centers, in conjunction with the program; however, it does not offer guidance on supporting educators in using the materials with state-approved English as a Second Language (ESL) programs.

The "Dramatically Improve Math Success for ELL/ESL Spanish Students" flyer identifies the program as "fully bilingual." It promises easy implementation of the program, but the materials do not include guidance for teachers on how to use the program with those students effectively.

In "Student View," students can change the language of the program to Spanish by selecting the "Español" button in the upper right corner of the main page. There is no specific guidance for teachers on how to implement this effectively in a state-approved bilingual program.

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 *Emerging Bilingual Guidebook* provides instructional strategies for teachers to support emergent bilingual students in oral and written discourse. The guidebook outlines the ELPS proficiency levels and provides guidance on how to integrate them effectively into instruction. It emphasizes the use of best practices that bridge language development with mathematical learning by promoting oral and written discourse as a means to develop academic vocabulary, increase comprehension, and make cross-linguistic connections.

Strategies include the use of mathematical visuals, manipulatives, and cognates, as well as collaborative learning structures that encourage students to explain, justify, and reflect on their reasoning. Each strategy includes implementation ideas that are differentiated for students at all proficiency levels, ensuring that language growth and mathematical understanding are developed in tandem.

The materials do not include embedded guidance to support emergent bilingual students in building background knowledge through oral and written discourse.

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	The materials do not include enrichment and extension activities.	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.

The *ALEKS Reference Guide* explains that the program automatically assigns Knowledge Checks to monitor student mastery and that educators can also schedule these assessments manually. Instructors can suppress automatic checks for up to seven days before a scheduled assessment. These individualized assessments update each student's pie chart and can be assigned or proctored as needed.

The "Student View" component of the Teacher Dashboard allows educators to view the practice opportunities available throughout students' Learning Paths. The topics generated in the ALEKS interface align with the grade-level TEKS and include varying levels of complexity. The pie chart indicates the specific topics that students need to learn based on the data from the Knowledge Checks.

As students work on the TEKS-aligned topics in their "Learning Pages," the program presents them with questions. By selecting "explanation," students can view a detailed explanation of how to solve a given problem. The lightbulb icon and the "more" button show up in the program when students may need background knowledge to solve the problem. For example, in grade 8, students solve equations with variables on both sides (TEKS 8.8.C). The online program presents a problem and explains how to solve it. The explanation shows the steps and models how to apply the distributive property. A lightbulb icon is available to justify the solution by showing how to "move" terms to the other side of the equation. Students are then allowed to solve multi-step equations with embedded explanation tools to support students' grade-level proficiency. The material also includes review activities that enable students to demonstrate conceptual understanding based on their Knowledge Check results.

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.

The "Teacher Dashboard" enables teachers to select topics aligned with the grade 8 TEKS, either through the adaptive program or through teacher-assigned content. Rigor and complexity do not increase within individual lessons; however, the program includes multiple lessons that address each skill or concept, and these lessons progressively increase in rigor and complexity over time. For example, in the folder for TEKS 8.10.C, the topic lessons begin by asking students to identify properties of transformations. Students then write rules to describe the transformations. Eventually, students use their knowledge of the rules of transformations to identify the locations of coordinates when given limited information. Teachers can also select additional above-grade-level lessons by opening the folder titled "Topics Not Aligned to These Standards."

The article titled "What is the Difference between Mastered and Learned Topics?" identifies questions and tasks in the material that lead a student to mastery based on grade-level standards. The material differentiates between "mastered" topics, which a student has demonstrated mastery of in a Knowledge Check, and "learned" topics that a student has practiced successfully but not yet demonstrated mastery via a Knowledge Check. The material is an adaptive interface with questions and tasks that increase in complexity as students answer questions correctly.

The materials do not include evidence of topics that educators can assign to students for enrichment and extension purposes.

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	The materials do not connect students' prior knowledge of concepts and procedures to mathematical concepts to be learned in future grade levels.	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 *New ALEKS Student Module Reference Guide* explains that the "topic carousel" displays students' "Ready to Learn" topics in order from easiest to hardest, based on the result of a student's Knowledge Check.

"Filtering a Learning Path as a Student" explains to students how to change the "topic carousel" from "Ready to Learn" to the different sections represented in the ALEKS Pie. When each section is selected individually, the carousel shows the topics associated with that section of the pie, connecting the lessons to the big idea represented by the pie section.

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

The "Standards Report" includes guidance for teachers on how to view a student's progress in prior grade levels. By clicking on the "strand drop-down menu" on the "Standards Report" homepage, the teacher can select the "Prior grade level prerequisites" option for all strands or specific strands to pinpoint students' gaps in understanding. The program embeds prior grade-level prerequisites to help students build strong foundations for success with grade-level concepts. For example, the materials include seven topics to support TEKS 8.4.A and its prerequisites. The materials also include a preview of practice problems that guide teachers in understanding how these concepts provide a strong foundation. The materials include some connections to future grade bands.

The "Student View" explains that lessons selected for students in their Learning Paths are isolated from other concepts. Each lesson begins with an explanation of the concept, followed by practice problems for students to complete.

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.

The Course 3 learning path begins with a procedural activity that requires students to fill in a table using a function for a given equation, as shown in "Student View." The "Explanation" page illustrates the connection between a function table and an input-output machine, enabling students to develop a conceptual understanding of x- and y-values for a given equation. Students demonstrate their understanding with practice problems.

The Dictionary is accessible to students through the "Student Dashboard." For example, in the topic "Word problems with subtraction of a whole number and a decimal" in grade 8, Course 3, the "Explanation" feature includes an interactive dictionary linked to the term *decimal places*. It provides a visual representation of a place value chart complete with hundreds, tens, ones, tenths, and hundredths, alongside definitions of related terms. This resource does not extend to more complex, above-grade-level appropriate applications, highlighting a lack of vertical coherence and conceptual progression.

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.

The *ALEKS Reference Guide* explains that teachers should administer Knowledge Checks after a certain amount of time, usually following the completion of either 20 topics or five hours of practice. Knowledge Checks check for mastery of the skills students have been studying; these checks adjust the prioritization of lessons that students work on in their customized Learning Path. This path provides students with some level of choice in what they learn, but it does not automatically spiral backward to include previous learning. If a student demonstrates a loss of mastery of a concept while taking a Knowledge Check, the program will place that lesson into the student's Learning Path.

The *New ALEKS Student Module Reference Guide* explains that students may prepare for Knowledge Checks by reviewing previously learned topics within a previous Learning Path. For example, students periodically receive a notification on their homepage recommending a Knowledge Check. Students have the option to review previously learned topics in the "Learning Mode" by selecting the "Review for Knowledge Check" link. Students may then practice retrieving previously learned concepts and skills related to the upcoming Knowledge Check.

The Teacher Dashboard enables teachers to manually create assignments and schedule Knowledge Checks at any time, providing additional spaced-retrieval opportunities on a flexible timeline. The "Assignments" tab allows educators to intentionally reintroduce previously learned skills and concepts. This feature can also support unit transitions, address gaps in understanding, or reinforce foundational knowledge.

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

The *ALEKS Reference Guide* explains how the adaptive program utilizes Initial Knowledge Check results to determine a student's Learning Path. ALEKS arranges these results in pie slices by topic on the *ALEKS Pie Report*. Opening each ALEKS Pie slice displays the number of topics a student or class has mastered, learned, or still needs to learn. Students work independently in their Learning Path to master course topics. Progress Knowledge Checks are triggered after students complete either 20 hours or spend five hours in the program. If students lose mastery of a topic within the Knowledge Check, the program will add the topic back into the learning path.

"Student View" allows students to choose a lesson from multiple topics; however, these lessons do not offer a variety of strategies to choose from, instead focusing on one concept or skill at a time. Lessons are taught in isolation rather than being interleaved with previously learned skills and concepts. For example, within Grade 8 "Transformations," students choose from isolated topics such as "Identifying transformations," "Translating a point and giving its coordinates: Two steps," "Properties of translated figures," "Determining if figures are related by a translation," "Reflecting a polygon across the x-axis or y-axis," "Determining if figures are related by a reflection," "Determining if figures are related by a rotation," and "Determining if figures are related by a dilation." Students practice each topic independently without integrating concepts. However, students can review previously learned concepts through the Review option in the menu, providing students the opportunity for interleaved practice.

The Teacher Dashboard enables teachers to create custom assignments that integrate various skills across different strands of the curriculum. Within the "Assignments" feature, teachers can select a variety of topics and include them in a single practice session. This intentional mixing of skill types promotes interleaved practice by requiring students to distinguish between strategies and apply the appropriate method based on the problem's context. These opportunities help strengthen procedural fluency and align with expectations for interleaved practice of skills.

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 mathematical concepts and complex, real-world situations.

The "Standards Correlation" guide for grade 8, Course 3, specifies the course topics that align with the grade 8 TEKS. For example, the materials include a topic titled "Solving a word problem involving a system of linear equations by graphing and estimating a solution." In this example, students work at the analysis level to solve problems related to linear equations. In a second example, "Establishing facts about the angles created when parallel lines are cut by a transversal," students make connections between the different angles shown in a drawing. The lesson "Identifying outcomes in a random number table used to simulate a simple event" asks students to use tables and analyze the outcome of a probability experiment.

The materials offer various models and representations to support students in understanding and interpreting concepts or situations. The "Content Editor" in the Teacher Dashboard includes the topic "Sketching the Line of Best Fit," which enables students to use a drawing tool to interact with a coordinate plane model of a line of best fit. The problem set for this topic requires students to apply their understanding of graphical relationships for a given situation to interpret the location of the line of best fit. Additionally, in the lesson "Interpreting direct variation from a graph," students interpret the graph to answer related questions such as, "How many calories *is* Sam burning per minute?"

The materials provide students with opportunities to evaluate mathematical concepts and complex, real-world situations. In the "Content Editor" of the Teacher Dashboard, the lesson "Finding slope given two points on a line," students must determine the slope of a line when given two points. In the lesson, "Word problem on direct variation," students are tasked with representing direct variation for given situations. In the topic "Calculating and comparing monthly payments using the ALEKS loan calculator," students calculate the monthly payment for different loans and determine which loan has the lower monthly payment.

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

The grade 8, Course 3 materials provide students with opportunities to create and manipulate representations, including graphs, number lines, and sliders. The topic "Graphing a line given its slope and y-intercept" enables students to plot the points of a graph and connect them to form a line. The topic "Plotting integers on the number line" allows students to manipulate values on a virtual number line, practicing correct plotting. The topic "Dilating a segment and giving the coordinates of its endpoints" will enable students to use a dilation slider to adjust the coordinates of a figure based on a scale factor. This activity helps students visualize the effects of a dilation on a figure.

The Class Forum tool within the program allows students to create discussion threads where they can ask and answer questions, add comments, and upload attachments. Through the attachment feature, students can create representations of mathematical situations and share them with their teacher and their peers.

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

The materials provide students with opportunities to apply their conceptual understanding to new problem situations and contexts. For example, the lessons that address TEKS 8.2.B gradually increase in rigor as students develop a conceptual understanding before applying it to new situations. The materials ask students to plot rational numbers on a number line, use a calculator to approximate a square root, estimate a square root, use numerical methods to approximate a square root to the nearest tenth or hundredth, and approximate the location of irrational numbers on a number line to compare them. Due to the adaptive nature of the program, students may interact with these lessons in varying orders. Students consistently start with basic concepts; however, they apply their understanding to deeper situations before doing so.

The "Assignments" tab in the Teacher Dashboard allows teachers to create assignments from questions within the program. Teachers can select combinations of topics that require students to apply their conceptual understanding from current lessons to novel situations.

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.

The materials provide tasks designed to build students' automaticity in completing grade-level mathematical tasks. The "QuickTables for Students" video explains how teachers can enable QuickTables to give students targeted practice with basic math facts—addition, subtraction, multiplication, and division. The Initial Knowledge Check for QuickTables is timed and will stop when the allotted time expires. After completing the Knowledge Check, students see a color-coded number chart that identifies facts they have mastered, are ready to learn, or have not yet understood. Students can click on the yellow numbers to practice. While the learning portion is a timed task, it does not force students to answer or stop after a time limit. The task encourages students to respond faster or prompts them to enter the correct answer after a period of time. The emphasis for completing the practice problems is based on accuracy, not speed. As they progress, they unlock math games for additional practice—more progress means more games. Teachers can use QuickTables during routines, and they have control over game settings, time limits, and available operations. Real-time performance data is available in the "QuickTables Report" to monitor student growth.

Students may encounter lessons in their Learning Pathway that require them to use multiple mathematical procedures they have learned or previously mastered. The "Class Content" section of the Teacher Dashboard lists topics within a TEKS strand that require students to develop automaticity with skills and build on their fluency of skills and concepts. In the topic "Introduction to exponents," students are given basic exponential numbers to evaluate, where the base and exponent change in each iteration. The topic requires students to build automaticity with the exponential representation and steps for evaluating exponents. In grade 8, Course 3, the folder for TEKS 8.4.A, "Use Similar Right Triangles to Develop an Understanding of Slope," includes topics where students begin by using right triangles to find the slope of a line, building a foundational understanding. Students then move on to TEKS 8.4.B, "Graph Proportional Relationships, Interpreting the Unit Rate as the Slope," where they deepen fluency by creating tables and plotting points from given unit rates, comparing proportional relationships in various forms, determining slope from graphs in Quadrant I that model real-world situations, and interpreting direct variation from a graph.

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

In grade 8, Course 3, students solve problems throughout their Learning Pathways that include prompts reminding them to use efficient procedures and check for accuracy. For example, the Learning Page problem set from the topic "Reflecting a point across an axis" provides a problem to solve on a coordinate plane, an explanation of how to solve that specific problem, and the correct answer. The "Explanation" page models the distance of a point, and its reflection across an axis is the same on both sides of the axis. A lightbulb icon further explains the relationship between the coordinates of the original and new points. The page then prompts students to check for accuracy. The video tag for this problem set offers students an alternative strategy for plotting the reflection points. For example, the video presenter models plotting reflections using points *A* and *A′* as a strategy to label points and the ordered pairs for each point. The video example shows a flexible procedure for students to consider when plotting a reflected point on the coordinate plane. Students learn to apply these procedures flexibly as they progress through related topics. The "Class Content" section of the Teacher Dashboard includes additional topics similar to "Reflecting a point across an axis" in strand TEKS 8.10. These topics focus on properties and procedures of reflections by reflecting across both axes, reflecting a polygon across an axis, finding the new coordinates of reflections, and writing an algebraic rule to represent the reflection, allowing students to choose the most efficient procedure to complete the task.

The video "What are Knowledge Checks?" explains that students complete a Progress Knowledge Check after they have either learned about 20 topics or spent five hours in the program. The Knowledge Checks are built into a student's Learning Pathway and are automatically triggered before returning to lesson topics. The content included in the Knowledge Checks is relevant to each student's individual learning history in the pathway, meaning the program provides students with more practice and application of efficient, flexible, and accurate procedures to solve problems related to those they have been completing in course topics.

The materials include opportunities for teachers to link resources to topics and modules that allow students to practice applying flexible mathematical procedures throughout their Learning Paths. For example, the *ALEKS Reference Guide* section "Resources" explains that teachers can link documents, text, links, images, symbols, equations, or graphs to a topic in a student's Learning Pathway, which shows multiple strategies for solving specific problem types.

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

The *ALEKS Notebook Guide* provides opportunities for students to evaluate mathematical representations, models, strategies, and solutions for efficiency, flexibility, and accuracy that could be used across lesson topics. The guide includes conversation starters such as "Why did you do that?," "Were there other

methods you could have used?," "What would you do differently next time?," and "What is the most efficient way to solve this problem? Why?" that can be used throughout the different instructional strategies presented in the guide to encourage students to share, reflect, and evaluate their mathematical understanding.

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

The *ALEKS Notebook Guide* provides guidance for educators to support students in selecting increasingly efficient approaches to solve mathematical problems. The guide provides question prompts for educators to help guide students into more efficient problem-solving strategies and reflect on their current use of strategies, such as "What would you do differently next time?" and "Were there other methods you could have used? Which might be the most efficient?"

The Usage & Training article "How should students use explanations in ALEKS?" includes guidance to support students in selecting efficient approaches to solving mathematical problems. The materials specify that students should select "Explanation" to "compare the steps they took to the steps in the explanation to pinpoint where their mistake or misunderstanding occurred; students can then continue to a new question with a better understanding of the method used to solve it." This tool guides students in selecting accurate approaches. Some explanations include "Quick Notes" that expand on key steps of a solution. "Quick Notes" may define a key academic vocabulary term, provide another strategy for solving the problem, or share a connection to previously learned content.

Each lesson in a student's "My Path" provides a "Learning Page" at the beginning of the lesson that introduces the key concepts and outlines a step-by-step approach to solving a sample problem. This page provides guidance on how to solve problems similar to the example problem. This explanation not only models an efficient method for tackling the problem but also serves as a foundation that students will apply repeatedly as they work through similar problems within the same topic. For example, in grade 8, Course 3 topic "Translating a point and giving its coordinates: Two steps," the Learning Page links the terms *translate* and *coordinates* to the Dictionary, providing a definition and visual representations of the terms. It explains, "To translate a figure is to 'slide' it. . . " and models the steps using arrows in a visual representation of the translation steps on a coordinate plane.

5.3 Balance of Conceptual Understanding and Procedural Fluency

GUIDANCE	SCORE SUMMARY	RAW SCORE
5.3a	The materials do not explicitly state how the conceptual or procedural emphases of the TEKS are addressed.	0/2
5.3b	All criteria for guidance met.	3/3
5.3c	The materials do not include supports for students in defining and explaining concrete and representational models to abstract concepts, as required by the TEKS.	4/6
—	**TOTAL**	7/11

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

The grade 8, Course 3 materials include a "Standards Correlation" guide that lists the topics in the program that align with the grade 8 TEKS. For example, TEKS 8.5.A lists 10 topics that address the TEKS by requiring students to identify, graph, make a table, and write an equation for proportional relationships. However, the materials do not explicitly state how the conceptual or procedural emphases of the TEKS are addressed.

When students enter the "Learning Page" of a topic in the "Student View," the page emphasizes the conceptual foundations of the topic. These concepts progress from foundational skills to more complex applications. For example, in the topic "Using a net to find the surface area of a triangular prism," the page offers a conceptual model that illustrates how surface area connects to nets of triangular prisms. The models identify the lengths of each side of each shape and explain how to find the area of each shape by adding them together, connecting the topic to surface area formulas that students learn as part of TEKS 8.7.B. Activities such as these emphasize both conceptual and procedural learning, but the materials do not explicitly state how the conceptual or procedural emphases of the TEKS are addressed.

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

The grade 8, Course 3 materials include TEKS-aligned tasks that provide opportunities for students to use concrete, pictorial, and abstract models. For example, in the "Content Editor" of the "Class Summary" in the Teacher Dashboard, the topic "Surface area of a rectangular prism made of unit cubes" in the TEKS 8.7.B folders utilizes concrete models with unit cubes to help students explore the concept of surface area.

The materials utilize pictorial representations in TEKS 8.7.B in the topic "Using a net to find the surface area of a rectangular prism." Students use a picture of a three-dimensional representation of a prism, along with its net, to determine the length of each labeled side, the area of each face, and the total

surface area of the figure. In the folder for TEKS 8.7.C, the materials utilize a pictorial representation of the Pythagorean Theorem. The topic "Informal proof of the Pythagorean Theorem" provides students with a pictorial representation of the proof of the Pythagorean Theorem in a lightbulb icon on the "Explanation" page. The students then use the pictorial representation of a right triangle to solve for the missing side of the triangle.

The materials utilize abstract models in conjunction with concrete models and pictorial representations. In TEKS 8.7.B, the topic "Word problem involving the surface area of a rectangular prism" provides students with a three-dimensional drawing of a rectangular prism, along with its measurements. Students must use the visual representation to determine the total surface area and then utilize that value to find a cost per unit based on the information provided in the problem. In TEKS 8.7.C, the topic "Demonstrating the converse of the Pythagorean Theorem" requires students to use geometric formulas to determine whether given side lengths of a triangle form a right triangle without a visual to support their understanding.

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.

The grade 8, Course 3 materials provide support for students in the "Content Editor" section of the Teacher Dashboard, including concrete, representational, and abstract models within and across topics. In the topic "Surface area of a rectangular prism made of unit cubes" for TEKS 8.7.B, students use tangible models to build foundational knowledge. The "Explanation" page demonstrates how to use the unit cubes to find the area of each face and add them to find the surface area. The materials do not include supports for students to define and explain how the concrete models connect to abstract concepts.

The materials provide support for students in connecting and creating representational models of abstract concepts within and across topics. For example, the topics "Surface area of a cube or rectangular prism," "Using a net to find the lateral and total surface area of a rectangular prism," and "Surface area of a cylinder" for TEKS 8.7.B use diagrams and visual models to deepen students' understanding of surface area. In TEKS 8.3.C, the topic "The effect of dilation on side length" allows students to use a slider to model the effect of a dilation on a polygon. The problem then asks students to determine the scale factor between the two images by determining the relationship between the lengths of corresponding sides of the two figures. This helps students understand the abstract concept explored in the topic "Writing a rule to describe a dilation," in which students derive an algebraic rule for a transformation when given the coordinates of an image and its preimage. The materials do not include support that helps students define and explain how the representational models connect to the abstract 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	The materials do not include embedded guidance to support student application of appropriate mathematical language and academic vocabulary in discourse.	0/1
5.4d	All criteria for guidance met.	2/2
5.4e	The materials do not include guidance to anticipate a variety of student answers, including exemplar responses to questions and tasks.	1/2
—	**TOTAL**	6/8

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

The grade 8, Course 3 materials include opportunities for students to develop their academic mathematical language within lesson topics in the "Student View" through the use of the "Learning Page" and "Explanation" page. For example, the "Learning Page" for the topic "Square root of a perfect square" provides a visual representation of a seven-unit by seven-unit square and demonstrates how to multiply to find the square or count the number of squares. The page also includes an icon with links to videos that students can listen to and watch, in which a teacher explains how to find square roots. These visuals help students understand what a perfect square is and build their vocabulary. Within the "Explanation" page, lessons include lightbulb icons that, when clicked, provide additional information for students who may need it. For example, the lightbulb icon in the topic "Determining if figures are related by a reflection" shows how reflected images should be the same distance from the line of reflection as the original image. These tools and hints help develop academic language using different strategies.

Within the "Learning Page" and "Explanation" page of a topic, students can click underlined words that link to the embedded Dictionary. When students click on these words, the Dictionary page for the term opens in a new window, allowing students to view definitions, models, and examples that further support their mastery of academic language. For example, the "Explanation" page for the topic "Properties of rotated figures" includes six words: *side*, *angle* (geometry), *parallel*, *rotation* (in a plane), *origin*, and *congruent*. For the definition of *angle* (geometry), the program provides visuals for the different types of angles to help solidify the academic vocabulary related to angles. Students actively apply these terms by using an interactive coordinate plane to determine whether statements associated with the rotation of the figure are true or false.

Topic activities provide opportunities for students to develop their academic mathematical vocabulary through the use of visual supports and question prompts. These visuals help students analyze, compare, and describe data while connecting their observations to precise mathematical vocabulary. Language

development is further supported through optional embedded explanations that include key academic terms, labeled tables and charts, and descriptive supports that reinforce both conceptual understanding and vocabulary acquisition. For example, the topic "Using right triangles to find the slope of a line" includes explicit vocabulary instruction using verbal descriptions and visuals for the terms *run*, *rise*, and *slope*. Students complete the problem set by finding the run, rise, and slope for two similar triangles. Students justify their solution by selecting the statement that explains "why" or "why not." The topic "Scatter plots and correlation" provides students with sentence stems to answer questions with the academic vocabulary of the lesson. This lesson provides students with three sentence stems to use in conjunction with drop-down menu selections. One example from this lesson is, "For these 21 dog sitters, there is ___ correlation between experience and amount charged." In this example, students must understand the vocabulary term *correlation* and how it describes the given scatter plot.

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.

The *ALEKS Notebook Guide* provides embedded educator supports to scaffold, reinforce, and extend students' use of academic mathematical vocabulary in context when communicating with peers and educators. The guide includes a variety of strategies designed to promote meaningful mathematical discourse. For example, sentence starters that are integrated throughout the strategies give students opportunities to articulate their thinking both orally and in writing. The error analysis strategy helps students identify where errors occurred in their work or their peers, explain why those errors happened, evaluate more efficient approaches, and work through the problems to find correct solutions. The visual aids strategy encourages students to represent concepts through graphs, charts, diagrams, and flowcharts to enhance understanding and retention, particularly for abstract ideas. Reflection prompts allow students to process their learning after lessons or Knowledge Checks by identifying what made sense, what was challenging, and what strategies they will try next.

The *Emerging Bilingual Guidebook* includes the section "Develop Routines for Mathematical Discourse" with classroom implementation tips that guide teachers in how to scaffold, support, and extend students' use of academic mathematical vocabulary. It explains that teachers should intentionally model the use of vocabulary and language structures because it will help "students not only internalize key math concepts but also develop the language functions necessary to describe, compare, analyze, and defend their thinking." It suggests that teachers use sentence stems, collaborative learning structures, and math discussion protocols in conjunction with visual supports, such as diagrams and word banks, to scaffold participation.

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

The grade 8, Course 3 materials include student vocabulary supports by requiring students to answer questions by applying their knowledge of the mathematical language and vocabulary. For example, the topic "Identifying transformations" requires students to participate in multiple-choice activities that match vocabulary words—such as *translation*, *reflection*, and *rotation*—to visual representations, thereby supporting students' application of appropriate mathematical language and academic vocabulary. However, the materials do not guide how to use the vocabulary in discourse.

The Teacher Dashboard materials include educator guidance for using the Class Forum to communicate with other students and the teacher. Students can use this tool to communicate with their teacher and peers using academic vocabulary in a contextually relevant manner. Teachers have the ability to add a question to the Class Forum so students can solve and write about their experiences in solving the problem. The guidance includes the recommendation that educators use the Class Forum "to facilitate meaningful discussions with students in the class." Still, it does not provide embedded guidance on using the Class Forum to scaffold, support, or extend students' use of academic vocabulary in the context of peer and teacher interactions.

The "What to Look for in an ALEKS Classroom" document explains that teachers should begin using break-out centers and small group instruction with their students after three weeks in the program. In these centers, students engage in activities such as ALEKS "Learning Mode," QuickTables assignments, teacher-led instruction, performance tasks, and collaborative projects, which require students to communicate with peers and use academic vocabulary in context. While these centers and small groups can be used to scaffold, support, and extend students' use of academic vocabulary in the context of their peers and teacher, the materials do not include embedded guidance for their use in the classroom.

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

The *ALEKS Notebook Guide* includes sentence starters, conversation starter prompts, and helpful tips that provide students with opportunities to hear, use, and refine mathematical language with their peers. These tools are embedded throughout the different instructional strategies in the guide with examples of when to use them appropriately in coordination with a student's personal notebook. For example, the mini-lesson strategy includes the sentence starter "An example problem we covered was . . . ", and the helpful tip encourages students to teach each other using their own notes from their journals. Through these strategies students must use their mathematical language appropriately, providing opportunities to converse with their peers where they hear, use, and refine the correct language.

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.

The *ALEKS Reference Guide* includes a section that discusses the rationale for the structure of the pie chart. "The adaptive ALEKS Pie has an underlying topic structure. This structure organizes the course topics based on historical student learning data. Essentially, we measure the probability that a student answers topic A correctly, and how likely they are to also answer a separate topic correctly. And similarly, if they answer topic C incorrectly, how likely are they to also answer a separate topic D incorrectly." This guidance explains how the topics appear in a student's Learning Path, but it does not include guidance on how to anticipate student answers.

The grade 8, Course 3 materials include embedded guidance to redirect inaccurate student responses by providing hints within the problem page and alternative methods in the "Explanation" page of topics in the "Student View." For example, in the topic "Finding the slope and y-intercept of a line given its equation in the form y=mx+b," the problem includes two parts: identifying the slope and identifying the y-intercept. If one or both parts of the answer are incorrect on the first attempt, a box shows "Try Again" and identifies the part of the problem that is incorrect. After receiving additional incorrect answers, the program guides students to read the explanation before attempting similar problems.

5.5 Process Standards Connection

GUIDANCE	SCORE SUMMARY	RAW SCORE
5.5a	All criteria for guidance met.	1/1
5.5b	The materials do not include a description of how process standards are incorporated and connected throughout the learning pathways.	0/2
5.5c	All criteria for guidance met.	1/1
—	**TOTAL**	2/4

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

The "Standards Correlation" document lists all topics within the program under the TEKS, including the process standards, with which they align. For example, the topic "Word problem involving the Pythagorean Theorem" aligns with the process standards TEKS 8.1.A and 8.1.B. The document lists the topic "Deriving the formula for the surface area of a rectangular prism" as a lesson that aligns with process standards TEKS 8.1.D, 8.1.E, 8.1.F, and 8.1.G. The topic "The effect of dilation on side length" aligns with process standards TEKS 8.1.C and 8.1.F, according to the document.

Educators can identify which process standards are embedded in specific topics by accessing the "Standards Report." By clicking on an individual process standard, they can view the exact topics where that standard is addressed within the curriculum. For example, when a teacher selects the process standards strand, the view displays all process standards along with the number of topics under each standard, such as 39 topics for TEKS 8.1.A. When the individual standard is selected, each topic is shown separately. Both views show the class average and the individual student's progress.

The "Content Editor" allows teachers to view how the program uses the process standards within the topics, as well as assign lessons aligned to those process standards. For example, the topic "Scatter plots and correlation" requires students to apply what they have learned in mathematics to problems arising in everyday life by analyzing a word problem and graph to describe the relationship, skills that align with process standards TEKS 8.1.A, 8.1.D, and 8.1.E. The topic "Calculating and comparing monthly payments using the ALEKS loan calculator" aligns with process standards TEKS 8.1.A and 8.1.C by having students use a calculator to apply mathematics to a real-world problem.

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

The "Standards Correlation" document includes a list of topics that address the process and content standards. Topics that address process standards are also listed under specific content standards. The materials do not explain how the process standards are connected with the content standards throughout the Learning Paths. For example, the topic "Writing a proportion to solve a problem involving

rates" is listed with TEKS 8.1.A and 8.8.A, but there is no description of how they are connected or how the process standard is incorporated into the topic.

The materials include the "Standards Report," which provides educators with a summary of students' completion of "standards-aligned ALEKS topics" in Knowledge Checks and "Learning Mode," according to the "Standards Report" document. The materials do not include a description of how the process standards are incorporated and connected throughout the Learning Paths.

The "Content Editor" shows educators the individual topics and can be organized by TEKS, allowing educators to select topics that address specific process standards. The material shows the student-facing lessons, but it does not include, for teachers or students, a description of how the process standards are incorporated or connected throughout the Learning Paths.

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

The "Standards Correlation" document shows course topics that address the process standards, as well as the content standards. Topics that address the process standards are also listed under specific content standards to show how the process standards are incorporated into each topic. For example, the topic "Writing a proportion to solve a problem involving rates" is listed with TEKS 8.1.A and 8.8.A.

Educators can identify which process standards are embedded in specific topics by accessing the "Standards Report" within the Teacher Dashboard. By clicking on an individual process standard, teachers can view the exact topics where that standard is addressed within the curriculum. For example, TEKS 6.1.D is shown to have 62 topics throughout the course that require students to communicate mathematical ideas using multiple representations.

The "Content Editor" allows teachers to view all lessons within the course, including those aligned to the process standards. The process standards topics include content from the content standards folders, allowing teachers to see how the process standards are integrated into the lesson. For example, the topic "Graphing a line given its equation in slope-intercept form: Integer slope" includes the "Explanation" page, which shows how a table can be used to find ordered pairs that can be plotted on a coordinate plane, aligning to process standard TEKS 6.1.D.

6. Productive Struggle

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

6.1 Student Self-Efficacy

GUIDANCE	SCORE SUMMARY	RAW SCORE
6.1a	All criteria for guidance met.	3/3
6.1b	All criteria for guidance met.	3/3
6.1c	The materials do not include requirements for students to make sense of mathematics through multiple opportunities for students to do, write about, and discuss mathematics with peers and/or educators.	0/3
—	**TOTAL**	6/9

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

The "Learning Page" and "Explanation" pages of topics in the "Student View" materials support mathematical thinking and sense-making by including clear explanations at the start of each topic and throughout the topic. These "Learning Page" explanations break down problem-solving steps, highlight key vocabulary with links to the Dictionary, which provides definitions and examples, incorporate visual models, and use lightbulb icons that offer alternative methods of solving or additional information to deepen understanding. The program directs students to the "Explanation" page after they have attempted to answer a question multiple times without success. For example, the grade 8, Course 3 topic "Introduction to solving a linear equation with a variable on each side" allows students to attempt the problem three times before showing the correct answer. Students can click on the "Explanation" page to view how the problem should be solved correctly.

The topic pages in the "Student View" require students to think mathematically and persevere through solving problems in the tasks and feedback that the program provides in real time. In the topic "Relationships about ratios within and between similar shapes," students must persevere through the problem by answering multiple parts to the question. They must create three ratios based on the two shapes and then find the statement that is true about the two shapes. Creating ratios to compare the shapes allows students to make sense of mathematical relationships. Students must think mathematically and use what they have learned to make sense of the problem. In the topic "Translating a point and giving its coordinates: One-step," students move a given figure on a graph following the instructions and provide the original and new coordinates of a certain point. This task requires students to think mathematically by analyzing the relationship between the coordinates of the image and the preimage.

The materials support student perseverance in problem solving through the use of two-part questions, which encourage students to engage more deeply with mathematical concepts. The video "Create a two-part question with manual grading" explains that teachers have the option to create custom two-part questions, allowing them to extend student thinking, provide targeted follow-up prompts, and pose questions that offer greater flexibility in how students respond. This structure helps students persist through multi-step problems and develop a stronger understanding of the content.

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

The materials support students in understanding that there can be multiple ways to solve problems and complete tasks. The "Explanation" page (in the "Student View") of a topic helps students understand that there can be multiple ways to solve problems and complete tasks. These explanations break down the steps for solving problems, highlight key vocabulary with links to the embedded Dictionary definitions and examples, and incorporate visual models. Some explanations also feature lightbulb icons that demonstrate alternative solution methods or provide additional information to support student understanding and promote flexible thinking. For example, in the grade 8, Course 1 topic "Fraction multiplication," the "Explanation" page first shows how to multiply fractions by multiplying the numerators and multiplying the denominators, and then simplifying the fraction. At the bottom of the page is a button that states "Another Explanation." When clicked, the page changes to an explanation that shows how to solve the same problem by simplifying before multiplying. The topic "Integer addition: Problem type 1" also indicates multiple explanations. The first explanation utilizes integer chips to model and illustrate the solution to the problem. The "Another Explanation" button shows how to use a number line to represent the solution. Video tags and lightbulb icons demonstrate to students how to use the absolute value of numbers to complete operations.

The materials include opportunities for students to engage in the Class Forum discussion board. Teachers can use the forum to foster collaboration and mathematical discourse.

The *ALEKS Notebook Guide* supports students in understanding, explaining, and justifying that there can be multiple ways to solve problems and complete tasks. The guide includes multiple ways to support students with problem solving, making connections, and reflecting on different ways to solve a problem, including the use of sentence starters and error analysis.

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.

While the materials do not require students to engage in math, write about math, or discuss math with peers and/or educators, they do provide some optional activities that allow them to participate in discourse. The "What to Look for in an ALEKS Classroom" document offers structured guidance for

implementing multi-tiered intervention strategies that support a variety of instructional models. Teachers may incorporate whole-group instruction, collaborative problem-solving, small-group performance tasks, or targeted, teacher-led instruction—each designed to support diverse student needs and encourage meaningful engagement with mathematical content.

The Class Forum provides an optional space where students can do math, write about math, and discuss math with peers and/or educators. Teachers can use the forum to support students in explaining and justifying that there are multiple ways to solve problems and complex tasks. By prompting students to share strategies, respond to peers' solutions, and upload supporting work such as videos or written explanations, the forum encourages mathematical discourse. It helps students reflect on different approaches and articulate their reasoning. Although this could be utilized to allow students to make sense of mathematics with peers and/or educators, the Class Forum is not required for students to be successful in the program.

In the "Student View," students work on an online, adaptive platform independently. For example, on the student "Learning Page" for the topic "Range of a set of numbers," students find the range of a set of numbers, enabling them to perform the math. Within this learning platform, the program does not mention doing math, writing about math, or discussing it with peers or educators.

6.2 Facilitating Productive Struggle

GUIDANCE	SCORE SUMMARY	RAW SCORE
6.2a	All criteria for guidance met.	8/8
6.2b	The materials do not include prompts, or guidance to support educators in providing explanatory feedback based on anticipated misconceptions.	2/4
—	**TOTAL**	10/12

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.

The *ALEKS Notebook Guide* provides strategies for educators to guide students to share and reflect on their problem-solving approaches through explanations, arguments, justifications, and multiple points of entry. The strategies, including sentence starters, error analysis, visual representations, goal setting, and reflection prompts, provide opportunities for teachers to prompt students to explain their reasoning, construct arguments, justify solutions, and consider multiple pathways to solutions. Questions such as "Why did you do that?" and "Were there other methods you could have used?" require students to explain and reason about the strategies they use to solve problems and compare them to other appropriate strategies.

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

The materials include prompts and guidance to support educators in providing explanatory feedback based on student responses. The adaptive, online materials provide explanatory feedback for the student based on answers to the questions in the "Student View." If a student answers a question incorrectly twice in a row, the program provides the "Explanation" page for the student before answering a similar question. For example, in the grade 8, Course 3 topic "Identifying congruent shapes on a grid," students choose whether four given representations are congruent or not. If part of the answer is incorrect, a "Partially Correct" alert tells students they have answered incorrectly and are allowed to attempt the problem again. The program gives students three attempts to complete the problem independently before directing them to the "Explanation" page. A lightbulb icon provides additional information and prompts on how to determine if the two figures are congruent. It breaks it down by looking at the definitions of rotation, translation, and reflection. These provide guidance and prompts to help students better understand the problem and work it out independently and correctly.

The materials do not include prompts and guidance to support educators in providing explanatory feedback based on anticipated misconceptions. The "Explanation" page occasionally addresses common misconceptions; however, this discussion typically occurs after students have made an error, and the

materials lack prompts or guidance for educators to prepare responses to these anticipated misconceptions.