

HQIM²R²

High Quality Instructional Materials Math Review Rubric

High School Mathematics

Evaluator		Rating Committee	
Publisher			
Title of Textbook Series/Instructional Program			
Grade Range of Textbook Series/Instructional Program		Specific Grade Evaluated	

Mississippi defines High-Quality Instructional Materials (HQIM) as material that are aligned with the Mississippi College- and Career-Readiness Standards, externally validated, comprehensive, and include engaging texts, which include books—both digital and print; and multimedia material, rigorous problems, and aligned assessments. HQIM can be used to identify students’ areas of strength and opportunities for growth and are sequentially mapped and designed to prepare students to graduate ready for college and the workforce, educative for teachers, and accessible to students with differentiated needs.

The High-Quality Instructional Materials Mathematics Review Rubric for High School

The High-Quality Instructional Materials Mathematics Review Rubric HS (HQIM²R²) identifies the criteria and indicators for high quality instructional materials. The High School Evidence Guides complement the HS Quality Instructional Materials Review Tool by elaborating details for each indicator including the purpose of the indicator, information on how to collect evidence, guiding questions and discussion prompts, and scoring criteria.

HQIM²R² Scoring Protocol and Criteria

1. For instructional materials for which there is an existing EdReports review, an adjusted EdReports (AER) review will include:
 - a. Alignment to MS CCR Standards
 - b. Revision of report structure to match Mississippi High-Quality Instructional Materials Review Rubric
 - c. Training for review of specific Mississippi
2. For instructional materials for which there is no existing EdReports review:
 - a. Training on the use of Mississippi High Quality Instructional Materials Review Rubric Evidence Guide

The HQIM²R² is comprised of three sections:

- Section 1:** Alignment to Standards, Learning Progressions, and Coherence - This is a requirement for submission.
- Section 2:** Alignment to Rigor, and the Standards for Mathematical Practice - This is a requirement for submission.
- Section 3:** Usability and Design of Materials

HQIM²R²

GATEWAY 1

Focus and Coherence - **This is a requirement for submission.**

In this gateway, reviewers consider how well the materials are coherent and consistent with the high school standards that specify the mathematics which all students should study in order to be college and career ready, including the modeling standards that appear throughout the high school Mississippi College- and Career-Readiness Standards for Mathematics, as indicated by a star (*). We use the specific definition of modeling that appears in the standards to inform our evidence collection and scoring.

- Do the instructional materials focus on “the high school standards that specify the mathematics which all students should study in order to be college and career ready”?
- Do the instructional materials exhibit coherence within and across courses/grade levels that is consistent with a logical structure of mathematics?

Criterion 1a - 1g: FOCUS and COHERENCE		
CRITERIA	INDICATORS OF SUPERIOR QUALITY	SCORE
<p>The instructional materials are coherent and consistent with “the high school standards that specify the mathematics which all students should study in order to be college and career ready.”</p> <p>18 possible points</p> <p>Meets expectations (14-18 pts)</p> <p>Partially meets expectations (10-13 pts)</p> <p>Does not meet expectations (<10 pts)</p>	<p>1a. The materials focus on the high school standards.</p>	
	<p>1ai. The materials attend to the full intent of the mathematical content contained in the high school standards for all students. (4 points)</p>	0 2 4
	<p>1aii. The materials attend to the full intent of the modeling process when applied to the modeling standards. (2 points)</p>	0 1 2
	<p>1b. The materials provide students with opportunities to work with all high school standards and do not distract students with prerequisite or additional topics.</p>	

	1bi. The materials, when used as designed, allow students to spend the majority of their time on the content from MS CCRS FOR MATHEMATICS widely applicable as prerequisites for a range of college majors, postsecondary programs, and careers. (2 points)	0	1	2
	1bii. The materials when used as designed allow students to fully learn each standard. (4 points)	0	2	4
	1c. The materials require students to engage in mathematics at a level of sophistication appropriate to high school. (2 points)	0	1	2
	1d. The materials are mathematically coherent and make meaningful connections in a single course, where appropriate and where required by the Standards. (2 points)	0	1	2
	1e. The materials explicitly identify and build on knowledge from Grades 6-8 to the High School Standards. (2 points)	0	1	2
	1f. The plus (+) standards, when included, are explicitly identified and coherently support the mathematics which all students should study in order to be college and career ready. (Unscored)			
	1g. The materials address all of the standards for the course as prescribed by MS CCRS for Mathematics.	Yes	No	
TOTAL SCORE (GATEWAY 1)				<hr style="width: 50px; margin: 0 auto;"/> of 18 points

HQIM²R²

GATEWAY 2

Rigor and the Standards for Mathematical Practices - **This is a requirement for submission.**

Rigor determines if a series instructional materials reflect the balances in the standards by helping students develop conceptual understanding, procedural skill and fluency, and application. Mathematical Practices determine how well materials meaningfully connect the Mathematical Content Standards and the Mathematical Practice Standards.

- Do the instructional materials engage students with all aspects of rigor: conceptual understanding, procedural skill and fluency, and application in a balanced way?
- Do the Mathematical Practices connect to the Mathematical Content Standards in meaningful and deliberate ways?

Criterion 2a - 2d: RIGOR and BALANCE		
CRITERIA	INDICATORS OF SUPERIOR QUALITY	SCORE
<p>The instructional materials reflect the balances in the Standards and help students meet the Standards' rigorous expectations, by giving appropriate attention to: developing students' conceptual understanding; procedural skill and fluency; and engaging applications.</p> <p>8 possible points</p> <p>Meets expectations (7-8 pts)</p> <p>Partially meets expectations (5-6 pts)</p> <p>Does not meet expectations (<5 pts)</p>	<p>2a. Attention to Conceptual Understanding: The materials support the intentional development of students' conceptual understanding of key mathematical concepts, especially where called for in specific content standards or clusters. (2 points)</p>	0 1 2
	<p>2b. Attention to Procedural Skill and Fluency: The materials provide intentional opportunities for students to develop procedural skills and fluencies, especially where called for in specific content standards or clusters. (2 points)</p>	0 1 2

	2c. Attention to Applications: The materials support the intentional development of students' ability to utilize mathematical concepts and skills in engaging applications, especially where called for in specific content standards or clusters. (2 points)	0 1 2
	2d. Balance: The three aspects of rigor are not always treated together and are not always treated separately. The three aspects are balanced with respect to the standards being addressed. (2 points)	0 1 2

Criterion 2e - 2h: PRACTICE-CONTENT CONNECTION

CRITERIA	INDICATORS OF SUPERIOR QUALITY	SCORE
Materials meaningfully connect the Standards for Mathematical Content and the Standards for Mathematical Practice. 8 possible points Meets expectations (7-8 pts) Partially meets expectations (4-6 pts) Does not meet expectations (<4 pts)	2e. The materials support the intentional development of overarching, mathematical practices (MPs 1 and 6), in connection to the high school content standards, as required by the mathematical practice standards. (2 points)	0 1 2
	2f. The materials support the intentional development of reasoning and explaining (MPs 2 and 3), in connection to the high school content standards, as required by the mathematical practice standards. (2 points)	0 1 2
	2g. The materials support the intentional development of modeling and using tools (MPs 4 and 5), in connection to the high school content standards, as required by the mathematical practice standards. (2 points)	0 1 2
	2h. The materials support the intentional development of seeing structure and generalizing (MPs 7 and 8), in connection to the high school content standards, as required by the mathematical practice standards. (2 points)	0 1 2

TOTAL SCORE (GATEWAY 2)	Criterion 2a-2d: _____ out of 8 points Criterion 2e-2h: _____ out of 8 points	<hr style="width: 100px; margin: 0 auto;"/> of 16 points
--------------------------------	--	---

TOTAL SCORE Gateway 1 and 2)		
GATEWAY 1	GATEWAY 2	TOTAL
_____ of 18 points	_____ of 16 points	_____ of 34 points

HQIM²R²

GATEWAY 3

Instructional Support, Usability, and Assessment

Gateway 3 Rating Sheets include some Indicators that are rated and some that are not rated. In cases where Indicators are not rated, the evidence collected provides valuable information about instructional materials, although the indicator is not scored and does not affect the rating for the Criterion or Gateway.

Criterion 3a-3e: USE AND DESIGN FACILITATE STUDENT LEARNING		
CRITERIA	INDICATORS OF SUPERIOR QUALITY	SCORE
<p>Materials are well designed and take into account effective lesson structure and pacing.</p> <p>8 possible points</p> <p>Meets expectations (7-8 pts)</p> <p>Partially meets expectations (5-6 pts)</p> <p>Does not meet expectations (<5 pts)</p>	<p>3a. The underlying design of the materials distinguishes between problems and exercises. In essence, the difference is that in solving problems, students learn new mathematics, whereas in working exercises, students apply what they have already learned to build mastery. Each problem or exercise has a purpose. (2 points)</p>	0 1 2
	<p>3b. Design of assignments is not haphazard: exercises are given in intentional sequences. (2 points)</p>	0 1 2
	<p>3c. There is variety in how students are asked to present the mathematics. (2 points)</p>	0 1 2
	<p>3d. Manipulatives, both virtual and physical, are faithful representations of the mathematical objects they represent and when appropriate are connected to written methods. (2 points)</p>	0 1 2
	<p>3e. The visual design (whether in print or digital) is not distracting or chaotic but supports students in engaging thoughtfully with the subject. (Unscored)</p>	

	<p>3ei. The material incorporates a glossary, footnotes, recordings, pictures, and/or other features that aid students and teachers in using the book effectively. (Unscored)</p>	
Criterion 3f - 3l: TEACHER PLANNING AND LEARNING FOR SUCCESS with the MS CCRS		
<p>Materials support teacher learning and understanding of the Standards.</p> <p>8 possible points Meets expectations (7-8 pts) Partially meets expectations (5-6 pts) Does not meet expectations (<5 pts)</p>	<p>3f. Materials support teachers in planning and providing effective learning experiences by providing quality questions to help guide students' mathematical development. (2 points)</p>	0 1 2
	<p>3g. Materials contain a teacher's edition with ample and useful annotations and suggestions on how to present the content in the student edition and in the ancillary materials. Where applicable, materials include teacher guidance for the use of embedded technology to support and enhance student learning. (2 points)</p>	0 1 2
	<p>3h. Materials contain a teacher's edition that contains full, adult-level explanations and examples of the more advanced mathematics concepts and the mathematical practices so that teachers can improve their own knowledge of the subject, as necessary. (2 points)</p>	0 1 2
	<p>3i. Materials contain a teacher's edition that explains the role of the specific mathematics standards in the context of the overall series. (2 points)</p>	0 1 2
	<p>3j. Materials provide a list of lessons in the teacher's edition, cross-referencing the standards addressed and providing an estimated instructional time for each lesson, chapter and unit (i.e., pacing guide). (Unscored)</p>	
	<p>3k. Materials contain strategies for informing students, parents, or caregivers about the mathematics program and suggestions for how they can help support student progress and achievement. (Unscored)</p>	

	3l. Materials contain explanations of the instructional approaches of the program and identification of the research-based strategies. (Unscored)	
Criterion 3m-3q: ASSESSMENT		
Materials offer teachers resources and tools to collect ongoing data about student progress on the Standards. 10 possible points Meets expectations (9-10 pts) Partially meets expectations (6-8 pts) Does not meet expectations (<6 pts)	3m. Materials provide strategies for gathering information about students' prior knowledge within and across grade levels/courses. (2 points)	0 1 2
	3n. Materials provide support for teachers to identify and address common student errors and misconceptions. (2 points)	0 1 2
	3o. Materials provide support for ongoing review and practice, with feedback, for students in learning both concepts and skills. (2 points)	0 1 2
	3p. Materials offer ongoing formative and summative assessments.	
	3pi. Assessments clearly denote which standards are being emphasized. (2 points)	0 1 2
	3pii. Assessments provide sufficient guidance to teachers for interpreting student performance and suggestions for follow-up. (2 points)	0 1 2
	3piii The assessment materials include embedded assessments that reflect a variety of knowledge levels. (Unscored)	
	3piv. Multiple types of formative and summative assessments (performance-based tasks, questions, research, investigations, and projects) are embedded into the content materials and assess the learning targets. (Unscored)	
	3q. Materials encourage students to monitor their own progress. (Unscored)	

Criterion 3r - 3y: DIFFERENTIATED INSTRUCTION

Materials support teachers in differentiating instruction for diverse learners within and across courses.

10 possible points

Meets expectations (9-10 pts)

Partially meets expectations (6-8 pts)

Does not meet expectations (<6 pts)

3r. Materials provide strategies to help teachers sequence or scaffold lessons so that the content is accessible to all learners. (2 points)	0	1	2
3s. Materials provide teachers with strategies for meeting the needs of a range of learners. (2 points)	0	1	2
3t. Materials embed tasks with multiple entry-points that can be solved using a variety of solution strategies or representations. (2 points)	0	1	2
3u. Materials suggest support, accommodations, and modifications for English Language Learners and other special populations that will support their regular and active participation in learning mathematics (e.g., modifying vocabulary words within word problems). (2 points)	0	1	2
3v. Materials provide opportunities for advanced students to investigate mathematics content at greater depth. (2 points)	0	1	2
3w. Materials provide a balanced portrayal of various demographic and personal characteristics. (Unscored)			
3x. Materials provide opportunities for teachers to use a variety of grouping strategies. (Unscored)			
3y. Materials encourage teachers to draw upon home language and culture to facilitate learning. (Unscored)			

Criterion 3z-3ad: EFFECTIVE USE OF TECHNOLOGY

Materials support effective use of technology to enhance

3z. Materials integrate technology such as interactive tools, virtual manipulatives/objects, and/or dynamic mathematics software in ways that engage

--	--	--

<p>student learning. Digital materials are accessible and available in multiple platforms.</p> <p>All indicators are unscored, however qualitative evidence is provided.</p>	<p>students in the Mathematical Practices. (Unscored)</p>		
	<p>3aa. Digital materials (either included as part of the core materials or as part of a digital curriculum) are web-based and compatible with multiple internet browsers (e.g., Internet Explorer, Firefox, Google Chrome, etc.). In addition, materials are “platform neutral” (i.e., are compatible with multiple operating systems such as Windows and Apple and are not proprietary to any single platform) and allow the use of tablets and mobile devices. (Unscored)</p>		
	<p>3ab. Materials include opportunities to assess student mathematical understandings and knowledge of procedural skills using technology. (Unscored)</p>		
	<p>3ac. Materials can be easily customized for individual learners.</p>		
	<p>3aci. Digital materials include opportunities for teachers to personalize learning for all students, using adaptive or other technological innovations. (Unscored)</p>		
	<p>3acii. Materials can be easily customized for local use. For example, materials may provide a range of lessons to draw from on a topic. (Unscored)</p>		
	<p>3ad. Materials include or reference technology that provides opportunities for teachers and/or students to collaborate with each other (e.g. websites, discussion groups, webinars, etc.). (Unscored)</p>		
<p>Criterion 3ae-3ah: SUPPLEMENTAL MATERIALS</p>			
<p>Supplemental materials reinforce core instruction and provide ample and a variety of resources to support student learning.</p>	<p>3ae. Supplemental materials employ a variety of reading levels and is grade/level appropriate. (Unscored)</p>		
	<p>3af. Supplemental materials provide ample resources that reinforce student learning through practice. (Unscored)</p>		

<p>All indicators are unscored, however qualitative evidence is provided.</p>	<p>3ag. All supplemental materials are aligned to the content of the core instructional materials. (Unscored)</p>	
	<p>3ah. Supplemental materials provide a variety of resources for student learning activities (e.g., journals/writing, cooperative group work, graphic organizers, etc.). (Unscored)</p>	
<p>TOTAL SCORE (GATEWAY 3)</p>	<p>Criterion 3a-3e: _____ out of 8 points</p> <p>Criterion 3f-3l: _____ out of 8 points</p> <p>Criterion 3m-3q: _____ out of 10 points</p> <p>Criterion 3r-3y: _____ out of 10 points</p> <p>Criterion 3z-3ad and 3ae-ah are unscored</p>	<p>_____ of 36 points</p>

TOTAL SCORE (Gateway 1, 2, and 3)			
GATEWAY 1	GATEWAY 2	GATEWAY 3	GRAND TOTAL
<p>_____ of 18 points</p>	<p>_____ of 16 points</p>	<p>_____ of 36 points</p>	<p>_____ of 70 points</p>