SCIENCE

High-Quality Instructional Materials Review Rubric

Grade Range: K-2

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

Publisher indicated curriculum type: ☐ **Comprehensive Curriculum** ☐ **Complementary Curriculum**

This evaluation rubric is designed to evaluate how well instructional materials align with the *Mississippi College- and Career-Readiness Standards (MCCRS) for Science* and other criteria for high-quality instructional materials for the **science curriculum**. The evaluation rubric includes key considerations for high-quality instructional materials and outlines three **Gateways** for evaluating materials. Within each **Gateway**, **Criterion,** and related **Indicators** are provided along with **Guiding Questions** and **Evidence**.

The evaluation rubric is designed to help reviewers establish a quality threshold for each Gateway. Remember to concentrate on the content present in the instructional materials and any ancillary or complementary resources rather than what may be inferred. All scores should be based on evidence observed from the instructional materials themselves.

MISSISSIPPI DEPARTMENT OF EDUCATION

Scoring Protocol and Criteria:

- **No evidence (0):** There is no correlation between the standards and lessons; a logical sequence of content cannot be identified, significant content inaccuracies exist, essential understandings, knowledge, or skills are not addressed, and opportunities to practice essential skills are excluded.
- **Limited (1 or 2):** Limited connections between the standards and the lessons are noted; content may contain some inaccuracies or may not always be clear. Essential understandings, knowledge, or skills are not sufficiently addressed, and there is limited opportunity for students to practice essential skills.
- **Adequate (2 or 4):** Lessons align with the standards; content appears accurate, clear, and in sequential order. Most essential understandings, knowledge, and skills are supported, and many opportunities are provided for students to practice these essential skills.

The High-Quality Instructional Materials Review Rubric is comprised of three sections:

Gateway 1: Alignment to Standards - **This is a requirement for submission.**

→ Advance to Gateway 2 only if Gateway 1 scores at least **10 points.**

Gateway 2: Rigor and Instructional Practices - **This is a requirement for submission.**

→ Advance to Gateway 3 only if Gateway 2 scores at least **9 points.**

Gateway 3: Usability

GATEWAY 1

Alignment to Standards - This is a required submission component.

High-quality science materials provide all students with extensive opportunities to engage with grade-level content, fulfilling the complete intent of the ***MCCRS for Science***. Educators use evidence from instructional materials to evaluate indicators relevant to each criterion and assess the Gateway rating.

- **Criterion 1.1 (1a – 1d): Alignment and Accuracy 10 possible points**
  Materials adequately address the ***MCCRS for Science***.
- **Criterion 1.2 (1e – 1h): Learning Progressions and Coherence 8 possible points**
  Materials attend to the learning progressions emphasized in the standards so that the curriculum is coherent both within grades and across grade bands and is cohesive and consistent with the progressions in the ***MCCRS for Science.***

Criterion 1.1: ALIGNMENT AND ACCURACY			
INDICATORS OF SUPERIOR QUALITY	**GUIDING QUESTIONS**	**EVIDENCE OF HOW THE MATERIALS**	**SCORE**
COMPREHENSIVE CURRICULUM: **1a.** Materials fully align with 100% of the curriculum standards in the **K-2 Science** curriculum. (4 points)	• Are the **K-2 Science** standards clearly identified in each lesson? • Are the standards fully addressed? • Is the content rigorous and age-appropriate?	• Standards listed in lesson plans • Standards fully addressed Grade-level complexity and depth	**0 2 4**
COMPLEMENTARY CURRICULUM: **1a.** Materials align with at least 50 percent of the **K-2 Science** curriculum. (4 points)	• Are the **K-2 Science** standards clearly identified in each lesson? • Are the standards at least 50 percent addressed? • Is the content rigorous and age-appropriate?	• Standards listed in lesson plans • Standards partially addressed • Grade-level complexity and depth	**0 2 4**
1b. Instructional approaches are grounded in proven, research-supported practices relevant to **K-2 Science**. (2 points)	• Do materials use proven instructional strategies for **K-2 Science** topics? • Are research sources or references identified?	• Mention of educational research or evidence-based methods Visible use of strategies like inquiry, modeling, or cooperative learning	**0 1 2**

1c. Materials present scientific content, practices, and the nature of science accurately. (2 points)	• Is all information scientifically accurate? • Is the content free from bias or misleading claims? • Are scientific practices and methods clearly explained?	• Accurate terminology and concepts • Use of credible sources • Explanations of how scientists collect and share data	**0 1 2**
1d. Materials support student development and use of models to explain scientific phenomena. (2 points)	• Are students creating models to explain concepts? • Do they refine and revise models over time? • Are multiple types of models used (e.g., diagrams, simulations)?	• Modeling tasks embedded in lessons • Opportunities to revise models • Use of different modeling formats • Group and independent modeling experiences	**0 1 2**
TOTAL SCORE CRITERION 1.1 **Meets:** 8-10 points **| Partially Meets:** 6-7 points **| Does Not Meet:** 0-5 points			

Criterion 1.2: LEARNING PROGRESSIONS and COHERENCE

INDICATORS OF SUPERIOR QUALITY	GUIDING QUESTIONS	EVIDENCE OF HOW THE MATERIALS	SCORE
1e. Materials follow a logical sequence that supports increasing depth and independence in scientific practices. (2 points)	• Is there a clear, coherent sequence across lessons or grade levels? • Do students gradually shift from teacher-led to student-driven activities?	• Scope and sequence chart • Clear progression of skills and concepts • Increasingly independent tasks	**0 1 2**
1f. Materials help students relate new concepts to previously learned content. (2 points)	• Are past topics referenced when introducing new ones? • Are connections made explicit?	• Introductory prompts recalling earlier content • Review activities • References to past units or standards	**0 1 2**
1g. Materials include instructional supports that gradually release responsibility to students. (2 points)	• Are there supports to help learners move from guided to independent work?	• Modeling and guided practice • Gradual removal of supports • Opportunities for independent application	**0 1 2**
1h. Content is developmentally appropriate and leverages students' prior knowledge. (2 points)	• Is the content aligned with grade-level standards? • Does it build on prior experiences and knowledge?	• Standard alignment noted • Background-building activities • Tasks designed for grade-appropriate skills	**0 1 2**

TOTAL SCORE CRITERION 1.2 **Meets:** 7-8 points **| Partially Meets:** 5-6 points **| Does Not Meet:** 0-4 points	

Gateway 1 Points **AVAILABLE**	Gateway 1 Points **ACHIEVED**	**GATEWAY 1 RATING**
18	Sum of points from Criterion 1.1 and 1.2	☐ **Meets** (score of 15-18 points) **PROCEED TO GATEWAY 2** ☐ **Partially Meets** (score of 10-14 points) **PROCEED TO GATEWAY 2** ☐ **Does Not Meet** (score of 0-9 points) **STOP REVIEW**

GATEWAY 2

Rigor and Instructional Practices - This is a requirement for submission.

Gateway 2 examines how materials support students in meeting the rigorous standards and expectations of the ***MCCRS for Science***.

- **Criterion 2.1 (2a – 2o): Student Learning 32 possible points**
  Materials identify ways in which materials are designed for each student's regular and active participation in grade-level/grade band/series content.

- **Criterion 2.2 (2p – 2r): Instructional Design 6 possible points**
  Materials align with student-centered practices, offering students opportunities to explore the content.

Criterion 2.1: STUDENT LEARNING			
INDICATORS OF SUPERIOR QUALITY	**GUIDING QUESTIONS**	**EVIDENCE OF HOW THE MATERIALS**	**SCORE**
2a. Materials include clear strategies for supporting students at all levels, including interventions, extensions, and differentiation. (4 points)	• Are supports included for struggling, on-grade, and advanced students? • Are differentiation strategies clearly embedded? • Are extensions and interventions available?	• Tiered assignments and leveled reading materials • Intervention resources and enrichment tasks • Teacher guidance for adjusting instruction	**0 2 4**
2b. Lessons use varied formats—visual, auditory, and kinesthetic—to support different learning needs and preferences. (2 points)	• Are varied modalities (visuals, graphics, audio, etc.) used to present information? • Are multiple entry points available for student tasks?	• Graphic organizers, videos, and anchor charts • Multilingual materials and translations • Tasks involving visual and auditory comprehension	**0 1 2**
2c. Assessments utilize multiple formats, allowing students to demonstrate understanding in various ways. (2 points)	• Do the assessments use varied methods? • Is there teacher guidance for interpreting student learning?	• Rubrics and sample student responses • Performance-based assessment tools • Options like oral responses, portfolios, or visual formats • Guidance for scoring and interpretation	**0 1 2**
2d. Students are encouraged to ask questions and define open-ended, real-world problems. (2 points)	• Do students generate authentic questions and identify problems? • Are they engaged in open-ended inquiry?	• "Notice and wonder" routines • Open-ended problems and project-based learning tasks	**0 1 2**

		• Question-starters or planning guides	
2e. Students plan and conduct investigations, with opportunities to revise their designs. (2 points)	• Do students plan and execute investigations? • Are they encouraged to revise their approaches?	• Student-designed labs or protocols • Investigations with opportunities for iteration	**0 1 2**
2f. Students analyze, interpret, and compare data using multiple tools and formats. (2 points)	• Do students use data to recognize patterns and solve problems? • Are various tools and data types used?	• Charts, graphs, and tables in lessons • Use of digital tools and scientific datasets • Tasks that require data comparison or explanation	**0 1 2**
2g. Students apply math and logical reasoning to understand and solve scientific problems. (2 points)	• Are students applying math concepts to scientific investigations? • Are they breaking down complex processes step-by-step?	• Data analysis with math integration • Sequencing, modeling, or algorithmic tasks • Word problems aligned with science contexts	**0 1 2**
2h. Students make and support claims using data, evidence, and scientific reasoning. (2 points)	• Do students support claims with evidence? • Are they engaged in argument and critique?	• CER (Claim-Evidence-Reasoning) frameworks • Group discussions and peer critiques • Use of personal and published data for arguments	**0 1 2**
2i. Materials show how scientific ideas change with new evidence and technological advances. (2 points)	• Do lessons show how scientific ideas change with new evidence? • Are historical and recent studies used?	• Comparisons of old vs. new models or theories • Timelines or case studies of scientific advancements	**0 1 2**
2j. Students engage in structured discussions based on evidence and scientific data. (2 points)	• Are students comparing ideas and critiquing arguments? • Are discussions frequent and evidence-driven?	• Sentence stems for discussions • Teacher prompts for evidence-based conversation • Regular use of group discourse routines	**0 1 2**
2k. Students communicate scientific ideas in various formats for different audiences and purposes. (2 points)	• Do students share ideas in varied formats and settings? • Are authentic audiences involved?	• Presentations, podcasts, letters • Community-based projects or feedback loops	**0 1 2**
2l. Materials support the growth of scientific vocabulary and structured discourse over time. (2 points)	• Is there a progression from everyday to academic language?	• Scaffolds like word banks, sentence frames	**0 1 2**

	• Are supports in place to increase vocabulary use?	• Discourse routines that develop language skills	
2m. Instruction is centered on real-world phenomena or problems that drive learning. (2 points)	• Do lessons begin with real-world phenomena or problems? • Is the content anchored to these phenomena?	• Anchoring phenomena used as lesson drivers • Models and explanations tied to observed events	**0 1 2**
2n. Phenomena are introduced at the start of lessons, with explanations and vocabulary developed later. (2 points)	• Are phenomena introduced before explanations? • Do students revisit the phenomena as they learn?	• Phenomena as lesson openers • Progressive revisiting of concepts through inquiry	**0 1 2**
2o. Phenomena and problems relate to students' existing knowledge and experiences. (2 points)	• Do lessons link new content to what students already know? • Are there supports to help activate prior knowledge?	• Prompts for connecting to familiar contexts • Opportunities for students to share related experiences • Tasks that draw on prior learning or real-world relevance	**0 1 2**
TOTAL SCORE CRITERION 2.1 **Meets:** 26-32 points **| Partially Meets:** 17-25 points **| Does Not Meet:** 0-16 points			

Criterion 2.2 INSTRUCTIONAL DESIGN

INDICATORS OF SUPERIOR QUALITY	GUIDING QUESTIONS	EVIDENCE OF HOW THE MATERIALS	SCORE
2p. Lessons employ a range of instructional strategies (e.g., discussions, modeling, hands-on activities, and projects) to foster learning and engagement. (2 points)	• Are multiple instructional methods used (e.g., discussions, modeling, projects)? • Do lessons vary in format over time to deepen understanding?	• Lesson plans show use of varied formats (group work, labs, visual tools) • Strategies clearly align with learning goals	**0 1 2**
2q. Students have regular opportunities to collaborate with peers or teachers to build understanding and teamwork skills. (2 points)	• Do materials include opportunities for peer or teacher-student collaboration? • Are group tasks or peer discussions incorporated?	• Partner/group work activities • Collaborative protocols (e.g., think-pair-share, jigsaw) • Teacher-facilitated discussions	**0 1 2**

2r. Students engage with open-ended questions, real-life scenarios, and reflective activities that promote problem-solving and personal insight. (2 points)	• Are students prompted to explore open-ended questions or real-world issues? • Do they reflect on learning and propose solutions?	• Activities involving real-world scenarios or case studies • Open-ended writing or presentation tasks • Reflection journals or solution-focused projects	**0 1 2**
TOTAL SCORE CRITERION 2.2 **Meets:** 5-6 points **| Partially Meets:** 3-4 points **| Does Not Meet:** 0-2 points			

Gateway 2 Points **AVAILABLE**	Gateway 2 Points **ACHIEVED**	**GATEWAY 2 RATING**
38	Sum of points from Criterion 2.1 and 2.2	☐ **Meets** (score of 30-38 points) **PROCEED TO GATEWAY 2** ☐ **Partially Meets** (score of 20-29 points) **PROCEED TO GATEWAY 2** ☐ **Does Not Meet** (score of 0-19 points) **STOP REVIEW**

GATEWAY 3

Usability

Materials help teachers effectively apply the curriculum to understand their students' skills and learning while accommodating all learners. To determine the Gateway rating, educators assess evidence from the instructional materials to score indicators related to each criterion.

- **Criterion 3.1 (3a – 3h): Teacher Supports 16 possible points**
  Materials include resources for teachers to plan and implement lessons with integrity and to develop their professional learning further.

- **Criterion 3.2 (3i – 3l): Assessment 12 possible points**
  Materials include a system of assessments that identify how they provide tools, guidance, and support for teachers to collect, interpret, and act on data about student progress toward the standards.

- **Criterion 3.3 (3m – 3s): Student Supports 14 possible points**
  Materials are designed to encourage students' regular and active participation in grade-level, grade-band, or series content.

- **Criterion 3.4 (3t – 3x): Intentional Design 8 possible points**
  Materials are visually engaging and reference or integrate digital technology (when applicable), with teacher guidance.

Criterion 3.1: TEACHER SUPPORTS			
INDICATORS OF SUPERIOR QUALITY	**GUIDING QUESTIONS**	**EVIDENCE OF HOW THE MATERIALS**	**SCORE**
3a. Materials include clear guidance and annotations to help teachers effectively implement lessons and support student engagement and development. (2 points)	• Do the materials offer comprehensive guidance for effectively implementing lessons and engaging students?	• Includes overview sections, annotations, strategies for presenting content, and guidance on student errors	**0 1 2**
3b. Materials provide detailed explanations and examples to deepen the teacher's understanding of complex and advanced content. (2 points)	• Do the materials deepen teachers' understanding of complex content?	• Provides adult-level explanations, advanced concept support, and guidance on topics beyond the course	**0 1 2**

3c. Materials include suggestions for curriculum-based professional learning that mirrors the student experience and supports both initial and ongoing teacher development. (2 points)	• Do the materials recommend curriculum-based professional learning and strategies that support instruction and reflection?	• Includes initial and ongoing professional learning, planning guidance, and collaborative opportunities	**0 1 2**
3d. Materials clearly show how content aligns with relevant standards and explain their role across the instructional sequence. (2 points)	• Do the materials include standards correlation information explaining their role in the program?	• Clear documentation of standards alignment and progression	**0 1 2**
3e. Materials offer tools and strategies to inform students, families, and caregivers about the program and how they can support learning at home. (2 points)	• Do the materials provide strategies for informing students, families, and caregivers about the program and supporting learning at home?	• Strategies for stakeholder communication, multilingual materials, and suggestions for family support	**0 1 2**
3f. Materials provide a complete and organized list of required supplies for instructional activities, including print and digital resources. (2 points)	• Does the curriculum provide a complete list of required materials?	• Comprehensive lists of digital and print resources	**0 1 2**
3g. Materials include flexible implementation plans, time/resource considerations, and guidance for adapting to different classroom needs. (2 points)	• Do the materials explore multiple implementation options and promote flexibility?	• Breakdowns of resources, trade-offs, and guidance for adapting plans	**0 1 2**
3h. Safety practices are clearly outlined for both teachers and students, aligned with appropriate local and national standards. (2 points)	• Are safety instructions included and aligned with relevant standards?	• Clear safety guidelines aligned with OSHA and local/national standards	**0 1 2**
TOTAL SCORE CRITERION 3.1 **Meets:** 12-16 points **| Partially Meets:** 9-11 points **| Does Not Meet:** 0-8 points			

Criterion 3.2: ASSESSMENTS			
INDICATORS OF SUPERIOR QUALITY	**GUIDING QUESTIONS**	**EVIDENCE OF HOW THE MATERIALS**	**SCORE**
3i. Materials clearly show which standards are assessed, ensuring all required standards are covered by year's end. (2 points)	• Do assessment materials clearly indicate which standards are being evaluated, ensuring that all content standards are assessed by year-end?	• Standards correlations and assessment guides clearly identify assessed standards	**0 1 2**
3j. Materials include multiple formative and summative assessments throughout the year, with clear guidance to help teachers interpret student performance, plan follow-up actions, and consistently understand student learning. (4 points)	• Do materials provide varied formative and summative assessments? • Is guidance included to help teachers interpret results and plan follow-up? • Are teachers consistently supported in understanding student learning?	• Sample responses, rubrics, and scoring guides are included • Guidance helps teachers interpret understanding and address student needs • Assessments offer various formats: drawings, observations, oral responses, presentations, performance tasks, and portfolios	**0 2 4**
3k. Assessments allow students to fully demonstrate grade-level expectations through varied, complex tasks. (4 points)	• Do assessments include varied modalities like writing, modeling, or presentations? • Do tasks assess complex, grade-level expectations?	• Multiple modalities (writing, illustrating, demonstrating, modeling, performance tasks) • Variety of item types (constructed responses, discussions, projects, portfolios, justified multiple-choice) to measure student learning depth	**0 2 4**
3l. Assessments include accommodations that allow students to demonstrate what they know without altering the assessment content. (2 points)	• Do assessments include accommodations that allow students to demonstrate knowledge without changing assessment content? • Is guidance provided for implementing these accommodations?	• Clear descriptions of accommodations (e.g., text-to-speech, larger fonts) without altering content • Teacher guidance on supporting students, including those in special populations, while maintaining assessment integrity	**0 1 2**
TOTAL SCORE CRITERION 3.2 **Meets:** 10-12 points **| Partially Meets:** 7-9 points **| Does Not Meet:** 0-6 points			

Criterion 3.3: STUDENT SUPPORTS			
INDICATORS OF SUPERIOR QUALITY	**GUIDING QUESTIONS**	**EVIDENCE OF HOW THE MATERIALS**	**SCORE**
3m. Materials provide strategies and support to help students consistently and actively engage in learning at the course level or grade level. (2 points)	• Do materials offer strategies to differentiate instruction and keep students engaged at grade level? • Do materials include supports for all learning needs?	• Specific strategies for differentiation • Comprehensive support to maintain consistent and active student engagement	**0 1 2**
3n. Materials provide extensions and opportunities for students to engage with grade-level or course-level content at higher levels of complexity. (2 points)	• Do materials provide structured opportunities for deeper exploration of grade-level concepts? • Are extensions designed to deepen understanding rather than simply add tasks?	• Suggestions for higher-level thinking and exploring grade-level concepts • Opportunities for deeper engagement without advancing beyond grade-level standards	**0 1 2**
3o. Materials provide varied approaches to learning tasks over time and variety in how students are expected to demonstrate their learning, with opportunities for students to monitor their learning. (2 points)	• Do materials offer different ways for students to engage and show their learning? • Do these approaches evolve over time to deepen understanding?	• Opportunities for students to share thinking and demonstrate progress • Multiple formats and methods to apply and explain concepts • Tools for students to monitor and reflect on their learning	**0 1 2**
3p. Materials provide opportunities for teachers to use various grouping strategies. (2 points)	• Do materials guide teachers on using various grouping formats? • Are strategies provided for meaningful student interactions?	• Clear guidance on grouping students • Support for pair, small-group, and whole-class interactions	**0 1 2**
3q. Materials provide strategies and support for students who read, write, and/or speak in a language other than English to participate in learning regularly. (2 points)	• Do materials provide sufficient support for English learners to participate actively? • Is there guidance for teachers to distinguish content and language difficulties?	• Strategies for developing speaking, listening, reading, and writing skills in the subject area. • Guidance to help teachers address content vs. language challenges and misconceptions.	**0 1 2**
3r. Materials encourage and guide teachers to incorporate students' home languages to support learning (2 points)	• Do materials encourage the use of students' home languages?	• Strategies using home language to support tech learning • Emphasis on multilingualism as an asset	

3s. Materials provide support for different reading levels to ensure accessibility for students. (2 points)	• Do materials provide support for students reading below grade level? • Are lessons adaptable to different reading abilities?	• Tasks with multiple entry points • Varied representations to engage all learners	**0 1 2**
TOTAL SCORE CRITERION 3.3 **Meets:** 11-14 points **| Partially Meets:** 8-10 points **| Does Not Meet:** 0-7 points			

Criterion 3.4: INTENTIONAL DESIGN

INDICATORS OF SUPERIOR QUALITY	GUIDING QUESTIONS	EVIDENCE OF HOW THE MATERIALS	SCORE
3t. Materials use interactive tools, virtual manipulatives, or dynamic software to enhance engagement and support learning goals. (2 points)	• Do materials include engaging digital tools (e.g., simulations, virtual manipulatives, interactive elements)? • Do these tools directly support learning goals?	• Interactive simulations, apps, or videos that align with objectives • Technology embedded in lessons for active learning	**0 1 2**
3u. Digital components include opportunities for teacher-student, student-student, or teacher-teacher collaboration. (2 points)	• Do materials promote collaboration (e.g., forums, shared projects, communication tools)? • Can students and teachers interact through the platform?	• Digital spaces for discussion or feedback (e.g., chats, shared documents) • Group tasks requiring collaborative tools or submissions	**0 1 2**
3v. Visual elements (e.g., graphics, models, layout) are organized, relevant, and support understanding without being distracting. (2 points)	• Is the design clear, uncluttered, and focused on student learning? • Are visuals meaningful and not distracting?	• Clean layout with consistent formatting • Relevant charts, images, and diagrams • Functional navigation (e.g., table of contents, hyperlinks)	**0 1 2**
3x. Resources include clear instructions for using embedded tech, are compatible with common LMS platforms, browsers, and school devices. (2 points)	• Is there guidance for teachers on using embedded tech? Are tools compatible with school systems (LMS, browsers, devices)?	• Tech setup instructions or video tutorials • Compatibility details (LMS/browser/device) • Embedded tech guidance in teacher manuals	**0 1 2**
TOTAL SCORE CRITERION 3.4 **Meets:** 7-8 points **| Partially Meets:** 5-6 points **| Does Not Meet:** 0-4 points			

Gateway 3 Points **AVAILABLE**	Gateway 3 Points **ACHIEVED**	**GATEWAY 3 RATING**
50	Sum of Criterion 3.1, 3.2, 3.3, and 3.4 points	☐ **Meets** (score of 34-50 points) ☐ **Partially Meets** (score of 26-33 points) ☐ **Does Not Meet** (score of 0-25 points)

TOTAL SCORE (Gateway 1, 2, and 3)			
GATEWAY 1	**GATEWAY 2**	**GATEWAY 3**	**GRAND TOTAL**
of 18 points	**of 38 points**	**of 50 points**	**of 106 points**