High-Quality Instructional Materials Rubric

K-12 Science

April 2025

Ohio Department of Education & Workforce

Table of Contents

High-Quality Instructional Materials Rubric

K-12 SCIENCE

TITLE: _____ **REVIEWER NAME:** _____ **DATE:** _____

Science Rubric Overview

Instructional materials selection is an important district decision, and conducting a thorough review of instructional materials at the local level is essential in meeting the needs of students within a school or district. This evaluation rubric is designed to offer an evaluation that districts can utilize to determine how well instructional materials align with Ohio's Learning Standards for Science and other local criteria. Pursuant to ORC 3301.079 (B) (3) and 3313.60, it is the responsibility of Ohio's local boards of education to vet and approve curriculum and educational materials for use in the public schools within their district. Districts and schools should use their professional expertise to determine the suitability of any particular resources for use in their districts, schools or classrooms.

The evaluation rubric includes key considerations for high-quality instructional materials and outlines two Gateways for consideration when evaluating materials. Within each Gateway, Criterion and related Indicators are provided along with Guiding Questions and Look-Fors. Each indicator is evaluated as Does Not Meet Expectations, Partially Meets Expectations, or Meets Expectations using a 0-1-2 scale score.

Ohio's rubric is composed of 7 criteria: Nature of Science, Alignment to Learning Standards, Scientific Discourse, Phenomena and Problem-Driven Instruction, Assessment, Student Supports, and Teacher Supports. These criteria feature review indicators, each with guiding questions and evidence guidance to help focus the review process.

- *Criterion:* Criterion refers to a compilation of indicators within a specific focus area in science that discern markers of high-quality instructional materials. Each criterion area offers a concise description at the beginning of its section, and the scoring of each criterion is determined by the total indicators.
- *Indicators:* Indicators denote the high-quality components of instructional materials that align with the Ohio Learning Standards for Science.
- *Guiding Questions:* Guiding Questions accompany each indicator and are intended to assist reviewers in understanding the evidence required for each indicator.
- *Look For Evidence of How the Materials:* The Look-Fors offer suggestions and considerations for what reviewers may observe in the instructional materials to support the evaluation of that indicator. These suggestions are not exhaustive, as demonstrations for any indicator can vary between materials.

Scoring: Scores are given to most indicators within each criterion to determine how well materials meet the expectations. Each scored indicator is evaluated as Not Meeting Expectations, Partially Meeting Expectations, or Meeting Expectations using a 0-1-2 scale score. Some indicators are marked as "Narrative Evidence" and will not receive a numeric score.

The rubric is designed to allow reviewers to determine a threshold for quality for each Gateway. If instructional materials do not meet the thresholds for Meets Expectations or Partially Meets Expectations for a Gateway, reviewers are prompted to not move forward with reviewing the other Gateways.

- Gateway 1: Alignment (advance to Gateway 2 only if the instructional materials Meet or Partially Meet Expectations for Gateway 1)
- Gateway 2: Instructional Supports

Review Summary	Criteria	Score	Rating
Alignment Criteria	1.1 Nature of Science	/24	
	1.2 Alignment to Learning Standards	/6	
	1.3 Scientific Discourse	/6	
	1.4 Phenomena and Problem-Driven Instruction	/6	
	Gateway 1 Sub-Total	**/42**	
Instructional Supports Criteria	2.1 Assessment	/6	
	2.2 Student Supports	/10	
	2.3 Teacher Supports	/14	
	Gateway 2 Sub-Total	**/30**	
Overall Rating		**Total Score**	**Final Rating**
Meets Expectations *Materials meet expectations for all criteria.* **Partially Meets Expectations** *Materials meet or partially meet expectations for all criteria.* **Does Not Meet Expectations** Any gateway that does not meet the criteria.		**/72**	

Gateway 1: Alignment

Gateway 1 looks at alignment with the Ohio Learning Standards and additional subject-specific indicators of quality.

<table>
<tr><th colspan="4">CRITERION 1.1: NATURE OF SCIENCE
Materials frequently engage students in scientific and engineering practices and other aspects of the Nature of Science in Ohio's Learning Standards or the Next Generation Science Standards.</th></tr>
<tr><th>Indicators</th><th>Guiding Questions</th><th>Look for Evidence of How the Materials:</th><th>Evidence</th></tr>
<tr><td>1.1a. Materials provide opportunities for students to ask questions and define problems.
Scoring
0 | 1 | 2</td><td>• Are students generating questions that can be answered by investigations?
• Are students asking questions about complex situations that don't have simple right and wrong answers?
• Are students presented with open-ended problems?</td><td>• Provide opportunities for noticing and wondering before any information is given.
• Support students to ask questions that can lead to explaining phenomena or sensemaking.
• Utilize situations where students identify and define authentic problems instead of simply completing predefined projects.</td><td></td></tr>
<tr><td>1.1b. Materials provide opportunities for students to develop and use models.
Scoring
0 | 1 | 2</td><td>• Do students develop and/or use models for sensemaking and explanations of scientific phenomena?
• Are there opportunities to revise and improve models individually and collaboratively?</td><td>• Engage students in developing and using representative and systems models.
• Engage students in developing and using various modes of modeling (e.g., drawings, mathematical models, simulations).</td><td></td></tr>
<tr><td>1.1c. Materials provide opportunities for students to plan and carry out investigations.
Scoring
0 | 1 | 2</td><td>• Do students plan and conduct investigations for the purpose of gathering data to support explanations for phenomena?</td><td>• Provide opportunities for students to plan and/or design their own investigations.
• Provide opportunities for students to evaluate and/or revise experimental designs.</td><td></td></tr>
</table>

CRITERION 1.1: NATURE OF SCIENCE

Materials frequently engage students in scientific and engineering practices and other aspects of the Nature of Science in Ohio's Learning Standards or the Next Generation Science Standards.

<table>
<tr><th colspan="4">Indicators</th><th>Guiding Questions</th><th>Look for Evidence of How the Materials:</th><th>Evidence</th></tr>
<tr><td colspan="4">1.1d. Materials provide opportunities for students to analyze and interpret data.
Scoring
0 | 1 | 2</td><td>Do students use data collected through scientific investigations to derive meaning? Do students use observations (first- or secondhand) to describe patterns and/or relationships in the natural and designed worlds to answer scientific questions and solve problems? Do students compare data sets, including students' data, to discuss similarities and differences in their findings?</td><td>Provide opportunities for students to represent their own data in a range of formats (e.g., drawings, graphs, maps, tables, charts). Provide opportunities for students to use and interpret a range of data types (e.g., drawings, graphs, maps, tables, charts). Provide opportunities for students to analyze data sets generated by researchers (e.g., NOAA, NASA, Ohio Department of Natural Resources). Provide opportunities for students to use digital tools to assist in organizing and analyzing data.</td><td></td></tr>
<tr><td colspan="4">1.1e. Materials provide opportunities for students to use mathematics and computational thinking.
Scoring
0 | 1 | 2</td><td>Do students apply mathematical concepts and/or processes to scientific and engineering questions and problems to support scientific conclusions and design solutions? Do the materials guide students in breaking down complex tasks into sequential steps in order to solve problems or understand phenomena?</td><td>Provide opportunities for students to apply mathematical concepts and processes to analyze first- or secondhand data. Incorporate mathematics and computational thinking into student sensemaking, investigation, and explanation of phenomena or problems.</td><td></td></tr>
</table>

<table>
<tr><th colspan="5">CRITERION 1.1: NATURE OF SCIENCE
Materials frequently engage students in scientific and engineering practices and other aspects of the Nature of Science in Ohio's Learning Standards or the Next Generation Science Standards.</th></tr>
<tr><th colspan="4">Indicators</th><th>Guiding Questions</th><th>Look for Evidence of How the Materials:</th><th>Evidence</th></tr>
<tr><td colspan="4">1.1f. Materials provide opportunities for students to construct explanations and design solutions.</td><td rowspan="3">• Do students construct scientific explanations based on valid and reliable evidence obtained from sources, including their own experiments?
• Do students design solutions for problems they have identified, including problems of local relevance?</td><td rowspan="3">• Expect students to develop their own explanations rather than repeat provided explanations.
• Provide opportunities for students to solve authentic problems rather than just complete design challenges.</td><td rowspan="3"></td></tr>
<tr><td colspan="4">Scoring</td></tr>
<tr><td>0</td><td>1</td><td>2</td><td></td></tr>
<tr><td colspan="4">1.1g. Materials provide opportunities for students to engage in arguments from evidence.</td><td rowspan="3">• Do students share, respond to, and critique ideas to build consensus and develop explanations?
• Do students engage with evidence to determine what is relevant, irrelevant, fact, or opinion?
• Do students explain their reasoning when constructing and/or supporting an argument with evidence, data, and/or a model?</td><td rowspan="3">• Provide opportunities for students to apply reasoning that shows how evidence supports their claims.
• Provide opportunities for students to make and defend claims based on evidence about the natural world or the effectiveness of a design solution.
• Include opportunities for students to use both student-generated data and data sets from outside researchers to support claims.
• Provide supports that help teachers scaffold experiences for students so they can increase proficiency in reasoning and developing arguments from evidence.</td><td rowspan="3"></td></tr>
<tr><td colspan="4">Scoring</td></tr>
<tr><td>0</td><td>1</td><td>2</td><td></td></tr>
</table>

<table>
<tr><th colspan="4">CRITERION 1.1: NATURE OF SCIENCE
Materials frequently engage students in scientific and engineering practices and other aspects of the Nature of Science in Ohio's Learning Standards or the Next Generation Science Standards.</th></tr>
<tr><th colspan="3">Indicators</th><th>Guiding Questions</th><th>Look for Evidence of How the Materials:</th><th>Evidence</th></tr>
<tr><td colspan="3">1.1h. Materials provide opportunities for students to obtain, evaluate, and communicate information.</td><td rowspan="3">• Do students communicate with various audiences?
• Do students engage with, evaluate, and select information from a variety of sources?</td><td rowspan="3">• Provide opportunities for students to share scientific and technical information orally and in writing, including tables, diagrams, charts, and/or mathematical representations.
• Provide opportunities for students to gather, read, and synthesize information from multiple sources, assess its credibility and accuracy, and describe whether the information is supported or not supported by evidence.</td><td rowspan="3"></td></tr>
<tr><td colspan="3">Scoring</td></tr>
<tr><td>0</td><td>1</td><td>2</td></tr>
<tr><td colspan="3">1.1i. Materials have a sequence where student engagement in the practices increases in complexity and depth within and across grade levels.</td><td rowspan="3">• Do students engage in the science and engineering practices and the nature of science more independently over time?</td><td rowspan="3">• Provide teachers with support to transition from teacher-guided investigations and activities to student-driven investigations and activities.</td><td rowspan="3"></td></tr>
<tr><td colspan="3">Scoring</td></tr>
<tr><td>0</td><td>1</td><td>2</td></tr>
</table>

<table>
<tr><th colspan="4">CRITERION 1.1: NATURE OF SCIENCE
Materials frequently engage students in scientific and engineering practices and other aspects of the Nature of Science in Ohio's Learning Standards or the Next Generation Science Standards.</th></tr>
<tr><th>Indicators</th><th>Guiding Questions</th><th>Look for Evidence of How the Materials:</th><th>Evidence</th></tr>
<tr><td>1.1j. Materials help students understand how scientific knowledge advances in light of new evidence.
Scoring
0 | 1 | 2</td><td rowspan="2">• Do the materials contain examples showing how science ideas have changed through the years as technology improves or new evidence comes to light?
• Do the materials include recent scientific research?</td><td>• Provide opportunities for students to refine models after further investigation.
• Showcase examples of historical models and how they have changed over time.
• Utilize research studies from within the past decade.</td><td></td></tr>
<tr><td>1.1k. Materials incorporate the concepts described in the human endeavor section of Ohio's Nature of Science document.
Scoring
0 | 1 | 2</td><td>• Provide opportunities for students to practice scientific thinking habits as they discuss what they are learning with peers.
• Show scientists working in a variety of settings rather than always depicting science done in a sterile lab setting.
• Foster connections between science concepts and everyday living/decision-making.</td><td></td></tr>
</table>

CRITERION 1.1: NATURE OF SCIENCE

Materials frequently engage students in scientific and engineering practices and other aspects of the Nature of Science in Ohio's Learning Standards or the Next Generation Science Standards.

Indicators	Guiding Questions	Look for Evidence of How the Materials:	Evidence
1.1l. Materials incorporate the concepts described in the way of knowing section of Ohio's Nature of Science document. **Scoring** 0 / 1 / 2	• Do materials provide opportunities for students to explore and discover new information about the natural world? • Do the materials include information about natural events that have occurred in the past, and how these events have shaped our understanding of the world today? • Are there examples in the materials that illustrate how events in the natural world occur in regular patterns or cycles, and how these patterns can be observed and measured?	• Provide explicit explanations, investigations, and examples to help ensure student understanding of science as both a body of knowledge and a process to obtain new knowledge. • Help students understand and use commonly accepted science rules for obtaining and evaluating evidence. • Guide students to discover patterns and cycles.	

Criterion 1.1 Summary	Criterion Score	Criterion Rating
Meets Expectations (20-24 pts) Partially Meets Expectations (15-19 pts) Does Not Meet Expectations (< 15 pts)		

<table>
<tr><th colspan="4">CRITERION 1.2: ALIGNMENT TO LEARNING STANDARDS
Materials give all students extensive work with grade-level content to meet the full intent of Ohio's Learning Standards or the Next Generation Science Standards.</th></tr>
<tr><th colspan="2">Indicators</th><th>Guiding Questions</th><th>Look for Evidence of How the Materials:</th><th>Evidence</th></tr>
<tr><td colspan="2">1.2a. Materials present content, the scientific and engineering practices, and the nature of science in a way that is scientifically accurate.
Scoring
0 | 1 | 2</td><td>• Are the materials free of information that is inaccurate or misleading?</td><td>• Present currently accepted scientific information in an unbiased manner.
• Accurately describe ways scientists obtain, evaluate, and communicate information.
• Avoid information or activities that can lead to common misconceptions.</td><td></td></tr>
<tr><td colspan="2">1.2b. Materials are aligned to all content statements, elaborations, and course content of Ohio's Learning Standards or all three dimensions of the Next Generation Science Standards.
Scoring
0 | 1 | 2</td><td>• Do the materials cover the entire depth and breadth of the standards?
• Do the materials focus on the details presented in each content elaboration?</td><td>• Align to specifics listed in the elaborations.
• Go beyond a surface understanding of a main content statement or topic.</td><td></td></tr>
</table>

<table>
<tr><th colspan="5">CRITERION 1.2: ALIGNMENT TO LEARNING STANDARDS
Materials give all students extensive work with grade-level content to meet the full intent of Ohio's Learning Standards or the Next Generation Science Standards..</th></tr>
<tr><th colspan="2">Indicators</th><th>Guiding Questions</th><th>Look for Evidence of How the Materials:</th><th>Evidence</th></tr>
<tr><td colspan="2">1.2c. Materials are designed so that students spend a significant amount of their time on rigorous tasks that are at grade level.
Scoring
0 | 1 | 2</td><td>• Do the materials match the content depth and rigor appropriate to the grade level?</td><td>• Prioritize student engagement with the practices over direct instruction.
• Contain rigorous tasks designed to deepen students' understanding through investigation.
• Avoid spending instructional time on investigations that would have been more appropriate to prior grades.</td><td></td></tr>
<tr><th colspan="3">Criterion 1.2 Summary</th><th>Criterion Score</th><th>Criterion Rating</th></tr>
<tr><td colspan="3">Meets Expectations (5-6 pts)
Partially Meets Expectations (4 pts)
Does Not Meet Expectations (< 4 pts)</td><td></td><td></td></tr>
</table>

<table>
<tr><th colspan="5">CRITERION 1.3: SCIENTIFIC DISCOURSE
Materials provide ample opportunities for the discussion of complex ideas to allow students to build their knowledge and skills through scientific discourse.</th></tr>
<tr><th colspan="3">Indicators</th><th>Guiding Questions</th><th>Look for Evidence of How the Materials:</th><th>Evidence</th></tr>
<tr><td colspan="3">1.3a. Materials provide opportunities for evidence-based and data-driven student discourse.
Scoring
0 | 1 | 2</td><td>• How frequently do students have the opportunity to compare ideas, critique arguments, and ask questions based on evidence?
• Are there multiple opportunities in instructional sequences for students to engage in scientific discourse?</td><td>• Provide guidance for teachers on structuring and facilitating evidence-based and data-driven student discourse.
• Support student use of evidence and data in discourse, critiquing arguments, and building consensus.</td><td></td></tr>
<tr><td colspan="3">1.3b. Materials provide opportunities for scientific discourse in different settings and for varying purposes.
Scoring
0 | 1 | 2</td><td>• What types of opportunities do students have to engage in scientific discourse?</td><td>• Provide opportunities for students to communicate with authentic audiences (e.g., researchers, community stakeholders, legislators, businesses).
• Provide opportunities for students to communicate using a variety of modalities (e.g., letters, presentations, podcasts, discussion, debates).
• Provide opportunities for students to reflect and provide feedback on other students' work and authentic research studies.</td><td></td></tr>
</table>

<table>
<tr><th colspan="5">CRITERION 1.3: SCIENTIFIC DISCOURSE
Materials provide ample opportunities for the discussion of complex ideas to allow students to build their knowledge and skills through scientific discourse.</th></tr>
<tr><th>Indicators</th><th>Guiding Questions</th><th>Look for Evidence of How the Materials:</th><th colspan="2">Evidence</th></tr>
<tr><td colspan="2">1.3c. Materials encourage student discourse to increase in sophistication of both vocabulary and structure as understanding of each concept develops.
Scoring
0 | 1 | 2</td><td>• Do the materials provide scaffolds to support student engagement in scientific discourse?
• Does student discourse increase in complexity and depth within and across grade levels?</td><td>• Support teachers to facilitate student discussion with prompts, activities, and strategies.
• Support teachers to transition students from discussing concepts in everyday language to discussing concepts using scientific vocabulary.</td><td colspan="2"></td></tr>
<tr><th colspan="2">Criterion 1.3 Summary</th><th>Criterion Score</th><th colspan="2">Criterion Rating</th></tr>
<tr><td colspan="2">Meets Expectations (5-6 pts)
Partially Meets Expectations (4 pts)
Does Not Meet Expectations (< 4 pts)</td><td></td><td colspan="2"></td></tr>
</table>

<table>
<tr><th colspan="4">CRITERION 1.4: PHENOMENA AND PROBLEM-DRIVEN INSTRUCTION
Materials base instruction around events, processes, or problems that can be explained, predicted, or solved by science knowledge and practices.</th></tr>
<tr><th>Indicators</th><th>Guiding Questions</th><th>Look for Evidence of How the Materials:</th><th>Evidence</th></tr>
<tr><td>1.4a. Materials utilize phenomena and problems to drive instruction that engages students in sensemaking and problem-solving.
Scoring
0 | 1 | 2</td><td rowspan="2">• Is instruction structured around observable events in the natural or designed worlds that can be explained or predicted by science knowledge?
• How do the materials help students refine their understanding and make sense of the events/problems they are investigating?
• Is instruction driven by exploring and explaining phenomena or solving problems?</td><td rowspan="2">• Provide opportunities for students to make and revise models and explanations of phenomena, or to iterate solutions to problems.
• Align instructional content to the anchoring phenomenon or initial problem.</td><td rowspan="2"></td></tr>
<tr><td>1.4b. Materials structure lessons that introduce phenomena at the beginning of instruction before explaining concepts or defining vocabulary.
Scoring
0 | 1 | 2</td></tr>
<tr><td colspan="2">• Where in the instructional sequence are phenomena/problems used?
• Are phenomena presented without an accompanying explanation?
• Do students return to the phenomenon throughout the instructional sequence?
• Is scientific vocabulary introduced as students need it to make sense of phenomena?</td><td>• Initiate lessons using phenomena or problems.
• Use common language as phenomena or problems are presented.
• Develop student conceptual understanding before scientific vocabulary is introduced.</td><td></td></tr>
</table>

CRITERION 1.4: PHENOMENA AND PROBLEM-DRIVEN INSTRUCTION

Materials base instruction around events, processes, or problems that can be explained, predicted, or solved by science knowledge and practices.

<table>
<tr><th colspan="4">Indicators</th><th>Guiding Questions</th><th>Look for Evidence of How the Materials:</th><th>Evidence</th></tr>
<tr><td colspan="4">1.4c. Materials use phenomena and problems that are meaningful to students and seek to illuminate and connect to students' prior knowledge and experiences.</td><td rowspan="3">• How do the materials support students to connect their personal experience and prior knowledge with phenomena and problems?
• Is there guidance to help teachers tap into the experiences various students bring to the classroom?
• Can the phenomena and problems be connected with content from other contexts?</td><td rowspan="3">• Provide opportunities for students to make local, regional, and global connections.
• Frequently connect student personal experience and/or prior knowledge with the phenomena or problems presented.
• Suggest ways for teachers to elicit students' prior knowledge and interests.
• Provide opportunities for students to apply their personal experience and prior knowledge related to the phenomena and problems.</td><td rowspan="3"></td></tr>
<tr><td colspan="4">Scoring</td></tr>
<tr><td>0</td><td>1</td><td>2</td></tr>
<tr><td colspan="4">Criterion 1.4 Summary</td><td>Criterion Score</td><td>Criterion Rating</td></tr>
<tr><td colspan="4">Meets Expectations (5-6 pts)
Partially Meets Expectations (4 pts)
Does Not Meet Expectations (< 4 pts)</td><td></td><td></td></tr>
</table>

Gateway 1 Summary	Points Scored
Criterion 1.1: Nature of Science	**/24**
Criterion 1.2: Alignment to Learning Standards	**/6**
Criterion 1.3: Scientific Discourse	**/6**
Criterion 1.4: Phenomena and Problem-Driven Instruction	**/6**
Gateway 1 Rating Levels	**Gateway 1 Total Points**
Meets Expectations (34-42 pts) Partially Meets Expectations (26-33 pts) Does Not Meet Expectations (< 26 pts)	**/42**
Gateway 1 Comments:	

Gateway 2: Instructional Supports

Gateway 2 examines additional indicators of quality that demonstrate the usability of the materials to support implementation. This includes assessment, student supports, and teacher supports. **Materials must Meet or Partially Meet Expectations for Gateway 1 to be reviewed for Gateway 2.**

<table>
<tr><th colspan="5">CRITERION 2.1: ASSESSMENT
The program includes a system of assessments identifying how materials provide tools, guidance, and support for Ohio teachers to collect, interpret, and act on data about student progress toward the standards.</th></tr>
<tr><th>Indicators</th><th>Guiding Questions</th><th>Look for Evidence of How the Materials:</th><th>Evidence</th></tr>
<tr><td>2.1a. Materials offer a diverse system of assessment with multiple opportunities throughout the grade, course, or series to determine students' learning and sufficient guidance to teachers for interpreting student performance and suggestions for follow-up.
Scoring
0 | 1 | 2</td><td>• Does the assessment system provide multiple opportunities throughout the grade, course, or series to determine students' learning and sufficient guidance to teachers for interpreting student performance and suggestions for follow-up?
• Is guidance consistently provided to teachers on how to interpret student understandings?</td><td>• Provide resources (e.g., sample student responses, rubrics, scoring guidelines, and open-ended feedback) for scoring purposes.
• Provide guidance to teachers to interpret student understanding.
• Provide teachers guidance to respond to student needs elicited by the assessment.
• Provide opportunities for students to show learning through annotated drawings, classroom observations, oral responses and presentations, use of glossaries and home language, performance assessments and portfolios.</td><td></td></tr>
</table>

CRITERION 2.1: ASSESSMENT **The program includes a system of assessments identifying how materials provide tools, guidance, and support for Ohio teachers to collect, interpret, and act on data about student progress toward the standards.**					
Indicators			**Guiding Questions**	**Look for Evidence of How the Materials:**	**Evidence**
2.1b. Assessments include opportunities for students to demonstrate the full intent of grade-level or course-level standards and scientific and engineering practices for the grade or course.			• Do the assessments include opportunities for students to demonstrate the full intent of grade-level or course-level standards and practices across the series? • Do the assessments include a variety of modalities (e.g., writing, illustrating, demonstrating, modeling, oral presentations, and performance tasks) and suggestions for how they can be used? • Is there a good balance of complexity in assessment tasks?	• Provide opportunities for students to show learning through a variety of methods (e.g., annotated drawings, classroom observations, oral responses, presentations, performance assessments, portfolios). • Provide a variety of cognitive tasks on assessments. • Provide opportunities for different types of items used for student assessments and how they are used to measure student performance (e.g., performance tasks, discussion questions, constructed response questions, project- or problem-based tasks, portfolios, justified multiple-choice). • Assess both content and scientific and engineering practices. • Align assessment tasks with the nature of science.	
Scoring					
0	1	2			

CRITERION 2.1: ASSESSMENT

The program includes a system of assessments identifying how materials provide tools, guidance, and support for Ohio teachers to collect, interpret, and act on data about student progress toward the standards.

<table>
<tr><th>Indicators</th><th>Guiding Questions</th><th>Look for Evidence of How the Materials:</th><th>Evidence</th></tr>
<tr><td colspan="3">2.1c. Assessments offer accommodations that allow students to demonstrate their knowledge and skills without changing the content of the assessment.</td><td rowspan="3">• Do materials incorporate accommodations in assessments that maintain the assessment's content while enabling students to demonstrate their knowledge and skills effectively?
• Is guidance provided for teachers to use the accommodations?</td><td rowspan="3">• Describe where and how accommodations are offered that ensure all students can access the assessment, (e.g., text-to-speech, increased font size, etc.) without changing the content of the assessment.
• Provide guidance for teachers to accommodate students, including those in special populations, without altering grade-level or course expectations or the content of the assessment.</td><td rowspan="3"></td></tr>
<tr><td colspan="3">Scoring</td></tr>
<tr><td>0</td><td>1</td><td>2</td></tr>
<tr><td colspan="3">Criterion 2.1 Summary</td><td>Criterion Score</td><td>Criterion Rating</td></tr>
<tr><td colspan="3">Meets Expectations (5-6 pts)
Partially Meets Expectations (4 pts)
Does Not Meet Expectations (< 4 pts)</td><td></td><td></td></tr>
</table>

<table>
<tr><th colspan="5">CRITERION 2.2: STUDENT SUPPORTS
The program includes materials designed for each student's regular and active participation in Ohio's grade level, grade band, and course content.</th></tr>
<tr><th colspan="2">Indicators</th><th>Guiding Questions</th><th>Look for Evidence of How the Materials:</th><th>Evidence</th></tr>
<tr><td colspan="2">2.2a. Materials provide strategies and support to help students consistently and actively engage in learning at course level or grade level.
Scoring
0 | 1 | 2</td><td>• Do materials provide differentiation supports to sufficiently engage students in grade-level/course-level science?
• Do the materials provide comprehensive guidance on strategies and accommodations for diverse student needs?</td><td>• Provide specific strategies and supports for differentiating instruction.
• Provide a comprehensive strategic support system for students to maintain consistent and active involvement in their learning.</td><td></td></tr>
<tr><td colspan="2">2.2b. Materials provide both extensions and opportunities for students to engage with grade-level or course-level content at higher levels of complexity.
Scoring
0 | 1 | 2</td><td>• Do materials provide intentional extensions and structured opportunities enabling students to interact with course or grade-level content at higher levels of complexity?</td><td>• Suggest strategies and supports for student's exploration of grade-level or course-level content at a higher level of complexity, not students completing additional tasks, but as extensions of their learning.
• Provide opportunities for students to develop and apply higher-level thinking.
• Include suggestions for extensions that provide a deeper understanding of grade-level or course-level concepts rather than simply advancing to later-grade concepts.</td><td></td></tr>
</table>

CRITERION 2.2: STUDENT SUPPORTS

The program includes materials designed for each student's regular and active participation in Ohio's grade level, grade band, and course content.

<table>
<tr><th colspan="3">Indicators</th><th>Guiding Questions</th><th>Look for Evidence of How the Materials:</th><th>Evidence</th></tr>
<tr><td colspan="3">2.2c 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.</td><td rowspan="2">• Do the materials provide multi-modal opportunities for students to question, investigate, sense-make, and problem-solve using a variety of formats and methods?</td><td rowspan="2">• Leverage the use of a variety of formats and methods over time to deepen students' understanding and ability to explain and apply scientific ideas.
• Provide opportunities for students to monitor and deepen their own learning, using ongoing review, either oral or written feedback, practice, and self-reflection.</td><td rowspan="2"></td></tr>
<tr><td colspan="3">Scoring</td></tr>
<tr><td>0</td><td>1</td><td>2</td><td></td><td></td><td></td></tr>
<tr><td colspan="3">2.2d. Materials provide opportunities for teachers to use a variety of grouping strategies.</td><td rowspan="2">• Do the materials provide varied and adaptable grouping structures that address different learning needs and objectives?
• Do the materials provide guidance for the teacher on how and when to use specific grouping strategies?</td><td rowspan="2">• Describe for the teacher how and where to group students in a variety of grouping formats.
• Provide meaningful interactions among students, such as in large or small groups, pairs, etc.
• Provide a balance between working long-term in a group and shorter opportunities to work with a variety of partners.</td><td rowspan="2"></td></tr>
<tr><td colspan="3">Scoring</td></tr>
<tr><td>0</td><td>1</td><td>2</td><td></td><td></td><td></td></tr>
</table>

CRITERION 2.2: STUDENT SUPPORTS

The program includes materials designed for each student's regular and active participation in Ohio's grade level, grade band, and course content.

<table>
<tr><th>Indicators</th><th>Guiding Questions</th><th>Look for Evidence of How the Materials:</th><th>Evidence</th></tr>
<tr><td>2.2e. Materials provide strategies and supports for students who read, write, and/or speak in a language other than English to regularly participate in grade-level learning.
Scoring
0 | 1 | 2</td><td>• Do materials provide appropriate support and accommodations for English Learner (EL) students to actively participate in learning grade-level or course-level science?
• Do the materials for teachers provide guidance for instructional practices that foster and empower English Learners (ELs) to develop and excise agency and autonomy in their learning?</td><td>• Provide strategies and opportunities for speaking, listening, reading, writing, viewing, and signing to develop knowledge and skills of the subject matter.
• Provide teacher guidance to support EL students.
• Provide guidance that help teachers identify and follow-up on whether the student has challenges in content vs. language acquisition, as well as identify when students may have misconceptions with content vs. language demand, to ensure the two are not conflated.</td><td></td></tr>
<tr><td>2.2f. Materials provide a balance of images or information about people, representing various demographic and physical characteristics to positively portray individuals from all communities and enable students to see themselves in materials.
Scoring
Narrative Evidence</td><td>• Do the materials provide a balance of images or information about all people?
• Do the materials provide representations that show students they can succeed in the subject?</td><td>• Provide positive and balanced depictions of all individuals.</td><td></td></tr>
</table>

CRITERION 2.2: STUDENT SUPPORTS **The program includes materials designed for each student's regular and active participation in Ohio's grade level, grade band, and course content.**			
Indicators	**Guiding Questions**	**Look for Evidence of How the Materials:**	**Evidence**
2.2g Materials provide teachers with guidance and strategies that embrace and integrate students' home languages, as well as their cultural and social backgrounds, to facilitate meaningful learning. **Scoring** Narrative Evidence	• Do the materials provide strategies for utilizing students' home language in context with the materials? Do the materials provide guidance for teachers to effectively incorporate and utilize students' cultural and social backgrounds in the classroom and learning process?	• Provide suggestions and strategies for how to allow the use of the home language to support students in learning science. • Present multilingualism as an asset in reading and learning science. • Make connections to students' linguistic and cultural backgrounds to facilitate learning. • Provide opportunities for students to feel acknowledged, e.g., asked to create personal problems based on customs of their own home culture.	
2.2h. Materials provide supports for different reading levels to ensure accessibility for students. **Scoring** Narrative Evidence	• Do the materials incorporate specific strategies to assist students reading at or below grade level in engaging with grade or course-level science? • Do the materials scaffold vocabulary or concepts to support readers at or below grade or course level? • Do the materials use a variety of representations to engage students with grade or course-level content?	• Provide tasks with multiple entry points. • Use a variety of representations to engage students with grade-level or course-level content. • Include pre-reading activities that utilize visuals to establish necessary background knowledge on new or unfamiliar themes or topics in an appropriate manner.	

CRITERION 2.2: STUDENT SUPPORTS The program includes materials designed for each student's regular and active participation in Ohio's grade level, grade band, and course content.			
Indicators	**Guiding Questions**	**Look for Evidence of How the Materials:**	**Evidence**
2.2i. The visual design (whether in print or digital) supports students in engaging thoughtfully with the subject and is neither distracting nor chaotic. **Scoring** Narrative Evidence	• Do the materials present visual design elements, whether in print or digital format, that facilitate thoughtful student engagement with the subject matter by avoiding distractions or chaotic layouts?	• Provide images, graphics, and models that support student learning and engagement. • Provide images, graphics, and models that clearly communicate information or support student understanding of topics, text, or concepts. • Provide organizational features (e.g., Table of Contents, glossary, index, internal references, table headers, captions, etc.) clearly and accurately.	

CRITERION 2.2: STUDENT SUPPORTS The program includes materials designed for each student's regular and active participation in Ohio's grade level, grade band, and course content.			
Indicators	**Guiding Questions**	**Look for Evidence of How the Materials:**	**Evidence**
2.2j. Materials integrate digital technology such as interactive tools, virtual manipulatives, objects and/or dynamic software in ways that engage students in the grade or course-level, when applicable.	• Do the materials integrate interactive tools along with dynamic software in ways that support student engagement in science? • Do included digital tools support student engagement in science? • Are digital materials compatible with the Learning Management System (LMS) currently in use?	• Include digital technology and interactive resources, such as data collection tools, simulations, and modeling tools, made available to students. • Include digital technology and interactive tools that support student engagement in science and how these digital materials can be customized for local use (i.e., either student or community interests). • Provide accessibility that is compatible with district digital systems for lesson delivery, assessment, and communication from within the district LMS and meet all district privacy-data security requirements. • Include videos, virtual manipulatives, glossaries, English captioning, illustrations, graphic tools, speech recognition, interactive tools, materials in the home language, games, and accessible format.	
Scoring			
Narrative Evidence			

CRITERION 2.2: STUDENT SUPPORTS The program includes materials designed for each student's regular and active participation in Ohio's grade level, grade band, and course content.			
Indicators	**Guiding Questions**	**Look for Evidence of How the Materials:**	**Evidence**
2.2k. Materials include or reference digital technology that provides opportunities for teachers and/or students to collaborate with each other, when applicable.	• Do the materials provide and leverage digital tools in ways that actively promote and facilitate collaborative interactions among teachers and/or students, where appropriate?	• Support collaboration between teacher to teacher, teacher to student, or student to student.	
Score			
Narrative Evidence			
Criterion 2.2 Summary		**Criterion Score**	**Criterion Rating**
Meets Expectations (9-10 pts) Partially Meets Expectations (7-8 pts) Does Not Meet Expectations (< 7 pts)			

CRITERION 2.3: TEACHER SUPPORTS

The program includes educative materials that provide teachers with guidance, recommendations, or annotations for how to facilitate the effective use of instructional materials.

<table>
<tr><th colspan="4">Indicators</th><th>Guiding Questions</th><th>Look for Evidence of How the Materials:</th><th>Evidence</th></tr>
<tr><td colspan="4">2.3a. Materials provide teacher guidance with useful annotations and suggestions for how to enact the student materials and ancillary materials, with specific attention to engaging students in order to guide their development.</td><td rowspan="3">• Do the materials offer comprehensive guidance, including detailed annotations and actionable suggestions, to assist teachers in implementing both student and ancillary materials, specifically focusing on engaging students to facilitate their developmental progress?</td><td rowspan="3">• Provide overview sections, annotations, narrative information, or other documents that will assist the teacher in planning instruction, including strategies and guidance for presenting the content.
• Provide guidance for implementing scientific and engineering practices with students.
• Include guidance on identifying and addressing student errors and misconceptions in the planning phase.</td><td rowspan="3"></td></tr>
<tr><td colspan="4">Scoring</td></tr>
<tr><td>0</td><td>1</td><td>2</td></tr>
<tr><td colspan="4">2.3b. Materials contain adult-level explanations and examples of the more complex grade-level or course-level concepts and concepts beyond the current course so that teachers can improve their own knowledge of the subject.</td><td rowspan="3">• Do the materials provide comprehensive resources that support teachers in deepening their understanding of complex grade-level or course-level concepts, extending beyond the current curriculum, through adult-level explanations and examples?</td><td rowspan="3">• Provide complete adult-level explanations and examples that support the teacher in developing their own understanding of the content and expected student practices.
• Provide supports for teachers to develop their own understanding of more advanced applications of grade-level or course-level concepts.
• Provide supports for teachers to develop their own understanding of concepts beyond the current course.</td><td rowspan="3"></td></tr>
<tr><td colspan="4">Scoring</td></tr>
<tr><td>0</td><td>1</td><td>2</td></tr>
</table>

<table>
<tr><th colspan="5">CRITERION 2.3: TEACHER SUPPORTS
The program includes educative materials that provide teachers with guidance, recommendations, or annotations for how to facilitate the effective use of instructional materials.</th></tr>
<tr><th colspan="3">Indicators</th><th>Guiding Questions</th><th>Look for Evidence of How the Materials:</th><th>Evidence</th></tr>
<tr><td colspan="3">2.3c. Materials provide recommendations for curriculum-based professional learning that is immersive and allows teachers to experience the materials as a student.</td><td rowspan="3">• Do the materials recommend curriculum-based professional learning to enhance both teacher content knowledge and pedagogy?
• Do the materials provide best practices to support teachers' planning for instruction?
• Do the materials recommend professional learning strategies that promote teachers reflecting on and considering the student experience with the instructional materials?
• Do the materials provide recommendations for both initial professional learning and sustained teacher support for student success with the program?</td><td rowspan="3">• Provide guidance on curriculum-based professional learning to support classroom facilitation, including understanding the program's instructional design, philosophy, and approaches in units and lessons.
• Provide guidance and strategies for professional learning that provide teachers opportunities and time to plan instruction and collaborate with colleagues (i.e., professional learning communities, study groups, coaching, feedback, and reflective practices.)
• Includes initial and ongoing curriculum-based professional learning to support the program's sustainability.</td><td rowspan="3"></td></tr>
<tr><th colspan="3">Scoring</th></tr>
<tr><td>0</td><td>1</td><td>2</td></tr>
</table>

<table>
<tr><th colspan="4">CRITERION 2.3: TEACHER SUPPORTS
The program includes educative materials that provide teachers with guidance, recommendations, or annotations for how to facilitate the effective use of instructional materials.</th></tr>
<tr><th>Indicators</th><th>Guiding Questions</th><th>Look for Evidence of How the Materials:</th><th>Evidence</th></tr>
<tr><td>2.3d. Materials provide strategies for informing all stakeholders, including students, parents, or caregivers about the program and suggestions for how they can help support student progress and achievement.
Scoring
Narrative Evidence</td><td>• Do the materials provide comprehensive strategies that enable students, parents, and caregivers with an understanding of the program, accompanied by actionable guidance to actively support and enhance student progress and achievement?</td><td>• Contain strategies for informing students, parents, and/or caregivers about the science their student is learning.
• Provide forms of communication with parents and caregivers, including for families that may speak and read in a language other than English.
• Contain suggestions for how parents or caregivers can support student progress and achievement.</td><td></td></tr>
<tr><td>2.3e. Materials provide explanations of the instructional approaches of the program and identification of the research-based and evidence-based strategies.
Scoring
0 | 1 | 2</td><td>• Do the materials present the program's teaching methodologies and research-based and evidence-based strategies that aid educators' understanding and implementation?</td><td>• Explain the instructional approaches of the program.
• Identify and reference research-based and evidence-based strategies that are used in design.</td><td></td></tr>
</table>

<table>
<tr><th colspan="4">CRITERION 2.3: TEACHER SUPPORTS
The program includes educative materials that provide teachers with guidance, recommendations, or annotations for how to facilitate the effective use of instructional materials.</th></tr>
<tr><th>Indicators</th><th>Guiding Questions</th><th>Look for Evidence of How the Materials:</th><th>Evidence</th></tr>
<tr><td>2.3f. Materials provide a comprehensive list of all supplies needed to support instructional activities.
Scoring
Narrative Evidence</td><td>• Do the materials offer a detailed and comprehensive inventory of all necessary supplies required to facilitate instructional activities effectively?</td><td>• Provide a comprehensive list of required materials.</td><td></td></tr>
<tr><td>2.3g. Materials regularly and systematically balance time and resources required for following the suggested implementation, as well as information for alternative implementations.
Scoring
0 | 1 | 2</td><td>• Do the materials explore multiple implementation pathways and their resource implications?
• Do materials address trade-offs between implementations, incorporating considerations of time and effectiveness?
• Do materials prioritize adaptability, promoting flexibility in response to available resources or evolving circumstances?</td><td>• Provide a detailed breakdown of the resources needed for each implementation pathway, including time, personnel, materials, and any other required resources.
• Provide a clear and structured comparison that highlights the trade-offs with different implementation methods and discusses how each option affects time and effectiveness.
• Provide guidance or suggestions on how to adapt or modify the implementation strategy based on the availability of resources or changing circumstances, demonstrating a practice approach to flexibility.</td><td></td></tr>
</table>

CRITERION 2.3: TEACHER SUPPORTS

The program includes educative materials that provide teachers with guidance, recommendations, or annotations for how to facilitate the effective use of instructional materials.

Indicators	Guiding Questions	Look for Evidence of How the Materials:	Evidence
2.3h. Materials provide teacher guidance for the use of embedded technology to support and enhance student learning, when applicable. **Scoring** 0 / 1 / 2	• Do the materials provide specific guidance, examples, or instructions for teachers to effectively utilize embedded technology, where suitable, to enhance and strengthen student learning experiences?	• Provide teacher guidance on how to use embedded technology in supporting and enhancing student learning. • Provide step-by-step explanations on integrating digital tools, recommendations for suitable technological resources, or scenarios showcasing technology-enhanced learning activities aligned with the curriculum. • Provide troubleshooting tips or strategies for adapting the use of technology to different learning environments or student needs.	
2.3i. Materials provide clear science safety guidelines for teachers and students across the materials. **Scoring** 0 / 1 / 2	• Are there sufficient safety instructions in both student and teacher materials to assure that activities will be conducted in a safe manner?	• Embed clear science safety guidelines for teachers and students aligned to OSHA, local, state, and national guidelines.	

Criterion 3.2 Summary	Criterion Score	Criterion Rating
Meets Expectations (12-14 pts) Partially Meets Expectations (9-11 pts) Does Not Meet Expectations (< 9 pts)		

Gateway 2 Summary	Points Scored
Criterion 2.1: Assessment	**/6**
Criterion 2.2: Student Supports	**/10**
Criterion 2.3: Teacher Supports	**/14**
Gateway 2 Rating Levels	**Gateway 2 Total Points**
Meets Expectations (25-30 pts) Partially Meets Expectations (19-24 pts) Does Not Meet Expectations (< 19 pts)	**/30**
Gateway 2 Comments:	