LOUISIANA DEPARTMENT OF EDUCATION

Academic Content

Instructional Materials Evaluation Tool

(IMET) for Alignment in Science Grades K-12 Full Curriculum

Strong science instruction requires that students:

- Apply content knowledge to explain real world phenomena and to design solutions,
- Investigate, evaluate, and reason scientifically, and
- Connect ideas across disciplines.

Title: **[Title]**

Grade/Course: **[Grade/Course]**

Publisher: **[Publisher]**

Copyright: **[Copyright]**

Overall Rating: **[Tier 1, Exemplifies quality; Tier 2, Approaching quality; Tier 3, Not representing quality]**

Tier 1, Tier 2, Tier 3 Elements of this review:

STRONG	WEAK
1. Three-dimensional Learning (Non-Negotiable)	
2. Phenomenon-Based Instruction (Non-Negotiable)	
3. Alignment and Accuracy (Non-Negotiable)	
4. Disciplinary Literacy (Non-Negotiable)	
5. Learning Progressions	
6. Scaffolding and Support	
7. Usability	
8. Assessment	

To evaluate instructional materials for alignment with the standards and determine tiered rating, begin with **Section I: Non-Negotiable Criteria**.

- Review the **required**[1] Indicators of Superior Quality for each **Non-Negotiable** criterion.
- If there is a "Yes" for all **required** Indicators of Superior Quality, materials receive a "Yes" for that **Non-Negotiable** criterion.
- If there is a "No" for any of the **required** Indicators of Superior Quality, materials receive a "No" for that **Non-Negotiable** criterion.
- Materials must meet **Non-Negotiable** Criteria 1 and 2 for the review to continue to **Non-Negotiable** Criteria 3 and 4. Materials must meet all of the **Non-Negotiable** Criteria 1-4 in order for the review to continue to Section II.
- If materials receive a "No" for any **Non-Negotiable** criterion, a rating of Tier 3 is assigned, and the review does not continue.

If all Non-Negotiable Criteria are met, then continue to **Section II: Additional Criteria of Superior Quality**.

- Review the **required** Indicators of Superior Quality for each criterion.
- If there is a "Yes" for all **required** Indicators of Superior Quality, then the materials receive a "Yes" for the additional criteria.
- If there is a "No" for any **required** Indicator of Superior Quality, then the materials receive a "No" for the additional criteria.

Tier 1 ratings receive a "Yes" for all Non-Negotiable Criteria and a "Yes" for each of the Additional Criteria of Superior Quality.

Tier 2 ratings receive a "Yes" for all Non-Negotiable Criteria, but at least one "No" for the Additional Criteria of Superior Quality.

Tier 3 ratings receive a "No" for at least one of the Non-Negotiable Criteria.

[1] **Required Indicators of Superior Quality** are labeled "**Required**" and shaded light orange. Remaining indicators that are shaded white are included to provide additional information to aid in material selection and do not affect tiered rating.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
SECTION I: NON-NEGOTIABLE CRITERIA OF SUPERIOR QUALITY Materials must meet Non-Negotiable Criteria 1 and 2 for the review to continue to Non-Negotiable Criteria 3 and 4. Materials must meet all of the Non-Negotiable Criteria 1-4 in order for the review to continue to Section II.			
Non-Negotiable **1. THREE-DIMENSIONAL LEARNING:** Students have multiple opportunities throughout each unit to develop an understanding and demonstrate application of the three dimensions. ☐ Yes ☐ No	**Required** **1a)** Materials support students in developing scientific content knowledge and scientific skills through **interacting with the three dimensions** of the science standards. The majority of the materials **engage students** in integrating the science and engineering practices (SEP), crosscutting concepts (CCC), and disciplinary core ideas (DCI) to support deeper learning.		
Non-Negotiable **2. PHENOMENON-BASED INSTRUCTION:** Explaining phenomenon and designing solutions drive student learning. ☐ Yes ☐ No	**Required** **2a) Observing and explaining phenomena** and designing solutions provide the purpose and opportunity for students to engage in a coherent sequence of learning a majority of the time. Phenomena provide students with authentic opportunities to ask questions and define problems, as well as purpose to incrementally build understanding through the lessons that follow.		
	Required **2b)** Materials provide sufficient opportunities for students to **design and engage in investigations at a level appropriate to their grade band** to explain phenomena. This includes testing theories or models, generating data, and		

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	using reasoning and scientific ideas to provide evidence to support claims.		
	2c) Materials provide frequent opportunities for students to **make meaningful connections** to their own knowledge and experiences as well as those of their community during sense-making about the phenomena.		
Non-Negotiable **3. ALIGNMENT AND ACCURACY:** Materials adequately address the Louisiana Student Standards for Science. ☐ Yes ☐ No	**Required** **3a)** The materials incorporate the majority of the Louisiana Student Standards for Science to the **full depth of the standards**.		
	Required **3b)** The total amount of content is **viable** for a school year.		
	Required **3c)** Science content is **accurate**, reflecting the most current and widely accepted explanations.		
	Required **3d)** In any one grade or course, instructional materials spend **minimal time on content outside** of the course, grade, or grade-band.		
Non-Negotiable **4. DISCIPLINARY LITERACY:** Materials have students engage with authentic sources and incorporate speaking, reading, and	**Required** **4a)** Students regularly engage with **authentic, grade-appropriate sources** that represent the language and style that is used and produced by scientists (e.g., journal excerpts, authentic data, photographs, sections of lab reports, and media releases of current science research). Frequency of engagement with authentic		

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
writing to develop scientific literacy. ☐ Yes ☐ No	sources should increase in higher grade levels and courses.		
	Required **4b)** Students regularly engage in **grade-appropriate speaking and writing** about scientific phenomena and engineering solutions using authentic science sources (e.g., authentic data, models, lab investigations, or journal excerpts). Materials address the necessity of using **scientific evidence** to support scientific ideas.		
	Required **4c)** Materials provide **variability in the tasks** that students execute. For example, students produce solutions to problems, models of phenomena, explanations of theory development, and conclusions from investigations.		
	Required **4d)** Materials provide a coherent sequence of learning experiences that contextually **build scientific vocabulary** and knowledge over the course of study. Students build conceptual knowledge of science vocabulary **in preparation for formal introduction** to terminology.		
SECTION II: ADDITIONAL CRITERIA OF SUPERIOR QUALITY			
5. LEARNING PROGRESSIONS: The materials adequately	**Required** **5a)** The overall organization of the materials and the development of disciplinary core ideas, science and engineering practices, and		

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
address Appendix A: Learning Progressions. They are coherent and provide natural connections to other performance expectations, including science and engineering practices, crosscutting concepts, and disciplinary core ideas; the content complements the Louisiana Student Standards for Math. ☐ Yes ☐ No	crosscutting concepts are **coherent within and across** units. The **progression of learning** is coordinated over time, clear, and organized to develop student understanding and support mastery of the Louisiana Student Standards for Science.		
	5b) Students **apply grade-appropriate mathematical** thinking in meaningful ways, when applicable. The materials do not introduce math skills that are beyond or far below the applicable grade level expectations in the Louisiana Student Standards for Mathematics. Preferably, math connections are made explicit through clear references to the math standards, specifically in teacher materials.		
6. SCAFFOLDING AND SUPPORT: Materials provide teachers with guidance to build their own knowledge and to give all students extensive opportunities and support to explore key concepts using multiple, varied experiences to build scientific thinking. ☐ Yes ☐ No	**Required** **6a)** Materials include the following separate **teacher support** materials: scientific background knowledge, support in three-dimensional learning, learning progressions, strategies for addressing diverse emerging conceptions, guidance targeting speaking and writing in the science classroom (i.e., conversation guides, rubrics, exemplar student responses). Support also includes teacher guidance in the materials' **approach to phenomenon-based instruction** and provides explicit guidance on how the materials **address, build, and integrate the three dimensions**.		
	Required **6b)** Teacher resources include **educational**		

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
	resources that are designed to **promote teacher learning** and support the wide range of teachers who use the materials. Unit and lesson **planning resources** include explicit guidance designed to ensure that students experience phenomena, design solutions, and apply scientific knowledge and skills in ways that are aligned to the Louisiana Student Standards for Science and associated learning progressions.		
	Required **6c)** Materials provide **support for diverse learners**, including English Learners and students with disabilities. Appropriate suggestions and materials are provided for **supporting varying student needs** at the unit and lesson level using an accelerating learning approach[2]. The language in which questions and problems are posed is not an obstacle to understanding the content, and if it is, additional supports are included (e.g., alternative teacher approaches, pacing and instructional delivery options, strategies or suggestions for supporting access to text and/or content, suggestions for modifications, suggestions for vocabulary acquisition, extension activities, etc.). Materials include **teacher guidance to help support special populations** and provide opportunities for these students to meet the expectations of the		

[2] **Accelerating Learning** is the prioritization of equitable access to high-quality, grade level instruction for ALL students as the center of the design and implementation of educational supports and services. Accelerating learning is both a mindset and an approach to teaching and learning, not a service, place or time. This approach leverages acceleration, a cyclical instructional process that connects unfinished learning in the context of new grade-level learning utilizing high-quality materials to provide timely, individualized supports throughout a variety of flexible instructional settings and groupings.

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	standards and enable regular progress monitoring.		
7. USABILITY: Materials are easily accessible, promote safety in the science classroom, and are viable for implementation given the length of a school year. ☐ Yes ☐ No	**Required** **7a)** All **materials for effective implementation** and student engagement are **readily accessible** through vendor packaging or certified partners.		
	Required **7b)** Materials help students build an understanding of **standard operating procedures** in a science laboratory and include **safety guidelines, procedures, and equipment**. Science classroom and laboratory safety guidelines are embedded in the curriculum.		
8. ASSESSMENT: Materials offer assessment opportunities that genuinely measure progress and elicit direct, observable evidence of the degree to which students can independently demonstrate the assessed standards. ☐ Yes ☐ No	**Required** **8a)** Materials include **multiple types of curriculum-embedded formative and summative assessments** (iterative student models, student-centered discussions, data analysis, self-reflection and peer feedback investigations, and projects) that allow teachers to **evaluate student progress** toward mastery of the Louisiana Student Standards for Science.		
	Required **8b)** Assessment items and tasks **integrate the three dimensions** and include opportunities to engage students in applying understanding to new contexts.		
	8c) Scoring guidelines and rubrics align with the three dimensions of the Louisiana Student Standards for Science. Scoring criteria should		

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
	be at the appropriate depth for the grade band and incorporate look-fors that are specific, observable, and measurable.		

FINAL EVALUATION
Tier 1 ratings receive a "Yes" for all Non-Negotiable Criteria and a "Yes" for each of the Additional Criteria of Superior Quality.
Tier 2 ratings receive a "Yes" for all Non-Negotiable Criteria, but at least one "No" for the Additional Criteria of Superior Quality.
Tier 3 ratings receive a "No" for at least one of the Non-Negotiable Criteria.

Compile the results for Sections I and II to make a final decision for the material under review.

Section	Criteria	Yes/No	Final Justification/Comments
I: Non-Negotiable Criteria of Superior Quality[3]	1. Three-Dimensional Learning		
	2. Phenomenon-Based Instruction		
	3. Alignment and Accuracy		
	4. Disciplinary Literacy		
II: Additional Criteria of Superior Quality[4]	5. Learning Progressions		
	6. Scaffolding and Support		
	7. Usability		
	8. Assessment		

[3] Must score a "Yes" for all Non-Negotiable Criteria to receive a Tier 1 or Tier 2 rating.
[4] Must score a "Yes" for all Additional Criteria of Superior Quality to receive a Tier 1 rating.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
FINAL DECISION FOR THIS MATERIAL: **[Tier 1, Exemplifies quality; Tier 2, Approaching quality; Tier 3, Not representing quality]**			