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: **HMH Into Science**

Grade/Course: **6**

Publisher: **HMH Education Company**

Copyright: **2022**

Overall Rating: **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)

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 are designed so that students develop 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.	**No**	The instructional materials are not designed so that students develop scientific content knowledge and scientific skills through interacting with the three dimensions of the science standards. The majority of the materials do not engage students in integrating the science and engineering practices (SEP), crosscutting concepts (CCC), and disciplinary core ideas (DCI) to support deeper learning. The materials often present content and define science terms before students engage in SEPs. The structure of the lessons provides information, which is then followed by investigations that confirm or demonstrate the content first presented. For example, in the Physical Science Discipline, Unit 8, Waves and Information Transfer, Lesson 1, Introduction to Waves, students read about waves, energy transfer, wave pulses, longitudinal waves, and transverse waves before engaging in the Hands-On Lab, Model Two Types of Waves. The materials also define these terms as students encounter the words in the context before students engage in the lab. In the Life Science Discipline, Unit 1, Cells and Organization in Organisms, Lesson 1, Cell Structure and Function, students observe a picture that shows the cells of an onion and the cells of a frog. Then, in Exploration 1, students

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			read the section, Living Things Are Made of Cells. The materials explain cell theory and that all living things are made of cells. Students then engage in a lab and observe cells with a microscope to confirm what they read in Exploration 1, that living things are made of cells and nonliving things are not made of cells. Students do not have the opportunity to build their understanding of the DCIs through engagement with the SEPs or CCCs. In the Earth and Space Sciences Discipline, Unit 9, The Solar System and Universe, Lesson 2, Gravity and the Universe, students observe planets moving in orbits around the sun. In Exploration 1, students read about velocity, acceleration, Newton's Laws of Motion, projectiles, and gravity. Then students engage in a Hands-On Lab, Explore the Motion of a Falling Object, which states, "You will explore how the velocity of a marble rolling on a table affects the path after it rolls off the table and becomes a projectile." Again, the lab confirms the information students read before engaging in the investigation, removing opportunities for students to use SEPs or CCCs to learn about DCIs.
Non-Negotiable **2. PHENOMENON-BASED INSTRUCTION:** Explaining phenomenon and designing solutions	**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	**No**	Observing and explaining phenomena and designing solutions do not provide the purpose and opportunity for students to engage in learning a majority of the time. Phenomena in the form of common experiences at the beginning of each unit do not provide students with authentic opportunities to ask questions

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
drive student learning. ☐ Yes ☒ No	define problems, as well as purpose to incrementally build understanding through the lessons that follow.		and define problems to motivate learning about the core ideas of the unit. Each unit includes an anchor or unit phenomenon, and each lesson within the unit includes a separate, investigative phenomenon. The materials provide minimal teacher guidance on how to support students in making connections from one lesson to the next and back to the unit phenomenon. Although students have the opportunity to ask questions, these questions do not drive the learning and do not provide a purpose for students to engage in the lessons that follow. Student questioning does not connect lesson to lesson, as each lesson begins with a new phenomenon with a predetermined Driving Question. During the Unit Opener, the materials first describe what the students will do in the unit, state the unit phenomenon, and list questions or tasks the students will complete in each lesson, negating the purpose of students asking questions and using the phenomenon to drive their learning. For example, in the Physical Science Discipline, Unit 7, Electric and Magnetic Forces, the Unit Opener presents the anchor phenomenon: “A lightning strike can cause an object to become magnetic.” Following the Unit Opener, Lesson 1 introduces students to a new phenomenon: “Colorful rings remain suspended in midair on a peg.” Students work together to create questions about the peg with rings suspended in midair; however, the lesson then presents the Driving Question: “What causes the rings to be

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			suspended in midair?" At the end of the lesson, students complete a Reflect and Summarize activity in which they answer questions about the Explorations of the lesson, followed by a Connect Your Learning section, which states, "Think back to the unit phenomenon that lightning can cause an object to become magnetic. How can an object change to become magnetic?" The materials provide minimal teacher guidance to support students in making connections between the lesson's investigative phenomenon to the unit phenomenon. As students move onto the next lesson, the materials present another new investigative phenomenon, "A water drop on the International Space Station moves around a charged knitting needle," along with the Driving Question, "What causes the water drop to spiral around and eventually touch the charged needle?" The next two lessons include the same structure: a new phenomenon followed by a Driving Question for each lesson. At the end of Lesson 4, the last lesson of the unit, the only connection made back to the Unit Phenomenon is the Connect Your Learning question in the Reflect and Summarize section. In the Physical Science Discipline, Unit 6, Forces and Motion, Lesson 1, Introduction to Forces, the Unit Opener presents the phenomenon of a skydiver landing on the ground from an airplane. Then in Lesson 2, Newton's Law of Motion, the lesson begins with a new phenomenon: "Marble A rolls into marbles B and C. The collision causes marble A

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			to stop moving and marble C to begin moving. Marble B does not move." The materials do not provide guidance to connect the lesson phenomenon to the skydiver to help extend student understanding of the concepts from Lesson 1. Likewise, the materials provide minimal guidance for the teacher and students to connect the phenomenon in Lesson 3, "a dropped smartphone may sustain internal and external damage," back to the unit phenomenon.
	Required **2b)** Materials are designed to 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 using reasoning and scientific ideas to provide evidence to support claims.	**No**	As evidenced in Indicator 2a, observing and explaining phenomena and designing solutions do not provide the purpose and opportunity for students to engage in learning a majority of the time; therefore, students do not have sufficient opportunities for students to design and engage in investigations at a level appropriate to their grade band to explain phenomena.
	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.	**No**	As evidenced in Indicator 2a, observing and explaining phenomena and designing solutions do not provide the purpose and opportunity for students to engage in learning a majority of the time; therefore, students do not have sufficient opportunities for students to design and engage in investigations at a level appropriate to their grade band to explain phenomena.
Non-Negotiable **3. ALIGNMENT AND**	**Required** **3a)** The majority of the Louisiana Student Standards for Science are incorporated, to	**Not Evaluated**	This section was not evaluated because the Non-Negotiable Criteria were not met.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
ACCURACY: Materials adequately address the Louisiana Student Standards for Science. ☐ Yes ☐ No	the **full depth of the standards**.		
	Required 3b) The total amount of content is **viable** for a school year.	**Not Evaluated**	This section was not evaluated because the Non-Negotiable Criteria were not met.
	Required **3c)** Science content is **accurate**, reflecting the most current and widely accepted explanations.	**Not Evaluated**	This section was not evaluated because the Non-Negotiable Criteria were not met.
	3d) In any one grade or course, instructional materials spend **minimal time on content outside** of the course, grade, or grade-band.	**Not Evaluated**	This section was not evaluated because the Non-Negotiable Criteria were not met.
Non-Negotiable **4. DISCIPLINARY LITERACY:** Materials have students engage with authentic sources and incorporate speaking, reading, and writing to develop scientific literacy. ☐ Yes ☐ No	**Required *Indicator for grades 4-12 only** **4a)** Students regularly engage with **authentic 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 sources should increase in higher grade levels and courses.	**Not Evaluated**	This section was not evaluated because the Non-Negotiable Criteria were not met.
	Required **4b)** Students regularly engage in **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	**Not Evaluated**	This section was not evaluated because the Non-Negotiable Criteria were not met.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
	ideas.		
	Required **4c)** There is **variability** in the tasks that students are required to execute. For example, students are asked to produce solutions to problems, models of phenomena, explanations of theory development, and conclusions from investigations.	**Not Evaluated**	This section was not evaluated because the Non-Negotiable Criteria were not met.
	Required **4d)** Materials provide a coherent sequence of learning experiences that **build scientific vocabulary** and knowledge over the course of study. Vocabulary is addressed as needed in the materials but not taught in isolation of deeper scientific learning.	**Not Evaluated**	This section was not evaluated because the Non-Negotiable Criteria were not met.
SECTION II: ADDITIONAL CRITERIA OF SUPERIOR QUALITY			
5. LEARNING PROGRESSIONS: The materials adequately 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	**Required** **5a)** The overall organization of the materials and the development of disciplinary core ideas, science and engineering practices, and crosscutting concepts are **coherent within and across** units. The **progression of learning** is coordinated over time, clear, and organized to prevent student misunderstanding and supports student mastery of the performance expectations.	**Not Evaluated**	This section was not evaluated because the Non-Negotiable Criteria were not met.
	5b) Students **apply grade-appropriate mathematical** thinking in meaningful ways, when applicable. They are not introduced to	**Not Evaluated**	This section was not evaluated because the Non-Negotiable Criteria were not met.

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content complements the Louisiana Student Standards for Math. ☐ Yes ☐ No	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)** There are separate **teacher support materials** including: 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**.	**Not Evaluated**	This section was not evaluated because the Non-Negotiable Criteria were not met.
	Required **6b)** Teacher resources include **educative 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.	**Not Evaluated**	This section was not evaluated because the Non-Negotiable Criteria were not met.

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	Required **6c)** Support for **diverse learners**, including English Learners and students with disabilities, are provided. Appropriate suggestions and materials are provided for **supporting varying student needs** at the unit and lesson level using an accelerating learning approach. 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 the opportunities for these students to meet the expectations of the standards and enable regular progress monitoring.	**Not Evaluated**	This section was not evaluated because the Non-Negotiable Criteria were not met.
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)** Text sets (when applicable), laboratory, and other scientific materials are **readily accessible** through vendor packaging or certified partners.	**Not Evaluated**	This section was not evaluated because the Non-Negotiable Criteria were not met.
	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	**Not Evaluated**	This section was not evaluated because the Non-Negotiable Criteria were not met.

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	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) Multiple types of formative and summative assessments** (iterative student models, student-centered discussions, data analysis, self-reflection and peer feedback investigations, and projects) are embedded into unit materials and allow teachers to evaluate student progress toward demonstrating standards.	**Not Evaluated**	This section was not evaluated because the Non-Negotiable Criteria were not met.
	Required **8b)** Assessment items and tasks are structured on integration of the **three dimensions** and include opportunities to engage students in applying understanding to new contexts.	**Not Evaluated**	This section was not evaluated because the Non-Negotiable Criteria were not met.
	8c) Scoring guidelines and rubrics **align to performance expectations**, and incorporate criteria that are specific, observable, and measurable.	**Not Evaluated**	This section was not evaluated because the Non-Negotiable Criteria were not met.

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

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
I: Non-Negotiable Criteria of Superior Quality[2]	1. Three-dimensional Learning	**No**	The instructional materials are not designed so that students develop scientific content knowledge and scientific skills through interacting with the three dimensions of the science standards. The majority of the materials do not engage students in integrating the science and engineering practices (SEP), crosscutting concepts (CCC), and disciplinary core ideas (DCI) to support deeper learning.
	2. Phenomenon-Based Instruction	**No**	Observing and explaining phenomena and designing solutions do not provide the purpose and opportunity for students to engage in learning a majority of the time. The materials do not provide sufficient opportunities for students to design and engage in investigations at a level appropriate to their grade band to explain phenomena. Materials do not 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.
	3. Alignment and Accuracy	**Not Evaluated**	This section was not evaluated because the Non-Negotiable Criteria were not met.
	4. Disciplinary Literacy	**Not Evaluated**	This section was not evaluated because the Non-Negotiable Criteria were not met.
II: Additional Criteria of	5. Learning Progressions	**Not Evaluated**	This section was not evaluated because the Non-Negotiable Criteria were not met.

[2] Must score a "Yes" for all Non-Negotiable Criteria to receive a Tier 1 or Tier 2 rating.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
Superior Quality[3]	6. Scaffolding and Support	**Not Evaluated**	This section was not evaluated because the Non-Negotiable Criteria were not met.
	7. Usability	**Not Evaluated**	This section was not evaluated because the Non-Negotiable Criteria were not met.
	8. Assessment	**Not Evaluated**	This section was not evaluated because the Non-Negotiable Criteria were not met.
FINAL DECISION FOR THIS MATERIAL: **Tier 3, Not representing quality**			

[3] Must score a "Yes" for all Additional Criteria of Superior Quality to receive a Tier 1 rating.

Reviewer Information

Instructional Materials Review

Instructional materials are one of the most important tools educators use in the classroom to enhance student learning. It is critical that they fully align to state standards — what students are expected to learn and be able to do at the end of each grade level or course — and are high quality if they are to provide meaningful instructional support.

The Louisiana Department of Education is committed to ensuring that every student has access to high-quality instructional materials. In Louisiana, all districts are able to purchase instructional materials that are best for their local communities since those closest to students are best positioned to decide which instructional materials are appropriate for their district and classrooms. To support local school districts in making their own local, high-quality decisions, the Louisiana Department of Education leads online reviews of instructional materials.

Instructional materials are reviewed by a committee of Louisiana educators. Teacher Leader Advisors (TLAs) are a group of exceptional educators from across Louisiana who play an influential role in raising expectations for students and supporting the success of teachers. Teacher Leader Advisors use their robust knowledge of teaching and learning to review instructional materials.

The 2024-2025 Teacher Leader Advisors are selected from across the state and represent the following parishes and school systems: Acadia, Ascension, Avoyelles, Bienville, Bossier, Caddo, Calcasieu, CSAL, East Feliciana, East Baton Rouge, Hynes Charter School Corporation, Iberia, Iberville, Jefferson, Lafayette, Lincoln, Livingston, LSU Laboratory School, Natchitoches, Ouachita, Plaquemines, Richland, St. Charles, St. Landry, St. Mary, St. Tammany, Tangipahoa, Terrebonne, University View Academy, West Baton Rouge, and Zachary Community Schools. This review represents the work of current Louisiana educators with experience in grades 6-12.

Appendix I.

Publisher Response

The publisher had no response.

Appendix II.

Public Comments

There were no public comments submitted.