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: **IQWST**

Grade/Course: **7**

Publisher: **Activate Learning**

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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.	**Yes**	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. Throughout the materials, students consistently engage in investigations as they develop scientific principles. The teacher and students use a Driving Question Board throughout each unit, allowing them to ask questions as they work toward making sense of the science content. For example, in the Earth Science 2 v3 unit, What Makes the Weather Change? Lesson 1, Activity 1.1, students engage in Analyzing and Interpreting Data (SEP) as they examine weather data from cities around the world. Students compare conditions and events to develop a list of weather conditions to investigate. Students consider how Patterns (CCC) in the weather data can help meteorologists predict the weather for certain locations (DCI, ESS2D.a). In Activity 1.2, students ask questions (SEP, Asking Questions and Defining Problems) to determine why weather varies and what causes weather changes, and consider

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
			weather in the context of Energy and Matter (CCC). In Lesson 2, Activity 1.1, students use their understanding of energy and matter to construct a model (SEP, Developing and Using Models) that shows how air above the Earth is heated (DCI, ESS2C.b). The guidance instructs students to use arrows to show the energy transfer, including the energy source, what is being heated, and what processes are taking place. In the Intro to Chemistry 1 v3 unit, How Can I Smell Things From a Distance? Lesson 2, Activity 2.1, students use a scale to measure the mass of a deflated and an inflated ball to help determine whether air has mass. Students engage in Analyzing and Interpreting Data (SEP) as they identify the relationship between the amount of a substance and its measured mass. Then, in Activity 2.2 and 2.3, students consider Scale, Proportions, and Quantity (CCC) as they measure the volume of different substances and objects to work towards describing how air occupies space. Then, in Lesson 3, Activity 3.1, to further understand matter, students investigate (SEP, Planning and Carrying Out Investigations) what happens to menthol as it heats and cools (CCC, Cause and Effect). After discussing the investigation, students determine that changes of state occur when variations in temperature and pressure exist (DCI, PS1A.c, PS3A.d). In the Life Science 2 v3 unit, What Is Going On Inside Me? Lesson 5, Activity 5.2, students investigate (SEP, Planning and Engaging in Investigations) a wet-mount slide of onion skin by observing it

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			under a microscope to understand and explain osmosis. Students then draw a model (SEP, Developing and Using Models) of substances moving across the cell membrane. In Activity 5.3, students design an investigation (SEP, Planning and Carrying out Investigations) to determine if sugar and starch molecules can move across a membrane and in which direction they move. Students then add to the models they created at the beginning of the lesson. During the investigation, students engage in Analyzing and Interpreting (SEP) the collected data. This activity demonstrates how the structure of the cell membrane regulates the function of water movement (CCC, Structure and Function) to explain the cell's role in maintaining homeostasis (DCI, LS1A.c).
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.	**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 provide students with authentic opportunities to ask questions, but this does not provide the purpose for students to engage in the investigations and lessons that follow. The phenomenon is rarely referenced or connected throughout the unit. Although the materials incorporate the use of the Driving Question Board as the launch into each subsequent lesson, the materials rarely make connections back to the anchoring phenomenon, missing the opportunity for

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			students to make sense of the phenomenon. For example, in the Life Science 2 v3 unit, What Is Going On Inside Me? students begin by observing cheek and skin cells under the microscope and use this information to think more deeply about the role of cells in the body, which serves as the anchoring phenomenon. The anchoring phenomenon is referenced in Lesson 5 as students compare the animal cells that they observed in Lesson 1 to the onion cells that they observe at the beginning of that lesson. Despite several other opportunities for connections to the phenomenon, the materials present very few references to their original observations or ideas. In the Intro to Chemistry 1 v3 unit, How Can I Smell Things From a Distance? students smell various odors released by the teacher and create models of what they think the gas molecules look like as they move through the air. This phenomenon of smelling odors in the air provides the basis for Lessons 1 and 2; however, it is not directly referenced in the remaining 14 lessons. In the Earth Science 2 v3 unit, What Makes the Weather Change? Lesson 6, teachers and students refer to the Driving Question board to share questions that will bridge to the next activity or to think about the question, “Can our storm model explain how this storm happened?" rather than referring back or making connections to the anchor phenomenon of weather data from two different cities and analyzing what they have learned to understand those weather patterns.

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			Students miss the opportunity to develop an understanding of how what they learned in the lesson connects to or helps explain the anchor phenomenon. In the Intro to Chemistry 3 v3 unit, How Does Food Provide My Body with Energy? Lesson 9, teachers revisit the Driving Question Board to see if any more student questions can be answered and also add graphic organizers and definitions for words earned to the board. The teacher materials provide minimal guidance for supporting students in connecting back to the anchoring phenomenon to relate what they learned in the lesson to how cellular respiration helps food provide their bodies with energy.
	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 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 make meaningful connections to their own knowledge and experiences as well as those of their community during sense-making about the phenomena.

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Non-Negotiable **3. ALIGNMENT AND ACCURACY:** Materials adequately address the Louisiana Student Standards for Science. ☐ Yes ☐ No	**Required** **3a)** The majority of the Louisiana Student Standards for Science are incorporated, to the **full depth of the standards**.	**Not Evaluated**	This section was not evaluated because the Non-Negotiable Criteria were not met.
	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.	**Not Evaluated**	This section was not evaluated because the Non-Negotiable Criteria were not met.

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	Materials address the necessity of using **scientific evidence** to support scientific 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	**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,	**Not Evaluated**	This section was not evaluated because the Non-Negotiable Criteria were not met.

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disciplinary core ideas; the content complements the Louisiana Student Standards for Math. ☐ Yes ☐ No	when applicable. They are not introduced to 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	**Not Evaluated**	This section was not evaluated because the Non-Negotiable Criteria were not met.

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	learning progressions.		
	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.	**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	**Not Evaluated**	This section was not evaluated because the Non-Negotiable Criteria were not met.

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☐ Yes ☐ No	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) 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.

CRITERIA	INDICATORS OF SUPERIOR QUALITY	MEETS METRICS (YES/NO)	JUSTIFICATION/COMMENTS WITH EXAMPLES
Section	**Criteria**	**Yes/No**	**Final Justification/Comments**
I: Non-Negotiable Criteria of Superior Quality[2]	1. Three-dimensional Learning	**Yes**	Materials are designed so that students develop scientific content knowledge and scientific skills through interacting with the three dimensions of the science standards. 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.
	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.
	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 Superior Quality[3]	5. Learning Progressions	**Not Evaluated**	This section was not evaluated because the Non-Negotiable Criteria were not met.
	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.

[2] Must score a "Yes" for all Non-Negotiable Criteria to receive a Tier 1 or Tier 2 rating.
[3] 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 3, Not representing quality**			

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 6-8.