Washoe County School District K-5 Science
2020 Instructional Materials Evaluation Rubric
(Certified Teaching Professional Form)

Category 1: Designed for Three-Dimensional Learning

Criterion 1A: Phenomena and Problems

Instructional materials focus on students making sense of phenomena or designing solutions to problems which drives student learning.

- Students are engaged with phenomena or problems that can be explained or solved through the application of the three-dimensions.
- A good phenomenon builds on everyday student experiences and targets grade appropriate learning goals.
- Anchoring, investigative and everyday phenomena may be present.
- Engineering lessons require students to use elements of the science core ideas together with elements of core ideas from engineering design to solve problems.

Less of this:	**More** of this:
Phenomena are just for the initial hook.	Phenomena drives the learning.
Phenomena are fun or flashy to engage students.	Phenomena that builds on everyday experiences supports engagement.
Phenomena are brought in after students develop the science ideas so they can apply what they learned.	The development of science ideas is anchored in investigations of phenomena.
Engineering problems are unrelated to the science learning.	Engineering involves designing solutions to problems that arise from phenomena.

Examples of Evidence:

- ◊ Photographs of trash washed up on a beach that leads into a unit on waves in 4th grade physical science unit. (A first-hand experience, video, photograph or data set to start a learning sequence that becomes the "why" for further study grounded in everyday student experiences.)
- ◊ A time lapse video of a badger decomposing is shown to start a life science unit on matter and energy in ecosystems. Students return to the video throughout to explain what is happening.
- ◊ Garbage from the lunchroom is examined to start a unit on matter and how it changes in the 5th grade physical science unit.
- ◊ 3rd grade students explore balloons, aluminum cans, styrofoam beads, and transparent tape to make observations and generate questions about static electricity in the physical science unit, lesson 3.
- ◊ Students address the problem of communicating at a distance without sound following a study of light in the 1st grade physical science unit.

Specific Evidence from Materials
-In the Motion and Matter unit, the driving question is what causes objects to move? Students first explore two phenomena that can affect the motion of masses—gravity and magnetism. Through experimentation, students determine that magnets are surrounded by a force field that can pull objects at a distance.

-In Investigation 1 for the Motion and Matter unit, the driving question is "How can some objects push and pull one another without touching?" The focus questions for each part of the investigation are "What happens when magnets interact with other magnets and with paper clips?" "How is the magnetic field affected when more magnets are added?" and "What causes change of motion?"
-Anchoring Phenomenon storylines are included at the beginning of the PDF Based Investigations guide, but not referred back to during the investigations. For the Motion and Matter Unit, Investigation 1, teachers can present a phenomenon about hanging different types of objects on a refrigerator with a magnet.
-In Investigation 3 for the Motion and Matter unit, an engineering design challenge is completed. They first design a cart that can roll “from here to there,” and then improve their designs to meet a specific distance challenge. Students continue with an investigation involving the phenomenon of gravity and explore how start position on a ramp affects the distance the cart travels. The final challenge incorporates students’ knowledge of magnetism into their cart design to meet new challenges. This investigation develops understanding of engineering design concepts and provides opportunities for students to engage in engineering practices.

To what extent do the materials support Criterion 1A? Include your reasoning.
This criterion is well met by the instructional materials because students are exploring phenomenon through the driving and focus questions. Students learn the science concepts, (example, magnetism) by exploring hands on to answer the focus question. A storyline/context is included for an anchoring phenomenon for each investigation, but is not referred back to in the investigations. The concepts and questions drive the learning, not necessarily the storylines presented as the anchoring phenomenon. The engineering design lessons incorporate the science they are exploring in the unit such as using their understanding of gravity and patterns to create a rolling cart.

Criterion 1B: Integrating the Three-Dimensions

Instructional materials integrate elements of the Science and Engineering Practices, Crosscutting Concepts and Disciplinary Core Ideas.

- Students develop and use multiple grade-appropriate elements of each dimension.
- The dimensions are integrated to work together and are not taught in isolation.
- Learning experiences integrate multiple different pairings of the dimensions to build understanding of the targeted performance expectations.
- Engineering is integrated with at least once per domain of science.

Less of this:	**More** of this:
Students only engage in a single practice element in a lesson.	The lesson helps students use and develop multiple practice elements.
Lessons teach the dimensions separately or only address them at the general level.	Lessons integrate grade-appropriate elements for each dimension.
Engineering lessons focus on trial and error activities that don't require science or engineering knowledge.	Grade-appropriate elements of engineering design and science core ideas are integrated with the other dimensions.
Engineering consists of challenges or step-by-step directions to build something.	Engineering is integrated into the grade-appropriate science core ideas and use explanations of phenomena to design solutions.

Examples of Evidence:

- ◊ 4th grade students conduct an investigation using fair tests in which variables are controlled and the number of trials considered, including collecting measurements and representing data in tables, with balls and ramps to determine cause and effect relationships of speed and energy in unit 2 lesson 4.
- ◊ Students ask questions about waves moving objects and collaboratively investigate how to make different looking waves in water and analyze how these waves affect a floating object in the physical science unit.
- ◊ 3rd grade students generate, test and refine solutions to keep two moving objects from touching each other by applying ideas learned about magnets in lesson 9.
- ◊ With teacher guidance, kindergarten students conduct an investigation with peers to compare the effects of different directions of pushes and pulls on playground balls, student chairs and erasers on different surfaces in the physical science unit, lesson 3.

Specific Evidence from Materials
-In the Motion and Matter Unit, students explore the scientific concept of magnetism and gravity in Investigation 1 by asking questions and building models with magnets and paperclips. They explore patterns that occur with magnets and cause and effect with magnetism, gravity and objects. -In the Motion and Matter Unit, students investigate the phenomenon of moving systems by completing activities with rolling objects and paper "twirly birds." They use the patterns that they observe in the systems to explain and predict future motion. -In the Motion and Matter unit, Investigation 3, Engineering students complete an engineering design challenge in which they design and create a rolling cart.

-In the Structures of Life unit, Investigation 1, Part 4 "Seed Dispersal," students use the engineering design process to create models of seeds and how they disperse.
-In the Water and Climate unit, Investigation 5, Part 3 "Waterwheels," students complete an engineering design challenge to create a waterwheel that can move an object a specific distance.

To what extent do the materials support Criterion 1B? Include your reasoning.
This criterion is very well met by the instructional materials. The 3Ds are very well integrated in the lessons as students are learning the concepts like magnetism and gravity through a variety of practices such as asking questions and explaining concepts while examining crosscutting concepts such as patterns and systems. Engineering is integrated into each unit including an entire investigation in the Motion and Matter unit that involves multiple engineering challenges. The other units, Structures of Life and Water and Climate also have engineering design challenges incorporated into parts of the investigations.

Criterion 1C: Coherence

Instructional materials help students develop increasingly sophisticated understandings within and across grade-levels.

- Lessons fit together to target a set of performance expectations with multiple opportunities for students to revise understandings over time.
- Instructional materials make connections between lessons, units and grade levels.
- Lessons build on students' prior learning in all three dimensions.
- Students engage in learning experiences with explicit connections to other science disciplines and other subjects with intention.

Less of this:	**More** of this:
Lessons are unrelated.	Lessons are presented in a logical sequence to develop understandings.
Lessons build on prior learning but only for the DCIs.	Lessons work together with students' foundational knowledge and practice from prior lessons and grade levels.
Science domains are taught in isolation.	When appropriate, science domains are integrated to show connections.
Other subjects, when included, are not intentionally chosen to support grade-level standards.	Grade-level appropriate standards from ELA, math or other subject areas are integrated with science learning.

Examples of Evidence:

- ◊ In the first unit, students address the physical science standards around the phenomena of garbage and partially address a life science standard related to decomposers. In the second unit on ecosystems, students extend and apply their understanding of decomposers which leads to an engineering problem about materials such as plastics that do not decompose.
- ◊ 5th grade students are investigating water sources around the Earth and make connections to properties of matter in both the physical science and earth science units and prior learning about weather and climate from 3rd grade.
- ◊ 2nd grade students plan and conduct an investigation with water and earth materials as a whole class in one lesson and then in the next lesson students work with a small group to plan and conduct another investigation with wind and earth materials to further learning of core ideas and practices.
- ◊ Students apply ELA learning to write a set of directions for conducting an investigation in the earth science unit, lesson 6.
- ◊ Students use line plots to analyze climate data in grade 3, unit 4.

Specific Evidence from Materials
-The Kindergarten unit Materials and Motion gives students background information and concepts they will use in the 3rd grade unit Motion and Matter. -In the Motion and Matter unit for grade 3, students learn about the science concepts of force and motion and then use them to apply engineering standards to a design challenge. -In the Water and Climate unit, Investigation 1 and 2 involves students investigating properties of water which gives background information for Investigation 3 and 4 where students investigate weather and climate.

-In the Structures of Life unit, Investigation 2, Part 2 "The Life Cycle of the Bean," students create a bar graph to track the height of plants.
-In the Structure of Life unit, Investigation 2, Part 2 "The Life Cycle of the Bean," students read an article in their text, "Life Cycles" and complete a graphic organizer to demonstrate their understanding of the definitions, characteristics, examples and non-examples of life cycle elements.

To what extent do the materials support Criterion 1C? Include your reasoning.
The instructional materials are very coherent. The units have ties to other grade level concepts so students can use their prior knowledge to learn new content. When applicable, domains are integrated, such as including engineering in the physical science unit. Math content is included in meaningful ways such as collecting data and ELA is present in each unit through articles and responses that include discussion and writing to demonstrate comprehension.

Category 2: Instructional Supports

Criterion 2A: Assessing the Three-Dimensions

Instructional materials support monitoring student progress in all three dimensions.

- Multiple and varied assessments allow students to demonstrate learning in all three dimensions including application of knowledge in performance tasks.
- Formative assessments, including teacher, self and peer assessments, are embedded throughout to inform instruction.
- Assessments are unbiased and elicit direct, observable evidence from all students.
- A phenomena or problem drives tasks, and information from the task is required to complete it.
- Rubrics and scoring guidelines are provided for interpreting student performance including sample student responses

Less of this:	**More** of this:
Checks for understanding elicit only a few student responses or rely primarily on group projects.	Individual student artifacts are used to measure student understanding of each dimension.
Only summative assessments that measure the end point of understanding are provided.	Formative assessments provide feedback to adjust instruction and inform students of their progress.
Assessments are primarily rote memorization of facts and terminology.	Assessments reflect application of all three dimensions including tasks that are driven by phenomena or problems.
Only multiple-choice tests are given.	Multiple measures and types of assessment are used throughout.

Examples of Evidence:

- ◊ As students are engaged in a performance task in unit 3, lesson 2, there are indicators for teachers to look for and information about possible responses. This information is embedded in the lesson.
- ◊ In unit 1, there are two performance assessments, peer feedback throughout, exits slips, a summative assessment, and a prewrite.
- ◊ Individual student learning is assessed using written work that answers the driving question of the unit. (Earth Science, p. 76)

Specific Evidence from Materials
-In the Structures of Life unit, there are multiple formative assessments including 4 notebook entries, 4 response sheets and 4 performance assessments. These are embedded in the lessons to help guide instruction. -For each investigation within a unit, there is an I-Check assessment that can be used as a summative assessment for the investigation content, as well as a formative check for understanding before moving to the next investigation. -For each unit there is a Survey/Post Test to be completed before and after testing. -A Coding Guide is included for each summative assessment that includes specific 3 D criteria. According to the Coding Guide, Item 1 on the post test for the

Structures of Life unit provides evidence that students can analyze and interpret data to construct an explanation that plants and animals have traits inherited from parents and that some variation of these traits exists in a group of similar organisms (patterns).
-The Coding Guide provides sample student responses such as "The root grows first," in the Investigation 1 I-Check for the Structures of Life unit.
-A Portfolio Checklist is included for students to self assess how they have demonstrated the 3Ds.

To what extent do the materials support Criterion 2A? Include your reasoning.
The assessments for these instructional materials are very comprehensive. There are multiple formative assessment opportunities embedded in the lessons including individual students responses, discussions and performance tasks. There are summative assessments for each investigation and each unit. The Coding Guides provide complete information for teachers to assess what students know and gives guidelines for how to proceed based on students performance and responses.

Criterion 2B: Instructional Experiences

Instructional materials support equitable access to science knowledge and practice for all students.

- Students engage with direct (preferably first-hand), shared experiences that are relevant and authentic, serve as the basis for learning and meet the developmental needs of elementary students.
- Students' questions, prior experiences and diverse backgrounds related to the phenomenon or problem drive learning.
- Materials provide an opportunity to learn by allowing for the development of scientific understandings over time using multiple modalities.
- Materials provide opportunities for students to make connections to and explore the natural world outside the classroom.

Less of this:	**More** of this:
The lesson focuses on a topic that some students have experienced.	Direct experiences in the classroom provide access and equity for all students.
Student questions and prior experiences are not connected to the learning.	Materials provide supports for connecting students' own questions to the targeted learning.
Students read about what others have done.	Students learn through concrete experiences.
Only one or two modalities are used.	Multiple modalities are used throughout each instructional segment.

Examples of Evidence:

- ◊ Students develop physical models of a landfill as open and closed systems to observe during the 5th grade garbage unit.
- ◊ Students identify components of garbage disposal in their homes and communities which connects the phenomena that started the unit.
- ◊ Students conduct a first-hand investigation of erosion and deposition using a stream table, observe time-lapse videos of landslides, engage in a virtual investigation, read accounts of earth changes by wind and record changes to the playground after a snow event in the 4th grade earth science unit.
- ◊ Students raise trout from eggs in the classroom and make observations over time as part of their study of traits in the life science unit.

Specific Evidence from Materials
-Students measure weather data using tools such as rain gauges and thermometers to track and observe weather in the Water and Climate Unit. -Students observe the structures of different beans and then grow bean plants in the Structures of Life unit to see a life cycle first hand. -Students investigate patterns of motion using cups, rolling wheel/axle systems, tops, and read the articles "Patterns of Motion" and "What Goes Around."

To what extent do the materials support Criterion 2B? Include your reasoning.
The instructional experiences in this curriculum very well meets the criterion. Students are completing multiple hands on investigations with physical materials, going outside to conduct

observations, reading articles that tie to the concepts and completing first hand discoveries. There is a variety of experiences for students to learn which supports equitable access to the content.

Criterion 2C: Student Sense-making

Instructional materials support equitable access to science knowledge and practice for all students.

- Materials support student sense-making at both an individual and group level.
- Classroom discourse focuses on expressing and clarifying student reasoning with opportunities for students to share ideas and feedback with each other that supports the iterative and collaborative co-construction of explanations.
- Materials include supports for oral and written language processing to involve students in scientific discourse for sense-making including a language-in-use approach.

Less of this:	**More** of this:
The teacher tells students what they need to know.	Students figure out explanations through classroom discourse with each other.
The teacher calls on a few students to share reasoning.	All students have the opportunity to share their thinking orally or in writing.
The focus is only on getting the "right" answer.	Sense-making begins with initial student ideas that progress in sophistication.
Vocabulary is front-loaded. All students are provided with sentence frames.	Specialized vocabulary is embedded in the instructional sequence with multiple opportunities to use and development over time. Writing supports are differentiated.

Examples of Evidence:

- ◊ 5th grade students develop models of how scents travel that are refined over the course of a three weeks using a combination of visual and written language providing multiple opportunities to develop precise vocabulary in the physical science unit.
- ◊ 3rd grade students answer questions in their notebook individually using pictures and words to explain their initial ideas about how static electricity works and have the opportunity to revise this after discussing with a peer and the whole class in the physical science unit.
- ◊ The teacher facilitates a class discussion using a word wall where kindergarten students share observations with a shoulder partner and the whole group about the kinds of things in their homes to figure out that the things we need come from nature.
- ◊ Suggested sentence frames are included to support oral and written responses when needed with the goal of independence.

Specific Evidence from Materials
-In the Motion and Matter unit, students explore magnets and other objects independently, then discuss as a class. Students view a floating paperclip demonstration and suggested sentence frames are provided for the discussion and predictions, "I think the paperclip will _____, because _____.They then create a floating paperclip model with a partner, discuss as a class and independently draw a diagram, labeling the forces involved in the system (magnetism, gravity, push and pull). -In the Structures of Life unit, students sprout 4 different seeds as a group. Each student is in charge of recording drawings and observations of their seed, as well as discuss changes to their seeds as a group. During a sense making discussion,

a cause and effect chart is created as a class and then students individually answer the focus question. A sentence starter is provided to guide their writing, "When we added water to the seeds, the effects are....

To what extent do the materials support Criterion 2C? Include your reasoning.
This criterion is very well met by the instructional materials. Students are given the opportunity to make sense of the content in multiple ways. Within a lesson, students discuss as a group, class, investigate individually or as a group and demonstrate their understanding independently through written or diagrammed responses. Vocabulary is embedded in the discussions and sentence frames are given to help differentiate when needed.

Criterion 2D: Teacher Supports

Instructional materials support teacher planning and instruction.

- Materials include background knowledge in both science content and pedagogy and student preconceptions.
- Materials have clear and concise instructional directions and connections to the standards.
- Materials provide guidance to support differentiated instruction, extra support and extensions at the appropriate level for a broad range of learners.
- Materials include professional learning and additional instructional planning resources.
- Materials have supports for families to extend learning and offers suggestions for how to help their student(s) at home.

Examples of Evidence:

- ◊ Information prior to lessons gives teachers things to except that students may already know in unit 1 p.12 in addition to how their understandings will build.
- ◊ 1st grade students have a choice to investigate different variables related to shadows, and suggestions are included as well as extensions to do at home. (Light unit, p. 40)
- ◊ The assessments include recommendations for additional supports when students don't meet expectations. "Students may struggle to articulate that scientists look back at the data they collect to look for patterns and to draw conclusions about phenomena. One way to support them in this thinking might be to share an anecdote such as, "When I was growing up, my mom used to measure my height by marking it on the wall in the pantry. When I look back at those marks, I notice patterns, like that I grew faster between the ages of 5 and 8 than I did when I was older."" (p.14)
- ◊ Students make observations of the sky with their families, looking for patterns over time. Families are provided with background information on how to record observations and what patterns to expect.

Specific Evidence from Materials
-The materials have pdf based investigation guides, interactive investigation guides and physical teacher manuals. -The guides have background science content information for the teachers such as "A fruit is the structure that develops from the flower of a plant and contains seeds" to prep the teacher for instruction. -In the Structures of Life unit, there are student preconceptions such as, "Most young students define a plant as something that grows in the ground, is green, and has roots and leaves. They do not consider a seed to be a plant. When asked if a seed is a plant or a form of plant, children say, "No, it is a seed. It won't be a plant until it grows." Similarly, they think that a tree is not a plant. When asked if a tree is a plant, they say, "No, not anymore. It was a plant until it got big and became a tree." The young child's concept of plant is not inclusive enough to embrace all the phases in a typical plant life cycle" included in the teacher information. -Suggestions for EL supports are included in lessons when applicable such as in the Structures of Life unit where teachers are suggested to draw a bean pod and label the structures with bold words to connect the vocabulary to the pictures.

-Interdisciplinary Extensions are included within each unit for Literacy, Math, Social Studies, Science, Art and Home/School Connection. In the Structures of Life Unit, Investigation 2, Growing Further, teachers can have students write a book on germination, dissect and compare flower structures or create a seed mosaic to extend their learning within science and across disciplines.
-Home/School Connections are included for each unit including module letters with background information and at home activities such as searching for seeds around their home and comparing their structures to support their learning during the Structures of Life unit.
-A variety of Professional Development is offered for teachers including Teacher Resource Introductory Videos with information for teaching strategies, as well as Teacher Prep Videos for each part of the investigation to prepare teachers for the specific instruction.

To what extent do the materials support Criterion 2D? Include your reasoning.
The supports for teachers are very comprehensive within these instructional materials. There is background information on both content and pedagogy within the teacher guides and professional development videos. There are multiple extension activities for differentiating and making connections to other disciplines. Considerations and suggestions are made for EL students so teachers can differentiate based on needs. There are many resources for families for both background information and activities to support learning at home.

Category 3: Student Materials

Criterion 3A: Program Design

Instructional materials represent a comprehensive K-5 core program.

- Materials provide instruction that correlates to our recommended instructional minutes for science.
- Materials are available in both English and Spanish.
- Graphic organizers and templates for science notebooks are included.
- Teacher and student materials have resources both in print and online.
- Multimedia supports are included such as videos, tutorials and simulations and when appropriate reflect the diversity of our students and society in a culturally responsive manner including different genders and sexual orientations, from many cultures and nations, both contemporary and historical.
- Technology options are appropriate for both classroom and home use possibly including translation capabilities.

Examples of Evidence:

- ◊ There are four units, each representing nine weeks of instruction at 180 minutes a week. This is short of our recommended minutes of 240 minutes a week for 5th grade.
- ◊ There are 132 60-min lessons for the whole year. This correlates to our recommended instructional minutes of 220 minutes per week for grades K-2. (3-4 60-min lessons per week)

Specific Evidence from Materials
-For the 3 Modules/Units, there are a total of approximately 154 sessions needed for instruction. If each session takes 60 minutes, there would be a total of 9,240 minutes of instruction for the entire year. This would equate to 257 minutes of instruction per week which exceeds the suggestion instruction time for our district for 240 minutes per week for 3rd grade (FOSS does not have exact minute guidelines in the instructional guides, but under the FAQs, the program indicates that some modules do not have ends and that the more experience teachers have with teacher the program the longer the sessions will last, suggesting the flexibility of the time for lessons. -All notebook and teacher masters are available in both English and Spanish. The student book, ebook and streaming videos are available in both English and Spanish -In the Motion and Matter unit, a simulation is included for designing a roller coaster to explore force and motion in a real life situation. -In the Structures of Life unit, a stick bug simulation is included to explore traits and environment -In the Water and Climate unit, there are videos embedded in some of the lessons such as "All About Meteorology." -Students can access the ebook (English and Spanish), simulations and assessments online. These could be accessed at home if technology is available.

-An article is included in the Water and Climate text about Ellen Swallow Richards, an early ecologist.
-Diverse representations of ethnicity and gender are included in the student texts.

To what extent do the materials support Criterion 3A? Include your reasoning.
The instructional materials are very comprehensive. The amount of sessions and extensions provide plenty of instructional minutes for instruction, as well as the flexibility for teachers and students to define the flow of the unit. The materials have diverse representations, complete materials and technology connections.

Criterion 3B: Science Equipment

Instructional materials include hands-on materials and equipment that support three-dimensional learning.

- Enough materials are included to allow students to do the investigations themselves.
- Materials are of a quality that will last through many uses.
- Materials include the tools necessary to make observations and measurements and conduct investigations.

Examples of Evidence:

- ◊ There are enough thermometers, graduated cylinders, balances, magnifying glasses and measuring tapes for a whole class to use in small groups.
- ◊ Everything is included to engage in the lessons except for things that would already be found in the classroom like tape and colored pencils.

Specific Evidence from Materials
-There are enough materials included in kits for students to complete the activities in small groups or partners. Some investigations could be completed individually. For example, there are 8 cardboard ramps that students would need to share for the Motion and Matter investigation of rolling objects, but there are enough wheel and axle supplies for students to each create their own rolling carts. -There are multiple boxes of materials included for each module. All materials are included such as magnets, tape, string, seeds and basins to complete the investigations (except for common classroom supplies like colored pencils). -For the Structures of Life unit Crayfish or Cockroaches would have to be supplied by the teacher for Investigation.

To what extent do the materials support Criterion 3B? Include your reasoning.
The materials for these instructional materials are very comprehensive. All materials (apart from live organisms and basic classroom supplies) are included and many could be used for individual activities if needed. The materials are high quality and boxed in an organized manner for storage.

Criterion 3C: Reading Materials

Instructional materials include grade-appropriate texts that support three-dimensional learning.

- A range of text types and genres, both print and online, are embedded in learning experiences.
- Texts support context-specific academic vocabulary.
- Materials reflect the diversity of our students and society in a culturally responsive manner including different genders and sexual orientations, from many cultures and nations, both contemporary and historical.
- Materials include supports for reading comprehension for a variety of student needs including high-quality questions.

Examples of Evidence:

- ◊ Texts include an interview of Sylvia Earle and profiles of Chien Shiung Wu and Benjamin Banneker. These highlight the connections to the science students are learning. Pictures of scientists working in the field represent the diversity of our students.
- ◊ Cultural myths about the sun and stars are included in the earth/space science unit.
- ◊ Vocabulary is highlighted in the reading that follows a concrete experience where the vocabulary is first introduced.

Specific Evidence from Materials
-The texts for students are available in print and online. Ebooks can also be downloaded onto tablets. Sessions are included for each unit for reading. -An article is included in the Structures of Life text about Barbara McClintock about her work in Genetics. There are also children of different ethnicity and genders in the pictures of the text, representing the diversity of the students we teach. -In the Structures of Life text article, "A Change in the Environment," comprehension questions are provided after the reading, including "How do beavers change their environment?" and "What organisms benefit when beavers dam a stream? What organisms suffer?" -Vocabulary is embedded in the articles of the students text, such as "adaptations" and "camouflage" in the Structures of life unit. A glossary is also included. The reading sessions occur after hands on investigations and discussion where the vocabulary is introduced.

To what extent do the materials support Criterion 1A? Include your reasoning.
The reading materials for these instructional materials meet the criterion well. There are texts for each unit with multiple articles about both real people and scientific content. The texts are diverse and include embedded vocabulary. There are comprehension questions after each article so students can demonstrate their comprehension and make connections to the science content introduced in the hands on activities and discussions.

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