BIOZONE Biology for Texas

BIOZONE Biology for Texas Executive Summary

Section 1. Science-Related Texas Essential Knowledge and Skills (TEKS) and English Language Proficiency Standards (ELPS) Alignment

TEKS Student %	TEKS Teacher %	ELPS Student %	ELPS Teacher %
100%	100%	100%	100%

Section 2. Instructional Anchor

- The materials are designed to strategically and systematically integrate scientific and engineering practices, recurring themes and concepts, and grade-level content as outlined in the TEKS.
- The materials anchor the learning in phenomena and problems as the key lever for driving learning and student mastery of disciplinary knowledge and skills.

Section 3. Knowledge Coherence

- The materials are designed to build knowledge systematically, coherently, and accurately.
- The materials provide educative components to support teachers' content and coherence knowledge.

Section 4. Productive Struggle

- The materials provide opportunities for students to engage in productive struggle through sensemaking that involves reading, writing, thinking, and acting as scientists and engineers.

Section 5. Evidence-Based Reasoning and Communicating

- The materials promote students' use of evidence to develop, communicate, and evaluate explanations and solutions.
- The materials provide teacher guidance to support student reasoning and communication skills.

Section 6. Progress Monitoring

- The materials include a variety of TEKS-aligned and developmentally appropriate assessment tools.
- The materials include some guidance that explains how to analyze and respond to data from assessment tools.
- The assessments are somewhat clear and easy to understand.

BIOZONE Biology for Texas

Section 7. Supports for All Learners

- The materials provide guidance on fostering connections between home and school.
- The materials include listening, reading, writing, and speaking supports to help Emergent Bilinguals meet grade-level science content expectations.
- The materials include a variety of research-based instructional methods that appeal to a variety of learning interests and needs.
- The materials include guidance, scaffolds, supports, and extensions that maximize student learning potential.

Section 8. Implementation Supports

- The materials include year-long plans with practice and review opportunities that support instruction.
- The materials include classroom implementation support for teachers and administrators.
- The materials provide some implementation guidance to meet variability in program design and scheduling.

Section 9. Design Features

- The visual design of materials is clear and easy to understand.
- The materials are intentionally designed to engage and support student learning with the integration of digital technology.
- The digital technology or online components are developmentally and grade-level appropriate and provide support for learning.

Section 10. Additional Information

- The publisher submitted the technology, price, professional learning, and additional language supports.

BIOZONE Biology for Texas

Indicator 2.1

Materials are designed to strategically and systematically integrate scientific and engineering practices and course-level content as outlined in the TEKS.

1	Materials provide multiple opportunities for students to develop, practice, and demonstrate mastery of appropriate scientific and engineering practices as outlined in the TEKS.	M
2	Materials strategically and systematically develop students' content knowledge and skills as appropriate for the concept and grade level or course as outlined in the TEKS.	M
3	Materials include sufficient opportunities, as outlined in the TEKS, for students to ask questions and plan and conduct classroom, laboratory, and field investigations and to engage in problem-solving to develop an understanding of science concepts.	M

Meets | Score 4/4

The material meets the criteria for this indicator. Materials are designed to strategically and systematically integrate scientific and engineering practices and course-level content as outlined in the TEKS.

Materials provide multiple opportunities for students to develop, practice, and demonstrate mastery of appropriate scientific and engineering practices as outlined in the TEKS. Materials strategically and systematically develop students' content knowledge and skills as appropriate for the concept and grade level or course as outlined in the TEKS. Materials include sufficient opportunities, as outlined in the TEKS, for students to ask questions and plan and conduct classroom, laboratory, and field investigations and to engage in problem-solving to develop an understanding of science concepts.

Evidence includes but is not limited to:

Materials provide multiple opportunities for students to develop, practice, and demonstrate mastery of appropriate scientific and engineering practices as outlined in the TEKS.

- Materials and Activities provide multiple opportunities for students to demonstrate mastery of the TEKS throughout a unit. Students are asked to answer questions embedded through the chapter; Unit 1 shows this, as well as a cut-and-paste activity where students will match the function of the biomolecule with the image.
- Activities, such as the one titled "The Role of Environment in Cell Development," provide students with opportunities to practice and demonstrate scientific and engineering concepts that lead to mastery. TEKS B6.B explains the process of cell specialization through cell differentiation, including the role of environmental factors. In another example, students research protein structure in viruses and model how viruses spread.
- In Chapter 4, Activity 90 in the student edition, students conduct an investigation of "Interacting Systems in Plants," which correlates with TEK 12.B. Students use observation, research, and scientific practices to conduct the activity. In another example, in Chapter 2, Activity 47 in the student edition), students analyze data and come to conclusions about the "Role of the Environment in Cellular Development."

- Each chapter begins with an overview that includes direct references and correlations to SEPs and TEKS. There is extensive evidence demonstrated throughout the material that supports students' ability to develop, practice, and demonstrate mastery of SEs. The materials clearly outline the relationship each activity has with TEKS. The student edition provides multiple opportunities for students to demonstrate mastery. Additionally, the materials target specific learning goals of SEPs that include modeling and explanations or rationalizations that are supported via the scientific method.

Materials strategically and systematically develop students' content knowledge and skills as appropriate for the concept and grade level or course as outlined in the TEKS.

- Materials provide opportunities for students to strategically and systematically develop content knowledge and skills for grade-level TEKS-based concepts. For example, one activity in the Student Book provides chances for students to first demonstrate their knowledge of viruses and then apply their knowledge to other situations. The Classroom Guide states the layout of the materials. Materials scaffold essential concepts laying the foundation for further learning.
- The Table of Contents systematically arranges content from the simplest level of organization, the cell, to the most complex level, the Ecosystem.
- In the student edition, the "Contents" section outlines the sequence of topics throughout the text, starting with cells and working up to ecological processes. Each chapter unit follows a logical and strategic order which guides student learning in a meaningful way. For example, Chapter 7 presents "Common Ancestry," which is taught after students learn about "Genetic Inheritance" in Chapter 6.
- The materials provide evidence of organized components that strategically develop students' knowledge. Each chapter is structured to develop from prior knowledge and phenomena into new learning and assessment/reflection opportunities. The materials are also strategically organized to support student learning. The sequence of content is designed to prompt students to incorporate prior knowledge; additional information is available to students through the resource hub.

Materials include sufficient opportunities, as outlined in the TEKS, for students to ask questions and plan and conduct classroom, laboratory, and field investigations and to engage in problem-solving to develop an understanding of science concepts.

- The materials include opportunities for students to ask questions and plan and conduct investigations and engage in problem-solving to understand science concepts. For example, one part of the textbook asks students to conduct their research to critique the work of scientists. In another part of the textbook, students conduct an experiment and draw conclusions about the transport of molecules versus water.
- In the student materials (Chapter 1, Topic 6: Investigate the Structure of Protein, students investigate and address the problem of the structure of protein and its function. The investigation allows the students to ask questions, plan, and solve the problem in the classroom. Also, in the student materials (Chapter 1, Topic 11: Preparing an Onion Slide, students prepare an onion slide for microscopy. Students investigate a plant cell, asking questions, planning, preparing, and observing the specimen.
- In Chapter 3, Activity 66, students design and conduct an experiment to test the activity of an enzyme, catalase. In Activity 120, students question and research "The Origin of DNA" and problem-solve a hypothesis of these origins.

- Chapters contain embedded investigative elements that promote students to engage in SEPs, prompting students to ask questions that develop deeper understandings. Beyond the extensive embedded opportunities available in each chapter, the materials also include a chapter consisting of SEP norms. This section supports the learning and practice of scientific reasoning and engineering, along with models and experiments.

BIOZONE Biology for Texas

Indicator 2.2

Materials anchor the learning in phenomena and problems as the key lever for driving learning and student mastery of disciplinary knowledge and skills.

1	Materials embed phenomena and problems across lessons to support students in constructing, building, and developing knowledge through authentic application and performance of scientific and engineering practices and course-level content as outlined in the TEKS.	M
2	Materials intentionally leverage students' prior knowledge and experiences related to phenomena and engineering problems.	M
3	Materials clearly outline for the teacher the scientific concepts and goals behind each phenomenon and engineering problem.	M

Meets | Score 4/4

The materials meet the criteria for this indicator. Materials anchor the learning in phenomena and problems as the key lever for driving learning and student mastery of disciplinary knowledge and skills.

Materials embed phenomena and problems across lessons to support students to construct, build, and develop knowledge through authentic application and performance of scientific and engineering practices and course-level content as outlined in the TEKS. Materials intentionally leverage students' prior knowledge and experiences related to phenomena and engineering problems. Materials clearly outline for the teacher the scientific concepts and goals behind each phenomenon and engineering problem.

Evidence includes but is not limited to:

Materials embed phenomena and problems across lessons to support students constructing, building, and developing knowledge through authentic application and performance of scientific and engineering practices and course-level content as outlined in the TEKS.

- The materials embed phenomena across lessons to support students constructing, building, and developing knowledge as outlined in the TEKS. For example, in the classroom guide indicates each unit or lesson is driven by a content anchor. In this material, the content anchor is the phenomenon. The teacher edition states the Key Question for the Unit and provides a little excerpt about the phenomenon. The Key Question will be revisited throughout the unit.
- The materials include examples that relate to current events and issues. For example, Topic 11 discusses how viral diseases are transmitted, and Topic 48 discusses how the disruption of the cell cycle can cause cancer. Activities also allow students to develop knowledge through authentic application and performance of scientific and engineering practice.
- Teacher guidance materials explain, "Each chapter begins with a content anchor (a phenomenon), which is located at the top of the page of each activity." This is essentially the activities' title. For example, in Chapter 4 - Activity 74, the guiding content anchor or phenomenon is "Negative Feedback Regulates the Body." The activity has students analyze diagrams and come to conclusions about negative feedback loops and how they help regulate the body.

- Following chapter introductions, the materials provide content anchors that introduce phenomena that students come to understand through their work on activities. Materials provide phenomena that students investigate through activities and SEPs. An example of a phenomenon anchor is found within the student and teacher editions.

Materials intentionally leverage students' prior knowledge and experiences related to phenomena and engineering problems.

- Materials are structured, as stated in the classroom guide, to be scaffolded. The materials state that understanding is developed through exploration and explanation by using a student's prior knowledge. A question in the teacher guide, asks students a question about an experience they have had in the past. The question being asked pertains to the Key Question stated at the top of the page.
- Activities follow a scaffolding pattern, where they leverage students' prior knowledge and experience related to phenomena and engineering problems.
- Chapter 1, Activity 1 in the student edition starts with questions about a sponge and instantly relates it to students' prior knowledge and experiences by referencing sponges people use to clean with. In Chapter 3, Activity 51 in the student edition, materials tap into students' prior knowledge about plants and animals and the cycles of photosynthesis and respiration to get students ready to retrieve what they already know about these energy cycles.
- The materials direct students to recall information to help them find deeper understandings of the phenomena they are investigating. The materials (IG32) clearly identify and guide teachers in areas where students' prior knowledge can be leveraged to facilitate deeper understandings of the curriculum and develop scientific and engineering reasoning.

Materials clearly outline for the teacher the scientific concepts and goals behind each phenomenon and engineering problem.

- Classroom guides give a breakdown of the notes for the teacher. It clearly states the learning goals and objectives for the chapter. The teacher guide lists the TEKS (SEPS and Science Concepts) that are covered in the unit as well as a list of Learning Outcomes for the unit.
- Materials include teacher notes for science concepts and goals in each phenomenon and engineering problem. For example, Chapter 1 includes a learning outcome checklist outlining science concepts and goals in each phenomenon and engineering problem.
- In the classroom guide, materials give a clear outline for TEKS and ELPS covered in each activity of the student and teacher edition of the text. Additionally, in the Teacher Notes of the classroom guide, each activity is broken down and explained in clear detail.
- The materials clearly outline the learning objective and goals for students and can be found on the chapter introduction pages preceding each new chapter. The materials clearly outline where learning objectives are covered in the chapter structure and provide clear guidance for teachers to direct student learning.

BIOZONE Biology for Texas

Indicator 3.1

Materials are designed to build knowledge systematically, coherently, and accurately.

1	Materials are designed for students to build and connect their knowledge and skills within and across units.	M
2	Materials are intentionally sequenced to scaffold learning in a way that allows for increasingly deeper conceptual understanding.	M
3	Materials clearly and accurately present course-specific core concepts and science and engineering practices.	M
4	Mastery requirements of the materials are within the boundaries of the main concepts of the course.	M

Meets| Score 6/6

The materials meet the criteria for this indicator. Materials are designed to build knowledge systematically, coherently, and accurately.

Materials are designed for students to build and connect knowledge and skills within and across units. Materials intentionally scaffold learning in a way that allows for increasingly deeper conceptual understanding. Materials clearly and accurately present course-specific core concepts and science and engineering practices. Mastery requirements of the materials are within the boundaries of the main concepts of the course.

Evidence includes but is not limited to:

Materials are designed for students to build and connect their knowledge and skills within and across units.

- Materials for students start with small, basic concepts (cells) and work their way up to larger concepts (ecology). Concepts build on prior knowledge. In Chapter 1 of the Student Edition, students learn about biomolecules. Biomolecules reappear in later units that discuss DNA replication, protein synthesis, and the transport of molecules.
- Materials in Chapter 1, Lesson 7, guide students to recall eukaryotic cells, the nucleolus, and proteins previously covered in prior lessons. In Lesson 48 of Chapter 48, materials guide students to recall how viral diseases are transmitted.
- The “Contents” section of the Student Edition outlines the sequence of topics throughout the text, starting with cells and working up to ecological processes. Each chapter unit breaks down topics and TEKS that follow a logical and strategic order which guides student learning in a meaningful way. For example, Chapter 7 covers common ancestry which comes after students learn about genetic inheritance in Chapter 6. In Chapter 5, students learn about meiosis in Activity. Later in Chapter 6, they learn the process of meiosis in Activities. Later in Chapter 8, students refer back to meiosis when talking about several topics. For example, Activity 198 refers to meiosis when talking about genetic recombination and variation in gene pools.
- The materials (Student/Teacher Editions) provide direct and deliberate references to prior knowledge that is applicable and relevant to the current topic. The connection between prior knowledge and the current concept is designed to build a deeper understanding of the material

and prompt a concrete understanding of the correlation between two independent lessons. The materials directly refer to two TEKS in which one concept is associated with another. The materials offer clear and direct guidance to previously covered material and concepts that impact current lessons/concepts. The materials directly reference previously covered TEKS that can be connected to the current lesson. The materials clearly outline opportunities and areas where TEKS/Content will overlap, and students can utilize prior knowledge to gain a deeper understanding. The Implementation Guide displays a preferred calendar and sequence that scaffolds students' prior knowledge and lists the overlapping TEKS/content.

Materials are intentionally sequenced to scaffold learning in a way that allows for increasingly deeper conceptual understanding.

- Lessons provide students with information to answer questions or complete tasks. The Classroom Guide explains to teachers how the lessons are scaffolded for students' deeper conceptual knowledge.
- Materials (Classroom Guide) scaffold delivery of content. Materials are presented in a logical consecutive learning sequence. Student understanding is supported and developed through a series of related activities. Student Materials (Contents or Table of Contents) present the lesson from a micro-to-macro sequence.
- In the Student Edition, the Contents outline Chapter 4 learning progressions. It starts with introductory materials for body systems and builds on students' learning to increase depth. Students research interactions of body systems as they study "The Menstrual Cycle," "Pregnancy and Birth," "Responding to Infection," and more. The Classroom Guide outlines the breakdown of each activity. Chapter 1, Activity 2 is a reference page summarizing biomolecules, and in Activity 3, students research biomolecules and their contribution to the structure and function of the cell (Classroom Guide).
- The materials provide clear evidence of intentional scaffolding concepts. The sequence allows students to connect prior knowledge and skills to develop a deeper understanding of the content. The materials (Implementation Guide Scope and Sequence) provide detailed evidence of intentionally sequencing concepts via a calendar. The calendar clearly depicts the intent of the sequence to build on previously covered lessons. The materials are deliberately sequenced to enhance student learning through connections to previous lessons. There is extensive evidence scattered throughout the material where previous lessons are referenced as building blocks or prior knowledge benefits.

Materials clearly and accurately present course-specific core concepts and science and engineering practices.

- Chapters in the Teacher Guide start with the TEKS and SEPs. The TEKS and SEPs are clearly stated and identified. The Teacher Edition identifies TEKS and SEPS that should be used in student responses. For example, in the Teacher Edition, the process TEKS and SEPS are identified on questions 1 and 2.
- Materials (Students Guide, Chapter 2, present the TEKS and student learning outcomes for the whole chapter. Materials (Teacher's Notes) show the students' activity and course-specific core concepts and science and engineering practices.
- At the beginning of each chapter unit, specific TEKS are clearly stated for reference, and then those scientific concepts are accurately represented in course-specific content. For example, Chapter 5, Biology Science Concepts TEKS 7.A states "Students will identify components of DNA,

explain how the nucleotide sequence specifies some traits of an organism, and examine scientific explanations for the origins of DNA." In Chapter 5, Activity 118, titled “Modeling DNA Structure,” students learn the structure of DNA and then model it aligning to TEKS 7.A, which is clearly stated on the title page of Chapter 5.

- The materials provide a clear representation of SEPs. The materials (Implementation Guide) provide SEPs that connect to core concepts and TEKS. The materials (Student/Teacher Edition) offer clear and accurate SEPs that connect to core concepts. The materials clearly outline the format of the SEP and its connection to TEKS/Core concepts via indicator tabs. The materials’ Classroom Guide clearly and accurately presents course-specific SEPs that are directly related to core concepts. The materials are deliberately aligned to provide SEPs that connect to current and previous lessons.

Mastery requirements of the materials are within the boundaries of the main concepts of the course.

- The Student Edition Summing Up section requires students to use key concepts taught in the chapter to demonstrate their knowledge of the material. Questions are based on the concepts identified at the start of the chapter. The Student Edition identifies and explains necessary concepts that students must know to demonstrate their mastery. The concepts required for mastery are within the TEKS that are presented at the start of the unit.
- Materials (Student Guide, Chapter 2) presents the TEKS for the whole chapter. The Teacher’s Guide, Chapter 2, presents the TEKS covered in the chapter.
- Materials provide clear student learning outcomes at the beginning of each chapter unit. For example, at the beginning of Chapter 6, “Student Outcomes” are clearly listed for the unit. The materials provide a Data Analysis Guide PDF located in the Implementation Resources as part of the online materials. The Data Analysis Guide shows instructions for student use of the “Student Progress Tracker." Here students self-rate their progress, comparing their responses to learning outcomes.
- Each chapter’s (Student/Teacher Editions) preview page lists the TEKS cover and provides clear guidance on mastery requirements. The materials are clearly within the boundaries of the main concepts and offer students opportunities to engage in SEPs that promote mastery of the material. The materials provide requirements of mastery that are within the boundaries of the main concepts of the course. The mastery of students is assessed through the provided summary reviews (Student/Teacher Edition) located at the end of each chapter. The summary reviews align with TEKS and the main concepts of the content.

BIOZONE Biology for Texas

Indicator 3.2

Materials provide educative components to support teachers' content and knowledge coherence.

1	Materials support teachers in understanding the vertical alignment of course-appropriate prior knowledge and skills guiding the development of course-level content and scientific and engineering practices.	M
2	Materials contain explanations and examples of science concepts, including course-level misconceptions to support the teacher's subject knowledge and recognition of barriers to student conceptual development as outlined in the TEKS.	M
3	Materials explain the intent and purpose of the instructional design of the program.	M

Meets | Score 6/6

The materials meet the criteria for this indicator. Materials provide educative components to support teachers' content and knowledge coherence.

Materials support teachers in understanding the vertical alignment of course-appropriate prior knowledge and skills guiding the development of course-level content and scientific and engineering practices. Materials contain explanations and examples of science concepts, including course-level misconceptions to support the teacher's subject knowledge and recognition of barriers to student conceptual development as outlined in the TEKS. Materials explain the intent and purpose of the instructional design of the program.

Evidence includes but is not limited to:

Materials support teachers in understanding the vertical alignment of course-appropriate prior knowledge and skills guiding the development of course-level content and scientific and engineering practices.

- The Classroom Guide, under the chapter number and title, states the prior knowledge that students have. This section indicates to the teacher how the prior knowledge will be used in the current unit. The Implementation Guide identifies the TEKS students will know before coming to high school biology.
- Materials (Teacher's Note) present the prior knowledge and skills students have to guide the teacher appropriately as he/she develops current content and scientific and engineering practices. Materials (Teacher's Notes) present the lesson progression and explain general knowledge to activities that increase depth and complexity.
- In the Classroom Guide, Teacher Notes provide teachers support for understanding the appropriate prior knowledge students should have and the development of knowledge and skills over the scope of the course. For example, there is a note about Chapter 9 that states, "Students will bring prior knowledge of ecology concepts into the class from previous grades. This will be built on to explore the consequences of change." The Classroom Guide provides teacher notes that explain the progression of lessons throughout the materials, from general knowledge to activities increasing in depth and complexity.

- The materials support teachers' understanding of vertical alignment. The materials offer guidance to teachers that connect students' prior knowledge, the current lesson, and future lessons via a lesson reflection guide for teachers (Implementation Guide). The materials offer support for understanding vertical alignment and course-appropriate prior knowledge and skills. The Classroom Guide Teacher Notes provide details on specific prior knowledge and alignment. The materials provide extensive evidence throughout the content, where vertical alignment aids students in building a deeper understanding of knowledge and skills. The lesson on mutations builds on prior knowledge of gene expression, transcription, and translation (Student/Teacher Edition).

Materials contain explanations and examples of science concepts, including course-level misconceptions to support the teacher's subject knowledge and recognition of barriers to student conceptual development as outlined in the TEKS.

- The Classroom Guide states the purpose of the content anchor. The content anchor helps teachers identify misconceptions students may have. The Implementation Guide lays out current science concepts as well as possible questions students might ask or answer. This document also indicates scaffolds and prior knowledge.
- Materials in Chapter 2, Lesson 35, contain a deep explanation and discussion of concepts, as well as an activity relating to the growth and repair of the cells. A Closer Look at Chloroplast and Mitochondria also contains a deep explanation and discussion of the concepts as well as an activity.
- In the Resource Hub, teacher resources provide different activities throughout the materials. For example, Chapter 1 materials help facilitate the learning of "Kingdoms, Domains, and Subcellular Evidence." These materials include a PowerPoint presentation with an activity, teacher notes, and common misunderstandings (or misconceptions) the teacher addresses and clarifies. The Teacher Edition also provides an answer key for questions to support teachers. Background knowledge and examples are provided throughout both the Student and Teacher Editions of the text. For example, in Chapter 6, Activity 141, the materials provide a real-life example of inheritance patterns by using labrador retriever coat colors.
- The materials offer guidance to teachers regarding common misconceptions and misunderstandings. The materials offer support for common misconceptions in content-related topics, TEKS, and SEPs. The Implementation Guide (IG45) provides guidance and resources to assist the teacher.

Materials explain the intent and purpose of the instructional design of the program.

- The Classroom Guide explains the reasoning behind the layout of Biozone (CG7). The materials state the order of chapters is based on the TEKS with an emphasis on student investigation. Page 10 of the Classroom Guide clearly explains the structure of the activity pages and the reasoning behind the layout for students. For example, the material is chunked into short reading blocks so students are not overwhelmed.
- Located in the Classroom Guide, the About Biology for Texas section gives a clear explanation of the intent and purpose of the instructional design of the materials. The materials provide a Data Analysis Guide PDF located in the Implementation Resources as part of the online materials. On Page 1 of the Data Analysis Guide, the intent and purpose are clearly stated for using the progress trackers provided in the materials.

- The materials offer a clear explanation and purpose of the content. The Curriculum Guide describes the goals, components, and influences of the material appropriately. The materials provide teachers with reflective support to accompany the explanation of goals. This provides a deeper understanding of the purpose and design of the program and ensures teachers are meeting the goals of the materials.

BIOZONE Biology for Texas

Indicator 4.1

Materials provide opportunities for students to engage in productive struggle through sensemaking that involves reading, writing, thinking, and acting as scientists and engineers.

1	Materials consistently support students' meaningful sensemaking through reading, writing, thinking, and acting as scientists and engineers.	M
2	Materials provide multiple opportunities for students to engage with course-level appropriate scientific texts to gather evidence and develop an understanding of concepts.	M
3	Materials provide multiple opportunities for students to engage in various written and graphic modes of communication to support students in developing and displaying an understanding of scientific concepts.	M
4	Materials support students to act as scientists and engineers who can learn from engaging in phenomena and engineering design processes, make sense of concepts, and productively struggle.	M

Meets | Score 4/4

The materials meet the criteria for this indicator. Materials provide opportunities for students to engage in productive struggle through sensemaking that involves reading, writing, thinking, and acting as scientists and engineers.

Materials consistently support students' meaningful sensemaking through reading, writing, thinking, and acting as scientists and engineers. Materials provide multiple opportunities for students to engage with course-level appropriate scientific texts to gather evidence and develop an understanding of concepts. Materials provide multiple opportunities for students to engage in various written and graphic modes of communication to support students in developing and displaying an understanding of scientific concepts. Materials support students to act as scientists and engineers who can learn from engaging in phenomena and engineering design processes, make sense of concepts, and productively struggle.

Evidence includes but is not limited to

Materials that consistently support students' meaningful sensemaking through reading, writing, thinking, and acting as scientists and engineers.

- Materials provide ample opportunities for students to complete labs and think critically. Three of the Student Edition provides space for students to think critically and write their responses to the questions being asked. Students will collaborate with their peers to answer the questions pertaining to using microscopes. The Student Edition requires students to look at a data set to help answer the Key Questions. Students will think critically and write their responses to the multiple questions being asked.
- Materials support students' meaningful sensemaking through reading, writing, thinking, and acting as scientists and engineers. Student materials (Chapter 3: Photosynthesis and Cellular Respiration) include reading materials about the topic, pictures, and activities that promote writing, thinking, and acting scientist and engineers. The Classroom Guide (Teachers' Note,

Chapter 7)shows that the materials promote reading, writing, thinking, and acting as scientists and engineers through different activities.

- Throughout the materials, there are continuous questions guiding students through analyzing photographs and diagrams. For example, in Activity 54 of the Student Edition, students learn about photosynthesis through reading, question answering, and analyzing photographs and diagrams. In another example, Activity 56 of the Student Edition, students complete a scientific investigation about photosynthetic rate.
- The materials provide notations where students will use SEPs. The materials consistently offer meaningful opportunities for students to engage in activities that promote thinking, writing, and acting as scientists and engineers. The materials provide students with meaningful prompts and opportunities to write (Student & Teacher Editions) as scientists and engineers. The materials also offer meaningful and consistent opportunities for students to engage in investigations (Student & Teacher Editions) that foster acting as scientists or engineers.

Materials provide multiple opportunities for students to engage with course-level appropriate scientific texts to gather evidence and develop an understanding of concepts.

- The materials provided to the students are grade-level scientific texts. The texts are spread throughout the Student Edition material. The materials provide students with the vocabulary and scaffolding necessary for students to gather evidence and develop understanding.
- Materials aid multiple opportunities for students to engage with the grade-level appropriate scientific text to gather evidence and develop an understanding of concepts. Materials in Chapter 4: Animal and Plant Functions, include scientific vocabulary in discussion and aid students to gather evidence and develop an understanding of concepts. The Classroom Guide (Teachers' Note, Chapter 9) includes scientific vocabulary that the students need to know to support opportunities to gather evidence and develop an understanding of concepts.
- Located in the Biozone Resource Hub are various activities, videos, readings, and interactives for students to use to gather evidence and develop an understanding of concepts. For example, in Chapter 1.6, Investigating the Structure of Proteins, students watch a video, complete an interactive investigation, and analyze a 3D molecular model. The Student Edition materials provide various opportunities for students to understand concepts. For example, in Chapter 5, DNA and Gene Expression, students complete 25 multiple activities to help support their learning and evidence gathering in order to understand DNA and Gene Expression.
- The materials contain multiple opportunities for students to engage with grade-level scientific texts while gathering evidence that supports concept understanding. Among the various opportunities supplied in the materials in Chapter 10, which is dedicated to SEPs. The materials also provide guidance through the ELPS (Teacher Edition) that ensures all students are receiving multiple opportunities to engage with grade-level texts. Every student will use texts to gather evidence to support conceptual understanding.

Materials provide multiple opportunities for students to engage in various written and graphic modes of communication to support students in developing and displaying an understanding of scientific concepts.

- Students are given opportunities to express their learning in multiple ways. The Student Edition materials offer multiple opportunities throughout for students to engage in various written and graphic models. For example, in the Student Edition, there is space where students will write

and create a diagram of their learning. The Student Edition offers students the chance to demonstrate their thinking using either words or a graphic organizer. Students will either explain genetic crosses using text or labeled diagrams.

- Materials provide multiple opportunities for students to engage in various written and graphic modes of communication to support students in developing and displaying an understanding of scientific concepts. Students' materials include written and graphic activities to support students in developing and displaying an understanding of scientific concepts. There is a picture of chromosomes, and students discuss how chromosomes recombine in a written activity. Students' materials include graphics of monohybrid crosses and written activities to support students in developing and displaying an understanding of scientific concepts.
- In the Biozone Resource Hub, there are various modes of modeling and video modes of communication to help students develop their learning. For example, Chapter 1.16, Prokaryotic vs. Eukaryotic Cells, provides extra resources and several 3D models of different types of prokaryotic and eukaryotic cells for students to explore. In another example, Activity 230 in the Student Edition, students model the carbon cycle using their knowledge of the carbon cycle from previous activities in the text.
- The materials provide multiple opportunities for students to engage in graphic models of communication as they develop a deeper understanding of scientific concepts. Materials direct students to produce graphic content that displays their understanding of core concepts. The materials also offer students multiple opportunities across the units where they can engage with the materials acting as scientists and engineers that create written and graphical communication to display their understanding of the concept.

Materials support students to act as scientists and engineers who can learn from engaging in phenomena and engineering design processes, make sense of concepts, and productively struggle.

- The Student Edition provided students ample opportunities to think like scientists. The Student Edition materials offer multiple options for students to engage in phenomena and engineering design processes, make sense of concepts, and productively struggle. For example, in Chapter 2, students are presented with a guiding, phenomena-based question and given chances throughout the chapter to think like scientists by analyzing graphics and drawing conclusions based on data. The Student Edition also provides students the opportunity to act as scientists. A key question is presented at the start of the lab; students will keep this question in mind as they complete the investigation. At the end of the investigation, students will apply their learning to a final question.
- Materials provide activities to support students to act as scientists and engineers who can learn from engaging in phenomena and engineering design processes, make sense of concepts, and productively struggle. Chapter 7: A Common Ancestry, provides ample activities for students to act as scientists and engineers who can learn from engaging in scientific and engineering design processes. In Lesson 171: DNA Evidence for Common Ancestry, students analyze DNA from different organisms. The Teacher Notes (Activity 138) include several case studies for molecular technology. Students can also research a STEM career related to the concepts covered.
- In Activity 80, The Effect of Exercise on Heart Rate and Breathing, students conduct an investigation based off of a phenomenon, including planning for the investigation themselves and breaking down their steps. In Activity 66, Design an Experiment to Test Catalase, students design a process to further extend their knowledge of substrate decomposition.
- The materials provide students with multiple opportunities to engage SEPs that promote productive struggle. The materials offer guidance for students to consider as they progress

through challenging sections of the content. The materials also offer students extensive opportunities to explore natural phenomena that trigger scientific and engineering practices. These activities allow students to make sense of concepts through productive struggle.

BIOZONE Biology for Texas

Indicator 5.1

Materials promote students' use of evidence to develop, communicate, and evaluate explanations and solutions.

1	Materials prompt students to use evidence to support their hypotheses and claims.	M
2	Materials include embedded opportunities to develop and utilize scientific vocabulary in context.	M
3	Materials integrate argumentation and discourse throughout to support students' development of content knowledge and skills as appropriate for the concept and course.	M
4	Materials provide opportunities for students to construct and present developmentally appropriate written and verbal arguments that justify explanations of phenomena and/or solutions to problems using evidence acquired from learning experiences.	M

Meets | Score 4/4

The materials meet the criteria for this indicator. Materials promote students' use of evidence to develop, communicate, and evaluate explanations and solutions.

Materials prompt students to use evidence to support their hypotheses and claims. Materials include embedded opportunities to develop and utilize scientific vocabulary in context. Materials integrate argumentation and discourse throughout to support students' development of content knowledge and skills as appropriate for the concept and course. Materials provide opportunities for students to construct and present developmentally appropriate written and verbal arguments that justify explanations of phenomena and/or solutions to problems using evidence acquired from learning experiences.

Evidence includes but is not limited to:

Materials prompt students to use evidence to support their hypotheses and claims.

- The Student Edition states how materials have embedded investigations that prompt students to use evidence to support their hypotheses and claims. These investigations encourage skills in collecting and analyzing data and maintaining accurate records. Students enter data from their investigations into a spreadsheet and draw conclusions based on that data.
- Materials provide ample evidence to support hypotheses and claim through questioning, reflection, and knowledge checks throughout materials. For example, in Activity 19, Eukaryotes Have Complex Cells, students read a passage, provide evidence, and answer questions to ensure their understanding of the endosymbiotic theory. In Activity 120, The Origin of DNA, students write alternative hypotheses of DNA's origins and then compare and provide evidence as support.
- The materials identify where students use evidence to support their explanations and communications throughout the material. The materials use icons that indicate areas where evidence-based material is located. Students are tasked with responding to questions based on the evidence they collect. The evidence-based responses are labeled with an icon to assist

teachers and students. The materials consistently offer opportunities for students to provide responses to questions that are based on a collection of evidence.

Materials include embedded opportunities to develop and utilize scientific vocabulary in context.

- The Student Edition includes a glossary at the end of the materials. The glossary is in both English and Spanish. The chapters of the Student Edition have embedded terms from the glossary. The terms are identified in blue color. Students use the embedded terms to answer questions in the student book.
- For example, in Activity 32, What is a Sponge? Revisited, students are asked why a sponge is an animal and not another organism and also asked to provide evidence for their reasoning. This creates the perfect opportunity for students to use scientific vocabulary in context with science learning. In Activity 12, Life Arises from Life, students reflect on Pasteur and Koch's discoveries and are encouraged to conduct their own experiments and reflect on the data; this allows students to utilize scientific vocabulary they have recently learned.
- The materials provide opportunities for students to demonstrate scientific vocabulary. The implementation guide provides guidance for teachers on appropriate segments of the material that present more significant opportunities to build scientific vocabulary skills. The materials present opportunities for students to utilize scientific vocabulary; an example is in the "Summing Up" Section of Chapter 7. Students are asked to utilize their scientific vocabulary to complete the assignment by matching the vocabulary to appropriate definitions. The materials provide questions to target building students' vocabulary skills.

Materials integrate argumentation and discourse throughout to support students' development of content knowledge and skills as appropriate for the concept and course.

- The Classroom Guide indicates when the SEPs integrate argumentation and discourse in the student materials. These are located on a chart and identify for the teacher the specific activities and page numbers in the Student Edition, where both communication and argumentation are used. For example, the Student Edition materials indicate to students how they will be working throughout the chapter (independently, in pairs, with groups, etc.). Students will know if they are participating in student discourse within a chapter by the blue symbols or tabs located at the bottom of each page. If students are collaborating and communicating with one another, then the paper symbol is used.
- For example, in Activity 141, Anyone for Chocolate, students are asked to discuss in a group why labrador breeders might import dogs from other areas, prompting discourse between classmates. In the Teacher Notes section of the Classroom Guide, there are several prompts for the teacher to have students engage in class discourse to explore and discuss topics.
- The materials provide multiple opportunities for students to engage in argumentation and discourse throughout the course. The materials provide guidance for teachers to ensure students receive these opportunities, and the guidance is reflected within the implementation guide. The materials present consistent opportunities throughout the materials where students are asked to work in pairs and/or groups and to engage in discussions on related topics. The discussions engage students in argumentation and discourse related to the topic. For example, students provide a written response to various questions after completing a model of protein synthesis.

BIOZONE Biology for Texas

Materials provide opportunities for students to construct and present developmentally appropriate written and verbal arguments that justify explanations of phenomena and/or solutions to problems using evidence acquired from learning experiences.

- The Student Edition provides opportunities for students throughout the entirety of the material to construct and present their arguments in either verbal or written form. These modes of communication are indicated in the questions. The Student Edition also provides opportunities for students to demonstrate and justify their explanations of the phenomena using diagrams. Students revisit their initial model and then create a new one with their new knowledge.
- Materials provide evidence to support written and verbal arguments that justify explanations of phenomena through rugged questioning from student activities. For example, in Activity 60, Measuring Respiration, students conduct an experiment measuring respiration in germinating seeds. After their experiment, students answer guiding questions to explain solutions to experimental questions using data from the investigation of what has happened and the possible reasons behind the outcome using their knowledge from recent activities about respiration. In Activity 246, How Do We Do Science? students conduct research and come to an agreement with their group mates on a scientific discipline that they will verbally present to the class.
- The materials present students with opportunities for them to provide written responses that provide insight into their response to phenomena-based learning. The material provides extensive guidance for teachers and students to ensure they are aware of sections of the material that will present opportunities for appropriate written and verbal arguments. The Teacher Edition materials contain icons that denote group work/discussions as well as writing components.

BIOZONE Biology for Texas

Indicator 5.2

Materials provide teacher guidance to support student reasoning and communication skills.

1	Materials provide teacher guidance on anticipating student responses and the use of questioning to deepen student thinking.	M
2	Materials include teacher guidance on how to scaffold and support students' development and use of scientific vocabulary in context.	M
3	Materials provide teacher guidance on preparing for student discourse and supporting students in using evidence to construct written and verbal claims.	M
4	Materials support and guide teachers in facilitating the sharing of students' thinking and finding solutions.	M

Meets | Score 4/4

The materials meet the criteria for this indicator. Materials provide teacher guidance to support student reasoning and communication skills.

Materials provide teacher guidance on anticipating student responses and the use of questioning to deepen student thinking. Materials include teacher guidance on how to scaffold and support students' development and use of scientific vocabulary in context. Materials provide teacher guidance on preparing for student discourse and supporting students in using evidence to construct written and verbal claims. Materials support and guide teachers in facilitating the sharing of students' thinking and finding solutions.

Evidence includes but is not limited to:

Materials provide teacher guidance on anticipating student responses and the use of questioning to deepen student thinking.

- Materials provide questions and thoughts for students to ponder to help them understand the content. The Teacher Edition provides teachers with responses to the questions. The responses include what students might suggest as responses to questions, as seen in Chapter 1, Section 1- What is a Sponge? In this example, materials prompt students to "identify structural features that sponges share with living organisms and what importance this has to be alive." Materials also include possible responses such as "Students might suggest the sponge has a cell or consists of cells, and all living organisms have cells that carry out life functions." Students can discuss possible answers individually, in pairs, or in groups of 3-4. Possible responses are provided.
- The Teacher Edition provides an answer key for all questions from the text booklet, including possible answers to critical thinking questions. The Classroom Guide provides a Teacher's Notes section that includes questioning and activities to help deepen student thinking on content. For example, asking students to further explain a concept, having students come up with alternative examples or explanations, providing alternative activities to change the way something is explained, and more. The Implementation Guide includes the Lesson Implementation Guide section that provides teachers further guidance through activities and lessons provided by the materials. Included in this guide is an "Extension" section that provides teachers guidance on

suggested activities for students in order to extend their learning and deepen their thinking on content.

- The materials provide clear guidance to teachers on how to expand student learning through additional questioning or activities. These recommendations can be found in the Implementation guide under the "Extension" section of the notes. For example, the lesson on parasitism has the following extension guidance: "For extension, students can discuss the consequences of a parasite outbreak and why it is likely to be unsustainable in an ecosystem in the long term." The teacher edition of the materials provides potential student responses to embedded questions. In addition to the correct/possible responses from students, the material also offers guidance to teachers on what/when to provide students with additional enrichment. In Chapter 1, the book describes responses in the following way: "Students might respond..." and then follows up with "Students will have an opportunity to redraw later in the chapter..." The material provides clear guidance for teachers that meet this GB.

Materials include teacher guidance on how to scaffold and support students' development and use of scientific vocabulary in context.

- The Classroom Guide provides teachers with guidance on how the lessons provided are scaffolded. Strategies for scaffolding the Biozone Lessons are based on the 5E model, where student understanding is "supported and developed through a series of related activities, presented in a logical, consecutive learning sequence." The Classroom Guide provides teachers with suggestions about how to scaffold and support students' development and use of scientific vocabulary in the Teachers Note section. Each activity offers things teachers can do to help the students make sense of the activity. For example, Activity 12, Exploring the Works of Louis Pasteur and Robert Koch In Advancing Microbiology, offers suggestions about how to scaffold for ELL learners. For example, advanced learners can plan and write their own essays independently, whereas fill-in-the-blank cloze essays are more suitable for beginners. Scaffolding support also suggests teachers prepare an exemplar of one of the scientists or create a pre-writing template for students to complete.
- Vocabulary terms that are critical for conceptual understanding are emphasized for all students, and students are held accountable for knowing and understanding them. Materials state that the teacher will introduce vocabulary words at strategic points within the learning sequence. For example, in biology, when students study the process of cell specialization through cell differentiation, it is important that the materials provide the teacher with a preview of critical information before the lesson begins. In this case, an overview of generic or "common" embryonic cells become specialized cells to prepare them for guiding students through the lesson and clearing up any questions and confusion about gene expression. The materials for teacher background contain vocabulary supports that are visual and contextual in nature.
- The Implementation Guide includes the Lesson Implementation Guide section that provides teachers further guidance through activities and lessons provided by the materials. Included in this guide is a 'Keywords' section that clearly lists key vocabulary words for each activity in the text booklet. The Classroom Guide provides a Teacher's Notes section that includes notes on breaking down each activity, some of which have specific notes on vocabulary and suggestions on encouraging students to use the glossary to help understand vocabulary terms. Included in the Lesson Implementation Guide (located in the Implementation Guide) is a "Scaffolding" section that provides suggestions on how to scaffold learning for students, including activities to help scaffold and build upon vocabulary. For example, in Activity 3, it is suggested that the lesson can be information heavy and to "ensure the glossary is used for keywords."

- The materials provide clear teacher guidance for scaffolding appropriately to meet the learning needs of students. The implementation guide contains scaffolding guidance embedded within the notes sections of the material. For example, in the activity on symbiotic relationships, the following evidence is found within the implementation guide "Scaffolding: Some students may need support with the interpretation of the information in the graph in this activity. Consider breaking students into small groups, and then discuss as a class, where students can share their analysis." The material guides teachers that will support scaffolded learning and the development of scientific vocabulary for emerging bilingual students. Each chapter preview contains a section for teacher guidance that includes support for language acquisition. For example, in chapter 3, the material contains the following guidance in the ELPS section of the preview: "In this context, "place" means "put" and "position" mean "In a certain way." Additionally, the material also suggests that teachers group students and have students tally the use of academic vocabulary and rotate speaking opportunities within the group allowing each student to take turns utilizing academic vocabulary and building off each other.

Materials provide teacher guidance on preparing for student discourse and supporting students in using evidence to construct written and verbal claims.

- The Classroom Guide provides teachers guidance on student discourse through the use of the collaboration icon. As explained in the text, this icon indicates where students can work together to allow for opportunities for students to collaborate to explore or develop SEPs. Communication skills and scientific vocabulary are extended by speaking and listening to each other. The Classroom Guide provides teachers with a chart that lists the specific activities that support students in the use of evidence to construct claims (TEK B.3 A-C). The chart identifies the activities from the Student Edition and the page in the Student Edition where the activities are located.
- While the materials provide opportunities for students to use evidence to construct written and verbal claims, teacher resources also include notes and extension activities to help teachers guide students in creating evidence-based claims. In the Teacher's Notes, located in the Classroom Guide, there are several activities that contain notes on students looking at evidence for scientific concepts. For example, in the Teacher's Notes for Activity 168, the teacher is instructed to show students fossil images and prompt students into discussing and/or thinking about how this is evidence of evolution. Included in the Implementation Guide is the Lesson Implementation Guide, which includes resources and guidance for teachers for each activity. Throughout this resource, there are several notes and prompts for teachers to facilitate classroom discussion. For example, Activity 41 suggests that a "class discussion can involve the importance of the semi-conservative DNA replication process and what the possible consequences might be if it did not follow this model."
- The material consistently supplies guidance for teachers that will prepare for student discourse and support students' use of evidence-based responses, both in verbal and written form. For example, in Chapter 2, students are asked the question, "What evidence is there that epigenetics can have long-term to permanent effects on gene expression." Questions such as this are embedded throughout the material. The materials provide teacher guidance via embedded questions that will support students' abilities to utilize evidence when responding in verbal and written formats. For example, in chapter 4, the guiding question, "Using an example, explain why maintaining homeostasis often involves more than one body system."

BIOZONE Biology for Texas

Materials support and guide teachers in facilitating the sharing of students' thinking and finding solutions.

- In the Classroom Guide Activity 243 - Biodiversity, materials suggest teachers assign students to groups to research types of ecosystem services. After students have completed their research, the Guide suggests to teachers that students share their thinking with their peers. Activity 138, in the Teacher Edition, identifies the assignment as being group work, and each member has a different task. Students are to research a certain topic and then come back to the group and share their findings. Materials suggest teachers create exemplars to guide student-written responses and facilitate students showing their thinking in written form.
- Included in the Lesson Implementation Guide for Activities 44 and 45 are instructions for teachers to facilitate students' research and writing about the specialization of animal and plant cells. It then guides teachers in having students swap papers and leave each other notes and comments to share ideas and thinking. The Teacher Edition of the materials provides example answers for questions prompted by group discussions. For example, Activity 179 includes a question about "the evolutionary advantage of having large tusks'' and prompts students to work in groups to answer the question. The Teacher Edition provides an example answer to help guide the teacher in students sharing ideas. In the Teacher's Notes section of the Classroom Guide, there is support and guidance for teacher facilitation of the sharing of student ideas. For example, in Activity 13, the teacher is prompted to conduct an activity in class where students "can work in groups to share ideas" about how "different cell types are related to each other."
- The materials support and guide teachers in facilitating the sharing of students' thinking and finding solutions. Throughout the material, there are suggested group assignments that engage students in discussions and collaboration. For example, in Chapter 5, students are suggested to be grouped together to "produce a timeline of events leading to the discovery of DNA's structure." The material offers clear guidance to teachers that will assist them in the implementation of activities that support shared student thinking and solution-building skills. The materials use margin icons to denote areas where teachers can implement specific learning strategies, one of which is group work. For example, this icon is where students are working together in a lab setting.

BIOZONE Biology for Texas

Indicator 6.1

Materials include a variety of TEKS-aligned and developmentally appropriate assessment tools.

1	Materials include a range of diagnostic, formative, and summative assessments to assess student learning in a variety of formats.	M
2	Materials assess all student expectations over the breadth of the course and indicate which student expectations are being assessed in each assessment.	M
3	Materials include assessments that integrate scientific concepts and science and engineering practices.	M
4	Materials include assessments that require students to apply knowledge and skills to novel contexts.	M

Meets | Score 2/2

The materials meet the criteria for this indicator. Materials include a variety of TEKS-aligned and developmentally appropriate assessment tools.

Materials include a range of diagnostic, formative, and summative assessments to assess student learning in a variety of formats. Materials assess all student expectations over the breadth of the course and indicate which student expectations are being assessed in each assessment. Materials include assessments that integrate scientific concepts and science and engineering practices. Materials include assessments that require students to apply knowledge and skills to novel contexts.

Evidence includes but is not limited to:

Materials include a range of diagnostic, formative, and summative assessments to assess student learning in a variety of formats.

- Materials include diagnostic assessments for providing teachers with information to monitor progress and identify learning gains in various formats. Materials include a variety of informal assessments that give teachers feedback on student learning at the moment so that they can modify instructional approaches. Materials include opportunities for teachers to collect information about what students are learning from the materials to help them plan for future lessons.
- The Classroom Guide details teachers on how to use the Student Edition to pre-assess students at the start of the unit. For example, at the beginning of each chapter, a content anchor is provided that teachers can use to assess students' prior knowledge. For example, Mouse Trap is presented to the students to stimulate curiosity and check for prior knowledge. “By the time the students have worked through the activity, they should be able to fully explain the phenomenon when revisited at the end of the chapter.” The Implementation Guide provides teachers with a Lesson Guide. The Lesson Guide has an "Assessment" column identifying the “targeted learning outcomes and assessment opportunities associated with the activity or activities,” as seen in the Activity Modeling Protein Structure. Each chapter has outcomes and assessment opportunities throughout.

- Materials include a teacher and student progress tracker in the Biozone Hub under Instructor Resources. The Teacher Progress Tracker allows the teacher to view all student progress tracker data in one place to evaluate better and diagnose student development and understanding of the materials. The Student Progress Tracker allows students to check off completed assignments and self-evaluate their level of mastery for each TEKS in each unit chapter. At the end of each unit chapter is a Summing-Up section that provides an overview review of each unit chapter. Questions include multiple choice, matching, short-answer, and long-answer over materials provided throughout the chapter. The teacher edition of materials contains an answer key to the Summing-Up Sections.
- The materials offer various opportunities to assess student learning and performance through formative assessments. For example, in the Summing-Up section of each chapter, there are different types of questions that teachers can assign to students, including multiple choice questions, short answer responses, and graphical/visual responses. For example, during functions of biomolecules, cell structure, and cell transport, students can respond to multiple-choice, graphical interpretation, and creation of a list to display their knowledge. The material consistently offers opportunities to assess students in a variety of formats. Throughout each chapter, students have opportunities to respond to questions. Many of these are short answer responses, but there are other formats. The material guides teachers to utilize opportunities at their discretion to meet student needs best. This guidance is in the classroom Guide. The material contains a Pacing Guide that displays assessment opportunities throughout the material. The Pacing Guide shows various options in sequence and for the grading cycle.

Materials assess all student expectations over the breadth of the course and indicate which student expectations are being assessed in each assessment.

- The materials assess all student expectations by the course, as outlined in the TEKS. The materials contain a cohesive scope and sequence that maps out and outlines what teachers will teach in a specific course or grade level. In the Teacher's Guide, the materials clearly indicate how the materials align with the curriculum for the grade level or subject in a manner readily identifiable by the teachers. The materials include detailed TEKS-based lesson plans that outline how teachers can use the materials to teach specific concepts and skills and address particular students' expectations and guidance on assessing student learning. The materials include TEKS-aligned assessments that align the curriculum standards and student expectations, and the authors designed them to measure student understanding and mastery of the concepts and skills taught in the materials.
- The Implementation Guide indicates the student expectations for each activity provided. The "Student Expectation" column in the Lesson Implementation Guide lists these expectations. The Guide identifies the TEKS covered in the lesson. All covered TEKS are listed. The activities provided to students in the Student Edition identify the assessed TEKS. TEKS are in red at the bottom of the page. If more than one TEKS is assessed, then all of the TEKS will be listed to notify students.
- The Lesson Implementation Guide in the Implementation Guide includes a column titled 'Assessment.' This column gives a Learning Outcome for each activity and how the materials assess it through short answers, specific questions, or other ways. This information provides a clear expectation of student learning outcomes and how each activity includes an assessment. Materials include a teacher and student progress tracker in the Biozone Hub under Instructor Resources. The Teacher Progress Tracker allows the teacher to view all student progress tracker data in one place that the student inputs, including their mastery rating according to TEKS and

learning outcomes. The Student Progress Tracker allows students to check off completed assignments and self-evaluate their level of mastery for each TEK and learning outcome in each unit chapter. Materials include a Data Analysis Guide, which provides specific instructions for teachers and students on utilizing the progress trackers. For example, for student ratings of TEKS/Learning Outcomes, they give themselves a level of approaching if they get 1/3 of the chapter activities correct, rate Proficient if they are over 1/3 - 2/3 correct, and get Mastery if they get over 2/3 correct.

- The materials clearly outline student expectations. The beginning of each chapter contains student expectations. Inside the chapter, the materials indicate where these assessed expectations are. The teacher's edition has red tabs indicating the corresponding student expectation of the material. For example, tabs show the relationship of the material to TEKS B.5A (Relating the functions of different types of biomolecules … to the structure and function of a cell.). The materials clearly outline the student expectations related to TEKS and display how to assess them. For example, the Implementation Guide contains information for the activities such as the TEKS, the scientific or engineering relationship, how to assess the students, and possible interventions and independent practice opportunities.

Materials include assessments that integrate scientific concepts and science and engineering practices.

- The Scope and Sequence provided in the Implementation Guide identify the science concepts and science and engineering practices for each day. If there are multiple SEPs, then all SEPs will be listed for the teacher. The SEPs listed correspond to specific activities to assess student learning. The Tab System in the Student Edition identifies which SEPs will be used and assessed in each activity. The bottom of the page for each new activity lists the SEPs. If students use more than one SEPs, then all SEPs are shown at the bottom of the page using symbols.
- For example, the Summing-Up assessment for Chapter 8 includes scientific vocabulary matching, graph, and data evaluation questions, a compare and contrast short answer question, a model-based short answer question, and several multiple choice questions, all of which covered topics from various TEKS and strategies from several SEPs such as those covering evolution and natural selection.
- Activity 272, Safety and Ethics in Investigations assesses student knowledge of laboratory safety and ethical issues in science. This activity includes short answer questions that have the students identify possible safety risks from several images and different scenarios, evaluating students' science practices.
- The materials include activities and assessments integrating TEKS and Scientific and Engineering practices. These are notated throughout the Teacher Edition using color-coded tabs. For example, the tabs indicate the lesson contains information on relating the functions of biomolecules to the structure and function of cells (TEKS 5A), as well as Scientific and Engineering Practices. Each chapter in the material contains a Summing-Up section where students respond to various question types. The material indicates how questions are related to TEKS and Scientific and Engineering Practices using a color-coded tab system. For example, question 19 of the Chapter 1 Summing-Up section relates to both TEKS B.5D (Compare the structures of viruses to cells and explain how viruses spread and cause disease.) and Science and Engineering Practice B.3A (Develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories.).

BIOZONE Biology for Texas

Materials include assessments that require students to apply knowledge and skills to novel contexts.

- The Classroom Guide identifies how students may "on occasion, be asked to apply their knowledge to answer a more challenging question." The activities provided to students list these assessments. For example, in Chapter 1, Activity 12, students must use their acquired skills to complete research on the work of Louis Pasteur and Robert Koch. Their research must identify specifically how Pasteur and Koch contributed to how we understand microbiology and infectious diseases today.
- In Chapter 3 Summing-Up, the materials present students with a short answer question where they have to analyze the results from an experiment that looked at leaf disks and "the effect of different light wavelengths (color) on the rate of photosynthesis." Since this is not an experiment students completed previously in the chapter, they must use their knowledge of photosynthesis and light wavelengths to make a connection to analyze the data and information provided to them. In Chapter 7 Summing-Up, students are presented with information about an organism (the Tiktaalik) and instructed to place it on a cladogram and a series of other organisms. The idea is for students to take their knowledge of common ancestry and cladograms from the chapter and use it in a new context to categorize where this new organism should be placed on a cladogram. Students must use their knowledge to make connections and evaluations in a new context.
- The materials include assessments and review opportunities that require students to apply knowledge and skills to novel contexts. For example, in Chapter 7, students read a paragraph on Charles Darwin and Alfred Wallace and are then asked to answer a question that relates to the two individuals and compare and contrast them. The materials provide novel contexts related to science topics and are then used for assessing students. The materials require students to read a text and then apply science concepts to the reading to produce a response. This practice is in Chapter 8 as students review a paragraph on the Texas Ocelot and then respond to the question, "How could gene flow impact the viability and fitness of the Texas Ocelot?"

BIOZONE Biology for Texas

Indicator 6.2

Materials include guidance that explains how to analyze and respond to data from assessment tools.

1	Materials include information and/or resources that provide guidance for evaluating student responses.	PM
2	Materials support teachers' analysis of assessment data with guidance and direction to respond to individual student's needs, in all areas of science, based on measures of student progress appropriate for the developmental level.	M
3	Assessment tools yield relevant information for teachers to use when planning instruction, intervention, and extension.	M
4	Materials provide a variety of resources and teacher guidance on how to leverage different activities to respond to student data.	M

Partial Meets | Score 1/2

The materials partially meet the criteria for this indicator. Materials include some guidance that explains how to analyze and respond to data from assessment tools.

Materials include some information and/or resources in the form of keys that provide guidance for evaluating student responses. Materials support teachers' analysis of assessment data with guidance and direction to respond to individual student's needs, in all areas of science, based on measures of student progress appropriate for the developmental level. Assessment tools yield relevant information for teachers to use when planning instruction, intervention, and extension. Materials provide a variety of resources and teacher guidance on how to leverage different activities to respond to student data.

Evidence includes but is not limited to:

Materials include information and/or resources that provide guidance for evaluating student responses.

- The Teacher Edition provided includes possible or anticipated responses students could give. The materials indicate these in blue font after each question in the unit activities. The Classroom Guide provides teachers with suggestions about when to evaluate student work. The Guide suggests using a "content anchor and revisiting the content anchor activities, and activities with a more complex component...as suitable for tasks for grading." There is a rubric provided to teachers to assess learning standards.
- Materials provide a Teacher Progress Tracker that collects data from students using their progress trackers, which prompts students to input their level of mastery for each TEKS-correlated activity they complete. Teachers can use the data to evaluate student learning and track student mastery and growth trends. The Teacher Edition directly answers most questions, labs, and activities. These answers help guide teachers in grading student work, including summative assessments at the end of each chapter. A rubric is available for activities that require more abstract tasks and critical thinking from students. For example, in Activity 28, a question is presented for students to research a virus and fill out a table with the information they found. The Teacher's Edition answer key portion for this question states, "Student's own answers based on their research," providing no guidance or rubric for how this question should be graded or evaluated. Additionally, Activity 126 contains a lab activity asking students to use

legos to build a model of protein synthesis, take pictures, print them out, glue them to the page, and annotate them. In the Teacher's Edition for this portion of the activity, there is no teacher guidance for possible student answers or suggestions on evaluating possible student answers.

- The Teacher Edition of the materials provides answers for each question embedded throughout the material. Included among the correct answers are predictions on possible student responses. For example, the Teacher Edition material provides possible student responses to questions classifying organisms and how to deliver the solution. The Classroom Guide offers teachers guidance for evaluating student performance/responses with sub-sections on formative and summative assessments. The Classroom Guide also provides a teacher notes section highlighting instructional strategies and guiding teachers to interpret student responses and learning. For example, in Activity 62, the materials suggest that teachers ask students to think of similar words in science so they can associate them with the terms “in” and “out” as they review the role of enzymes. Materials include a rubric to help guide and evaluate students’ open-ended responses.

Materials support teachers' analysis of assessment data with guidance and direction to respond to individual student’s needs, in all areas of science, based on measures of student progress appropriate for the developmental level.

- The Data Analysis Guide in the Implementation Guide guides teachers to respond to individual student needs. Materials do this by compiling students' “self-reported grades…and easily identifying both individual student and whole-class trends with the embedded data analysis tool.”
- The Data Analysis Guide provides essential instructional information for teachers' analysis of assessment data. The guide helps teachers break down the different parts of the Teacher Progress Tracker, giving clear instructions on using the progress tracker and collecting student data from students' progress trackers. The Analysis guide also provides key questions to help teachers analyze and reflect on the data collected and how to respond to individual student needs by referring to guidance in the Implementation Guide when students don't meet or exceed expectations. Both the Teacher and Student Progress Trackers provide vital components that allow for quick and easy interpretation of data, including color coding proficiency levels (red for “Approaching,” yellow for “Proficient,” and green for “Mastery”). Additionally, as students collect data for each activity, the Teacher Progress Tracker has a feature that shows the percentage completion of each TEKS and the percentage rate of passing for each activity. Materials provide a Teacher Progress Tracker spreadsheet that accumulates student-inputted data from each student's Student Progress Tracker on their mastery assessment for each activity completed in the textbook. The authors break down the spreadsheet by chapter, topic, activity, TEKS, and learning outcomes providing clear learning expectations for each rating opportunity. Teachers can use this to target specific learning objectives for which students need extra attention.
- The materials answer each question in the summing-up section of each chapter. For example, the materials answer multiple-choice questions and short-answer responses. These answers work with the Scope and Sequence guide in the Implementation Guide, where there are built-in “catch-up lesson” suggestions if needed. The materials offer consistent assessment opportunities that students engage with throughout the material and provide guidance to teachers with both correct answers and potential student answers. For example, the Teacher Edition offers answers to questions and teacher guidance. Teachers can use this to determine the level of student mastery.

BIOZONE Biology for Texas

Assessment tools yield relevant information for teachers to use when planning instruction, intervention, and extension.

- The Data Analysis Guide provides teachers with relevant information to use in planning. TEKS breaks down the information provided to teachers and identifies the activities that assess the TEKS. The data provided takes into account student-self-reported data as well as student-completion data. The Biozone Hub provides teachers with a Google Sheet (teachers must make a copy) with tracking data for each TEKS. The data table provided is broken down by chapter and within each chapter by TEKS and topics. Teachers will enter a student's level of mastery, and from there, teachers can see the class's progress. Teachers can use this data to determine if more instruction, interventions, or extensions are needed.
- The Data Analysis Guide contains questions for teacher reflection to guide teaching by having the teacher analyze data collected for trends, if students achieved learning outcomes, how students did based on learning groups, and more. An example question includes, “How can the students, who did not meet the Learning Outcome/s, be provided with further opportunity to achieve them?” prompting the teacher to create a planning strategy to help students who did not meet expectations. The Data Analysis Guide provides critical guidance for teachers to reference the Implementation Guide when analyzing student data for students who still need to meet or surpass expectations. The Data Analysis Guide states, “A student showing an “Approaching” trend may need to be referred to the scaffolding advice listed in the Lesson implementation section of this Implementation guide. Likewise, a student showing a “Mastery” trend may need to be further extended, with advice and suggestions also listed under each lesson/activity in the Lesson implementation guide,” providing critical instructions for teacher intervention and extension for specific students. The Teacher Progress Tracker yields relevant information for teachers by color-coding students' progress. For each learning outcome/TEKS, students rate if they are approaching, proficient, or mastery level based on how well they completed each activity. These reflections are shown and color-coded in the Teacher Progress Tracker, showing red for “Approaching,” yellow for “Proficient,” and green for “Mastery,” allowing the teacher to evaluate the next steps for student learning quickly.
- The scope and sequence guide in the implementation guide provides details on each activity about planning, intervention, and extension. The scope and sequence guide provides TEKS for knowledge and skills requirements and scientific and engineering practices. The guide also provides possible interventions. Additionally, there are built-in sections for formal assessments and catch-up lessons as needed. Each chapter's summing-up sections contain questions relevant to High School Biology. The color-coded tab system indicates which questions are associated with particular TEKS or scientific & engineering practices. The implementation guide contains a lesson reflection guide that directs teachers in reflection on provided lessons and targets growth in lesson delivery and student mastery opportunities.

Materials provide a variety of resources and teacher guidance on how to leverage different activities to respond to student data.

- Materials in the Implementation Guide identify ways teachers can offer different activities in response to student data. The “Notes” section suggests these as either scaffolding, extension, or literacy, and each section explains how teachers can use the particular tools within a lesson. The Implementation Guide provides a variety of activities to assign students according to student data learning outcomes. The Implementation Guide provides scaffolding and extension

resources for students who need extra attention on a learning outcome/TEKS or extension activities to further their learning. For example, for Activity 105: Tropisms and Growth Responses, the Implementation Guide instructs scaffolding students by projecting the tropisms and their names on the board that they can cross off as they use them for the activity. At the same time, for an extension, it is suggested that students can find other words beginning with the tropisms prefixes. The Teacher's Notes section of the Classroom Guide also provides teacher instruction for intervention and extension strategies teachers can use to further student understanding. For example, in Activity 150, the Teacher's Notes suggest that “Students can be extended by researching examples of linked genes in humans and other organisms, and discuss the evolutionary advantage of this phenomenon.” The Classroom Guide contains a TEKS Science Concepts section that lists the TEKS and provides activity numbers for corresponding activities that coincide with those TEKS. Teachers can use this to reinforce student understanding of learning outcomes/TEKS that they have rated as 'Approaching' or 'Proficient' to develop an understanding of the concepts further.

- The materials guide teachers on leveraging activities to meet the needs of emerging bilingual students by providing ELPS material at the beginning of each chapter. This guidance is in response to student data indicators for bilingual program participants. The material describes how to potentially adjust the material for students ranging from beginning to advanced high. The materials have “need help” icons scattered throughout and guide teachers/students on placing additional resources. The BIOZONE Resource Hub contains various supplemental materials that teachers can use to reinforce to deliver material to students based on student data. The additional materials include specifically targeted content, such as the ELL-suggested activities in the Photosynthesis section.

BIOZONE Biology for Texas

Indicator 6.3

Assessments are clear and easy to understand.

1	Assessments contain items that are scientifically accurate, avoid bias, and are free from errors.	M
2	Assessment tools use clear pictures and graphics that are developmentally appropriate.	M
3	Materials provide guidance to ensure consistent and accurate administration of assessment tools.	M
4	Materials include guidance to offer accommodations for assessment tools that allow students to demonstrate mastery of knowledge and skills aligned with learning goals.	PM

Partial Meets | Score 1/2

The materials partially meet the criteria for this indicator. Assessments are somewhat clear and easy to understand.

Assessments contain items that are scientifically accurate, avoid bias, and are free from errors. Assessment tools use clear pictures and graphics that are developmentally appropriate. Materials provide guidance to ensure consistent and accurate administration of assessment tools. Materials include some guidance to offer accommodations for assessment tools that allow students to demonstrate mastery of knowledge and skills aligned with learning goals.

Evidence includes but is not limited to:

Assessments contain items that are scientifically accurate, avoid bias, and are free from errors.

- Assessments provided to teachers at the end of each unit contain scientifically accurate items that align with intentionally taught objective(s). For example, at the end of each assignment, questions are posed to students that pertain to information presented and mastered through the activities. This practice is in Activity 1.3, where students test simple diffusion across a membrane. The questions posed after the lesson are scientifically accurate and pertain directly to the investigation. The material provides students' assessments that avoid bias because they include several accessible examples. For example, the Student Edition provides students with several visual examples in the event they have not personally experienced or come in contact with the presented phenomenon.
- At the end of each chapter is a Summing Up assessment containing scientifically accurate questions relevant to scientific information students were taught during the chapter. For example, in Unit 5 Activity 140 Summing Up, after students learn about gene and DNA expression throughout the chapter, they are questioned about different types of gene mutations, gene expression, relevant vocabulary, and scientific concepts related to the TEKS in the chapter. An example question includes a multiple choice question that asks, "Which is the correct sequence for gene expression?" The Teacher's Edition includes an answer key for all questions in the Student Edition, including the Summing Up assessment activities. These answer keys have correct answers that are free from error or bias. For example, the authors ask factual questions that do not prompt opinion-based responses. In Chapter 5, Summing Up, question 14

directs students to match a type of mutation with its corresponding DNA sequence example. There is only one correct answer for each question, avoiding ambiguity and bias.
- The Resource Hub contains a vast amount of additional resources that are scientifically accurate. These additional articles and videos are free from errors and bias. An example of the supplemental material is in the genetics section of the Resource Hub, where there is a link to an external article, Genotype-Phenotype Associations and Human Eye Color. The article includes citations and references which support a bias-free approach. Teachers can use some of the additional material in the Resource Hub as assessment material. The chapter Summing Up sections contains various question types with an answer key for teachers. These questions are free from errors or bias and are scientifically accurate. For example, at the end of Chapter 1, you will find multiple-choice, graphing, short-answer, and open-ended response questions. The assessment sections of the material maintain their bias-free approach by ensuring that both formal and informal assessments are grounded in TEKS and SEPs. Evidence is throughout the material via tags that indicate each question. For example, in Chapter 2, questions on mitotic cell division correspond to TEKS B.6A and SEPs B.3A, respectively.

Assessment tools use clear pictures and graphics that are developmentally appropriate.

- The materials provide clear pictures and graphics throughout the assessment questions. For example, in Chapter 1 of the Student Edition, the “What is a Sponge?” activity has a clear image of a labeled sponge cell for students to reference when answering the assessment questions. The materials provide developmentally appropriate images, as seen in Ecological Relationships. The images provided clearly show students the types of relationships found in ecosystems but are not overly gruesome or graphic.
- At the end of each chapter, in the Summing Up assessment tool, clear pictures and graphics are provided for students to answer questions. Pictures and graphics are clear, high quality, and labeled as needed. For example, in Chapter 7, Summing Up, the assessment has several images and graphics, all depicted clearly: the cladograms, structures on the insects, and the captions on the fossil. Images and graphics used in assessments are developmentally appropriate. For example, in Activity 84, Interacting Systems: Pregnancy and Birth, materials use developmentally appropriate images that teach students about pregnancy and birth without including details that are too intricate or inappropriate; they also use graphics and not real-life images to depict necessary body systems.
- The assessment tools have clear and appropriate graphics. For example, in the summing-up section of chapter 3, a photograph of a mitochondrion clearly displays the organelle. The question applies directly to the graphic used. The material provides developmentally appropriate graphics. These graphics are clear and understandable to students. For example, in Chapter 3, students are given a flow chart of reactants and products for photosynthesis that they will use for multiple questions but is clearly understandable.

Materials provide guidance to ensure consistent and accurate administration of assessment tools.

- The materials provided to the teacher supply clear guidance for assessments, as seen in the Classroom Guide. The Classroom Guide provides teachers with an overview of lesson planning, teaching, and assessments. In the assessments section of the Classroom Guide, the materials guide teachers about when they can use these assessment tools throughout the student's learning experiences. The Teacher Edition provides a key to teachers that they can use to help

support the teacher's understanding of the administered assessments. The answers to the student activity questions are in blue in the Teacher's text.

- The Classroom Guide provides an Assessment overview in the Suggestions For Planning, Delivery, and Assessments section. This information outlines and guides the use of formative and summative assessment material within the student edition. The Teacher's Edition includes a complete answer key for all assessments providing straightforward answers to all Summing Up assessments.
- The material provides easy-to-follow teacher guidance that ensures students receive consistent and accurate administration of assessment tools. The Classroom Guide offers a section titled “Evaluating Student Performance” that provides detailed guidance to teachers concerning assessment tools within the material. The Implementation Guide advises teachers on when to schedule assessments to best meet students' needs. This guidance has clear indicators, such as when a grading period should begin and end and when teachers may need "catch-up" days before assessments. The materials offer answer keys for all questions. These keys include formal assessment opportunities such as the Summing Up sections and informal areas such as those embedded within the lessons. These assessment opportunities are throughout the material. Chapter 8 occurs with short answer responses, fill-in-the-blank, multiple choice, and graphical responses.

Materials include guidance to offer accommodations for assessment tools that allow students to demonstrate mastery of knowledge and skills aligned with learning goals.

- Materials include some guidance to offer accommodations for assessment tools. For example, materials provide text-to-speech, which allows students to hover over the text and produces audio recordings for students who need this accommodation. Text-to-speech is available within the operating systems (ChromeOS, Windows, MacOS) allowing accessibility to students who need this accommodation.Alternatively, there is no option for speech-to-text or audio recordings for students to convert their voice into a text answer or record their voice as an answer when needed. For example, materials do not offer color-coded text within assessments or shortened assessments for students who require this accommodation.
- The materials provide general guidance to cover assessments. The materials make mention of potential scaffolding needs that teachers can implement; however, materials do not include guidance on how to perform this throughout. There are also other mentions of accommodating actions; however, these are not actions directly related to formal assessments, such as providing a larger spoon to complete an activity if students have issues with a standard-size spoon.

BIOZONE Biology for Texas

Indicator 7.1

Materials include guidance, scaffolds, supports, and extensions that maximize student learning potential.

1	Materials provide recommended targeted instruction and activities to scaffold learning for students who have not yet achieved mastery.	M
2	Materials provide enrichment activities for all levels of learners.	M
3	Materials provide scaffolds and guidance for just-in-time learning acceleration for all students.	M

Meets | Score 2/2

The materials meet the criteria for this indicator. Materials include guidance, scaffolds, supports, and extensions that maximize student learning potential.

Materials provide recommended targeted instruction and activities to scaffold learning for students who still need to achieve mastery. Materials offer enrichment activities for all levels of learners. Materials provide scaffolds and guidance for just-in-time learning acceleration for all students.

Evidence includes but is not limited to:

Materials provide recommended targeted instruction and activities to scaffold learning for students who have not yet achieved mastery.

- Materials offer teachers recommendations targeted to instruction and scaffold activities. The Implementation Guide provides teachers with possible scaffolds for students who have not yet mastered the content. The notes section of the Implementation Guide lists the scaffolds. The Classroom Guide provides teachers with an understanding of how the Student Edition scaffolds learning. The materials state that the Classroom Guide caters to all ability levels.
- The Classroom Guide includes scaffolds for learners' progress. It consists of the 5E Model of Science Instruction: Engage, Explore, Explain, Extend, and Elaborate. Activities depend on the progress of the students. The Classroom Guide, Evaluating Students' Performance, includes formative assessments to determine how students' knowledge is progressing within a selected topic. Based on these data, teachers revise instruction, revisit materials, or set further tasks if the student has yet to master the TEKS.
- Materials provide ample evidence through ancillary components and teacher resources. The Data Analysis Guide provides instructions for using the Student and Teacher Progress trackers allowing both students and teachers to track progress and refer back to sections where scaffolding needs to occur and where students might need extra help. The Implementation Guide provides specific notes on scaffolding for most student activities and includes teacher suggestions of content and activities to facilitate student understanding.
- The materials provide scaffolded learning activities to support students on a path to mastery. The Classroom Guide guides teachers in targeted instruction. The Implementation Guide consistently advises teachers where targeting scaffolding will assist students on a path to mastery of the content.

BIOZONE Biology for Texas

Materials provide enrichment activities for all levels of learners.

- Materials provide learners with enrichment activities. The Classroom Guide states that extension activities are available throughout the Student Edition. The red triangle icon says that this activity (found in the Student Edition) is suitable for extending to more able students. The Implementation Guide identifies ways teachers can offer extensions during lessons for enrichment. The Notes section of the Implementation Guide has these extensions.
- The Classroom Guide illustrates material design that caters to all students' needs. It also promotes differentiated instruction. For example, the Classroom Guide includes support videos, games, and animations to help striving learners understand the content.
- Materials provide ample evidence throughout the materials provided. For example, several suggestions exist in the Teacher Notes section to take students on enrichment activities such as field trips and to take students outside the classroom for field exploration, observation, and investigations of current TEKS. In the Biozone Resource Hub, teachers and students can find various articles, videos, 3D models, interactive activities, and more for each chapter unit, enriching student learning.
- The materials provide activities that are conducive to providing enrichment to learners of all levels. Multiple activities allow teachers to utilize Kagan grouping strategies or other grouping strategies within the design of the lesson. The materials offer guidance to teachers and students that support the learning of all students at various learning levels. The materials provide multiple supports that address multiple learning needs.

Materials provide scaffolds and guidance for just-in-time learning acceleration for all students.

- Materials provide students with scaffolds and guidance for just-in-time learning. The Classroom Guide guides the teacher about scaffolding and guidance for just-in-time learning. This page identifies that teachers need to use the Science Practices chapter to help develop the SEPs.
- The Classroom Guide includes a planning tool for students to track their progress, scaffold complex concepts, and plan just-in-time learning for acceleration. Chapter 8, Learning Outcomes, provides a checklist for students to scaffold and guide their learning.
- Materials provide ample evidence through the product's website and ancillary resources. For example, in the Biozone Resource Hub, teachers and students can find various articles, videos, 3D models, interactive activities, and more for each chapter unit, which teachers can use as extension activities for accelerated learners. The Implementation Guide provides specific notes on each activity for teachers to help students understand specific concepts.
- The materials consider time constraints and various levels of students' abilities. The materials offer pacing recommendations and support for teachers and students to complete the content within a reasonable amount of time. The materials provide teachers guidance and opportunities to support students' learning needs concerning the time needed to master concepts. The Implementation Guide provides a calendar where suggested "Catch-up Lessons" would benefit students who need additional time or enrichment. The materials offer teachers guidance on the timing and pacing of instruction. In addition, the materials also provide teachers with recommendations to keep students on pace. The Classroom Guide details this guidance. The materials offer students guidance that increases their efficiency in learning. The material provides "Need Help" icons throughout the materials that direct students to prior information that can help them build connections to the current lesson.

BIOZONE Biology for Texas

Indicator 7.2

Materials include a variety of research-based instructional methods that appeal to a variety of learning interests and needs.

1	Materials include a variety of developmentally appropriate instructional approaches to engage students in the mastery of the content.	M
2	Materials consistently support flexible grouping (e.g., whole group, small group, partners, one-on-one).	M
3	Materials consistently support multiple types of practices (e.g., modeled, guided, collaborative, independent) and provide guidance and structures to achieve effective implementation.	M
4	Materials represent a diversity of communities in the images and information about people and places.	M

Meets | Score 2/2

The materials meet the criteria for this indicator. Materials include a variety of research-based instructional methods that appeal to a variety of learning interests and needs.

Materials include a variety of developmentally appropriate instructional approaches to engage students in the mastery of the content. Materials consistently support flexible grouping (e.g., whole group, small group, partners, one-on-one). Materials consistently support multiple types of practices (e.g., modeled, guided, collaborative, independent) and provide guidance and structures to achieve effective implementation. Materials represent a diversity of communities in the images and information about people and places.

Evidence includes but is not limited to:

Materials include a variety of developmentally appropriate instructional approaches to engage students in the mastery of the content.

- Materials include a variety of developmentally appropriate instructional approaches. The Implementation Guide provides a variety of appropriate instructional techniques (based on TEKS) to engage students. The assessment column of the Implementation Guide lists these approaches. The Classroom Guide indicates that the structure of the materials includes a variety of developmentally appropriate instructional approaches that engage all students. These approaches are identified with different icons and located throughout the student materials.
- Materials provide ample evidence through various hands-on, visual, scientific, and academic approaches for content mastery. For example, located in the Biozone Resource Hub is a variety of videos, 3D models, interactive simulations, and extended reading research articles for students to engage in and further develop content knowledge. In another example, Activity 98, Investigating Plant Propagation, students are tasked with investigating how different soils can impact the growth of a propagated plant.
- The materials offer various types of assessments and progress monitoring opportunities. The materials also guide teachers about multiple instructional approaches in each upcoming chapter

and activity via a Tab System. Each tab in the system also denotes the learning strategy teachers use.

Materials consistently support flexible grouping (e.g., whole group, small group, partners, one-on-one).

- Materials provide and support flexible grouping for students. The Implementation Guide identifies ways teachers can support flexible grouping. The flexible grouping is recommended for the activities under the assessment column of the Implementation Guide. The Classroom Guide provides information that states student materials are structured with a flexible learning approach. The student materials guides teachers to divide students in a way that allows for small groups, partners, etc.
- The Classroom Guide includes different types of collaborations: small groups, groupings, and peer-to-peer learning. Students' materials in Chapter 8) of the ELPS indicate various groupings: peer-to-peer, small group, or one-on-one for different activities.
- Materials provide ample evidence throughout the materials. Best practice instructions suggest various groupings of students such as whole class, partners, groups, or individually completed activities. For example, Activity 239, Human Impacts on Marine Biodiversity, suggests students work in groups of 5-7 to conduct the experiment. At the beginning of each chapter, there are specific instructions for the teacher regarding ELPS, explaining why students work with partners for some of the activities. For example, in Chapter 6, the ELPS instructs students to work in pairs for specific steps of the activities.
- The materials guide teachers for flexible grouping and promoting positive student learning outcomes. The materials offer advice for teachers on appropriate places within the content to implement flexible grouping opportunities. This guidance comes as an icon (Teacher/Student Editions) found next to investigations and activities.

Materials consistently support multiple types of practices (e.g., modeled, guided, collaborative, independent) and provide guidance and structures to achieve effective implementation.

- Materials support multiple types of learning practices. The materials provide opportunities for teachers to implement various types of practices. The materials list these in the Assessment and Notes section of the Implementation Guide. The Classroom Guide provides teachers with examples of how they can use different types of practices within the lessons. Different icons denote these practices.
- The ELPs present modeling, collaboration, and independent work guidance structures to achieve effective implementation. For example, Summing Up includes ample activities for the students to support multiple types of practice and provides guidance and structures to achieve successful implementation.
- Materials provide ample evidence through various activities found within the student/teacher editions and in the Resource Hub. For example, Activity 145, Example of Genetic Variation, provides students with a guided investigation activity that includes question prompting and instructions. Additionally, a 'Need Help' section recommends students consult another activity if they get stuck. Activity 6, Investigating the Structure of Proteins, students use various colors of pipe cleaners to model the structure of a protein.
- The materials provide opportunities for students to engage with the content through investigations, written responses, group/collaborative work, and independent practice. Atab system guides via throughout the material. The assessment sections of the materials offer students opportunities to display content knowledge in various learning styles, including

graphical representation, written text, and multiple choice (Student Edition). The assessments can be given in segments to support student learning outcomes best. Teachers can assign group assessments to promote collaboration.

Materials represent a diversity of communities in the images and information about people and places.

- Materials represent a diversity of communities. The Student Edition represents diversity in the image shown. The image depicts people of multiple races and sexes. The Ecological Interactions chapter represents diversity within different communities. These images are seen throughout the chapter as photographs and illustrations.
- Materials provide ample evidence of diversity in communities. In Activity 54, Introduction to Photosynthesis, there are images of several ecosystems that describe aquatic and land plants that conduct photosynthesis. In Chapters 7 and 8, several examples of different species and ecological communities referenced from around the world. Throughout the text, various images of people of different cultures and ethnicities exist.
- The materials represent the diversity of people through images (Student/Teacher Editions) depicting people of various ethnic and cultural backgrounds. The materials represent diverse communities through pictures placed throughout the text in both the Student and Teacher Editions. These images reflect the diversity of populations and locations.

BIOZONE Biology for Texas

Indicator 7.3

Materials include listening, speaking, reading, and writing supports to assist emergent bilingual students in meeting course-level science content expectations.

1	Materials include guidance for linguistic accommodations (communicated, sequenced, and scaffolded) commensurate with various levels of English language proficiency as defined by the ELPS.	M
2	Materials encourage strategic use of students' first language as a means to linguistic, affective, cognitive, and academic development in English.	M

Meets | Score 2/2

The materials meet the criteria for this indicator. Materials include listening, speaking, reading, and writing supports to assist emergent bilingual students in meeting course-level science content expectations.

Materials include guidance for linguistic accommodations (communicated, sequenced, and scaffolded) commensurate with various levels of English language proficiency as defined by the ELPS. Materials encourage the use of students' first language, if it is Spanish, through a glossary as a means to linguistic, affective, cognitive, and academic development in English.

Evidence includes but is not limited to:

Materials include guidance for linguistic accommodations (communicated, sequenced, and scaffolded) commensurate with various levels of English language proficiency as defined by the ELPS.

- In the Classroom Guide, materials provide teachers with ELPS guidance, including proficiency level, activity number, and page number. This resource indicates what the specific ELPS is that is being used in the particular activity. The Student Edition identifies symbols indicating the type of ELPS used within the material.
- In the Classroom Guide is a section entitled "Strategies for Using the ELPS," which guides teachers for ELPS implementation and use. Each chapter begins with a list of ELPS strategies for teachers and students. These strategies are labeled as beginner, intermediate, and advanced.
- The materials guide for teachers to assist with ELPS. Materials provide teachers extensive support that builds vocabulary and English proficiency with content-related material throughout the content. The materials offer teacher guidance on ELPS. The author's prefaced each chapter with additional information to assist teachers in delivering material to emerging bilingual students. The implementation guide contains a column where teachers can reference the ELPS correlated to each segment of the material to ensure they provide students with the appropriate delivery and assistance for their English proficiency level.

BIOZONE Biology for Texas

Materials encourage strategic use of students' first language as a means to linguistic, affective, cognitive, and academic development in English.

- Materials encourage students to make use of their first language. The Glossary, in the back of the Student Edition, offers English and Spanish definitions of vocabulary terms. The Spanish translation appears blue in the glossary under the English definition. The Implementation Guide details the ELPS and how teachers can incorporate them into each activity. The Implementation Guide lists these under the ELPS column.
- Materials have evidence to support the use of students' first language. It is suggested that students have access to translation sites (ie Google Translate), encouragement, and opportunities for students to build content knowledge in their first language as well as English. In the Classroom Guide is a section entitled "Strategies for Using ELPS," where the materials advise the teacher to remind students to look for cognates.
- The materials provide evidence of strategic ELPS strategies and concepts that teachers should review with emerging bilingual students. The materials present students with opportunities to work through modeling, writing, and group discussions; apps, such as Google Translate, give students accessibility to materials in their first language.The Teacher Guide contains evidence on guidance available for English Language learners to utilize that includes color coding of words contained in the Spanish/English glossary as well as the text-to-speech tool available in the digital version of the materials. BIOZONE World offers students the option to translate the contents of the book into multiple languages.

BIOZONE Biology for Texas

Indicator 7.4

Materials guide fostering connections between home and school.

1	Materials provide information to be shared with students and caregivers about the design of the program.	M
2	Materials provide information to be shared with caregivers for how they can help reinforce student learning and development.	M
3	Materials include information to guide teacher communications with caregivers.	M

Meets | Score 2/2

The materials meet the criteria for this indicator. Materials provide information to be shared with students and caregivers about the design of the program.

Materials provide information to be shared with students and caregivers about the design of the program. Materials provide information to be shared with caregivers for how they can help reinforce student learning and development. Materials include information to guide teacher communications with caregivers.

Evidence includes but is not limited to:

Materials provide information to be shared with students and caregivers about the design of the program.

- The Student Edition breaks down how the authors designed the book. The breakdown includes the chapter structure, glossary, tab systems, TEKS, and the online Biozone Resource Hub, and has graphics and QR codes for support. As stated in the Student Edition, there is a link to the Biozone Research Hub for students and caregivers. The link provides access to the Hub, which offers "online content support" for the activities provided in the book. The types of support provided by the Hub include but are not limited to simulations, web links, PDFs, 3D models, spreadsheets, and videos.
- The Student Edition guides students and caregivers on how to use the program materials. It also discusses the purpose and design of the program. It includes different resources students will use throughout the program for their learning, including the textbook and the resource hub. At the beginning of each unit chapter, the Student Edition provides a list of TEKS covered and a learning outcomes checklist so students can preview what they will be learning in each chapter.
- The materials contain information pertaining to the content's design and structure and are available to both students and parents. Students and parents can find this material in the pages preceding Chapter 1. One example page is titled “Using This Book.” The materials guide students and parents on how to access and utilize resources in addition to the book. For example, the “Using Biozone Resource Hub” section explains to students and parents how to access the additional material and what to look for once they access the content.

BIOZONE Biology for Texas

Materials provide information to be shared with caregivers for how they can help reinforce student learning and development.

- The Implementation Guide allows students to continue learning at home via the Home Links. This information guides caregivers on how to use the “Home Links” to link student learning.
- The Implementation Guide contains 'home links': "These are suggestions where links can be made with the student's home and the appropriate lesson in class." These include possible activities for students to complete at home. A letter is provided for caregivers with ideas to reinforce student learning. Materials suggest activities for students to complete at home, such as 'homelinks', extensions, or links provided by the Resource Hub, the materials also include instructions to provide information to caregivers. For example, a letter for caregivers encouraging students to complete activities in the Resource Hub at home. Resources for Caregivers gives guidance to caregivers to facilitate student learning. . Materials include a link in the Implementation Guide for “Working With Parents to Support Children's Learning,” the guide only contains teacher suggestions for involving caregivers in student learning, not specific content-based instructions on how caregivers can help reinforce content-based instruction.
- The materials offer guidance to teachers through “Home-Link” tips embedded within the implementation guide; the information does offer advice to caregivers about using it. The lesson reflection guide directs teachers to consider if they can add additional elements to enhance the learning experience at home. Teachers are encouraged to add to the guide based on specific connections that their students may have with the material, asking themselves “how can this lesson be further adapted to connect to students' lived experiences?” Materials include information to guide teacher communications with caregivers.
  A link is provided to teachers in the Research and Resources section of the Implementation Guide to further communicate with caregivers. The link from the Education Endowment Foundation is titled “Working with Parents to Support Children's Learning.” This document provides several strategies that guide teachers and support them in communication with caregivers.
- The BIOZONE Resource Hub includes a Student Progress Tracker under Implementation Resources. As students progress through the materials, they can check what they’ve learned and receive teacher feedback. Teachers can share this tracker with caregivers who can see their student’s progress.
- The Implementation Guide provides embedded reminders to teachers to seek out caregivers to offer expanded learning opportunities through at-home activities and assignments described as “Home-links.” For example, the activity on viruses contains the following Home-Link suggestion, “Ask your parents or grandparents, or older caregivers, what viruses used to be more common when they were children, and how were they prevented?” and “If any families come from other countries, what types of viruses are more common there?” The Implementation Guide contains multiple opportunities and guiding questions that teachers can provide students to incorporate caregivers at home and extend student learning outside the classroom. For example, one activity on plants contains the following home-link suggestion, “Students could continue with their plant propagation investigation at home, especially if there is a suitable place for the plant to continue growing. Do any parents have the horticultural experience they could share with the class?”

BIOZONE Biology for Texas

Indicator 8.1

Materials include year-long plans with practice and review opportunities that support instruction.

1	Materials are accompanied by a TEKS-aligned scope and sequence outlining the order in which knowledge and skills are taught and built in the course materials.	M
2	Materials provide clear teacher guidance for facilitating student-made connections across core concepts and scientific and engineering practices.	M
3	Materials provide review and practice of knowledge and skills spiraled throughout the year to support mastery and retention.	M

Meets | Score 2/2

The materials meet the criteria for this indicator. Materials include year-long plans with some practice and review opportunities that support instruction.

Materials include a TEKS-aligned scope and sequence outlining the order in which knowledge and skills are taught and built-in course materials. Materials provide teacher guidance for facilitating student-made connections across core concepts and scientific and engineering practices. Materials provide review and practice of knowledge and skills spiraled throughout the year to support mastery and retention.

Evidence includes, but is not limited to:

Materials are accompanied by a TEKS-aligned scope and sequence outlining the order in which knowledge and skills are taught and built in the course materials.

- The Implementation Guide contains a scope and sequence and includes TEKS and a pacing guide for teachers to follow.
- The Implementation Guide notates each TEKS and lists the teaching order for the year. The Classroom Guide pages identify TEKS and Activities, listing page numbers in the workbook.
- The materials provide a scope and sequence of knowledge and skills that will be taught for each unit in the teacher edition of the Biozone Biology materials. In the student edition, on page one of each chapter, the materials provide a chapter review of concepts and TEKS at the beginning of each unit, including science concepts, scientific and engineering practices, and learning outcomes in order of their appearance in each unit chapter. In the Classroom Guide the materials provide a detailed outline of key knowledge and skills to be taught to students along with the TEKS that go along with each skill.
- Evidence of a TEKS-aligned scope and sequence is present in the Implementation Guide and in the Classroom Guide.

Materials provide clear teacher guidance for facilitating student-made connections across core concepts and scientific and engineering practices.

- The Classroom Guide contains the Scientific and Engineering Practices and where they are to be used within the activities.

- Activities and Practices, listed in the Implementation Guide under Student Expectations, identify Engineering Practices and ELPS. Various/some activities provide examples of practicing concepts. Materials identify the TEKS, SEPs, and ELPS within each activity with a TAB system on the bottom left of each page.
- In the Classroom Guide, for example, teachers are provided with generalized instructions on how to prompt student learning by pointing out key structures of an activity page. In the Classroom Guide, the “Teacher's Notes” provide guidance on how teachers facilitate student learning for various activities.
- Each chapter cover sheet of the Teacher Resources contains materials for scientific and engineering practices.

Materials provide review and practice of knowledge and skills spiraled throughout the year to support mastery and retention.

- In each chapter, the Implementation Guide lists what activities are provided, what the student task is, and how it is helpful to student learning. An example is the calendar of the scope and sequence Guide, it maps out activities and you can see an overview of activities throughout the year..
- B1.E appears in 13 activities throughout the year. The Classroom Guide lists the activities and page locations. B3.A appears in 67 activities throughout the year. The Classroom guide lists the TEKS and student expectations as well as activity number and pages they are found on.
- There is clear evidence of students reviewing knowledge and skills learning in each unit with the use of a “Summing Up” section at the end of each unit chapter. There is also clear evidence of student practice of knowledge and skills throughout each unit, as seen in the various questions and activities throughout each unit chapter. In the Classroom Guide, an outline of science and engineering TEKS can be found along with corresponding locations of activities that meet those TEKS, including the page number where the activity can be found in the teacher and student versions of the material.
- Each topic in the various chapters contains assessment questions in various formats that align with current STAAR testing. The Classroom Guide provides strategies for scaffolded learning and intended outcomes.

BIOZONE Biology for Texas

Indicator 8.2

Materials include classroom implementation support for teachers and administrators.

1	Materials provide teacher guidance and recommendations for use of all materials, including text, embedded technology, enrichment activities, research-based instructional strategies, and scaffolds to support and enhance student learning.	M
2	Materials include standards correlations, including cross-content standards, that explain the standards within the context of the course.	M
3	Materials include a comprehensive list of all equipment and supplies needed to support instructional activities.	M
4	Materials include guidance for safety practices, including the course-appropriate use of safety equipment during investigations.	M

Meets | Score 2/2

The materials meet the criteria for this indicator. Materials include classroom implementation support for teachers and administrators.

Materials provide clear teacher guidance and recommendations for the use of all materials, including text, embedded technology, enrichment activities, research-based instructional strategies, and scaffolds to support and enhance student learning. Materials include easy-to-find standards correlations, including cross-content standards, that explain the standards within the context of biology. Materials include a thorough and comprehensive list of all equipment and supplies needed to support instructional activities and investigations. Materials also include both teacher and student guidance for safety practices, including course-appropriate (biology) use of safety equipment during investigations.

Evidence includes but is not limited to:

Materials provide teacher guidance and recommendations for use of all materials, including text, embedded technology, enrichment activities, research-based instructional strategies, and scaffolds to support and enhance student learning.

- The Implementation Guide (IG 12) provides the teacher with key questions, keywords, and assessment types. Scaffolds and extensions, in the Notes section of the Implementation Guide for each lesson, help students master the standards and extend beyond them.
- The Scope and Sequence provide guidance and recommendations for teachers for each lesson: text, scaffolding, and instructional strategies. For example, on pages vii-x in the Teacher Edition, guidance for using the ELPS, as well as additional student supports, reinforce student understanding and comprehension.
- Materials provide guidance and recommendations for teacher use of text, research-based instructional strategies, enrichment activities, and scaffolding in the Implementation Guide on pages 3-10, Scope and Sequence Guide. Additionally, the materials contain guidance and recommendations for the use of necessary instructional materials in the Pacing Guide of the Implementation Guide. In the Classroom Guide, the teacher is encouraged to use embedded technological materials as an additional resource.

- Materials provide teacher guidance and recommendations for activities and content distribution. Materials guide the teacher. The material provides guiding questions, reflective components, learning outcomes, and assessment strategies. Materials provide guidance for the use of ELPS and additional supports located online.

Materials include standards correlations, including cross-content standards, that explain the standards within the context of the course.

- The Implementation Guide lists and describes standards for each lesson. Materials list English Language Proficiency Standards (ELPS) in the Implementation Guide. The Scope and Sequence, located in the Implementation Guide clearly lists TEKS for each unit.
- The Teacher Implementation Guide breaks down locations within chapters of the standards correlations, including cross-content standards. The Classroom Guide also provides detailed standards' correlation for each chapter.
- In the Classroom Guide, teacher guidance materials provide detailed standards correlations for each unit chapter. The teacher guidance materials include clearly outlined cross-curriculum standards (ELPS), including the breakdown, page number, and activity number in the Classroom Guide. Teacher guidance materials outline and give example directions for teachers to help ELL students through ELPS pages at the beginning of each unit chapter in the Teacher Edition.
- Materials clearly outline standards correlations. Each activity includes a summary and identifies TEKS applicable to the activity content. Materials clearly outline standards and their relation to TEKS. Information provided in the materials offers explanations and correlations to other sections of content.

Materials include a comprehensive list of all equipment and supplies needed to support instructional activities.

- The Classroom Guide includes descriptions of each activity. The Description includes student tasks, options for teacher facilitation, and what concepts are necessary. The Teacher Guide lists the materials needed for each lab. Materials are broken down by activity.
- The Teacher Edition provides complete lists of equipment and supplies needed for each. For example, the Teacher Edition, Investigation 1.1 Modeling Protein Structure, lists all materials required for the activity. In the appendix, teachers can also access the equipment and supplies needed to support instructional materials. For example, the Teacher Edition, Investigation 1.2 Preparing an Onion Slide, refers teachers to the appendix for an equipment list.
- The Teacher Edition of the materials provides a clear list of equipment and supplies needed for instructional activities. The Student Edition of the materials provides a clear list of equipment and supplies required for instructional activities.
- Materials include a detailed list of equipment and supplies needed for each investigation. The list contains items and quantities required per student/pair/group. The materials outline where a list of items can be found in companion material and detail the structure of each list. The list is located in the Appendix section of the material. For example, the first material list is for a lab on cells.

BIOZONE Biology for Texas

Materials include guidance for safety practices, including the course-appropriate use of safety equipment during investigations.

- At the top of each investigation, safety measures are listed. Symbols are shown, and precautions are written out. Student materials state when precautions should be taken in activities. Precautions are listed with a symbol and description.
- Materials provide clear guidance that is grade-level appropriate for safety practices to implement during investigations. Activities guide safety practices, including grade-appropriate use of safety equipment during investigations. For example, in the Teacher Edition, safety practices for Investigation 3.2 Measuring Respiration in Germinating Seeds it states that "Caution is required when handling potassium hydroxide as it is caustic and can cause chemical burns. You should wear protective eyewear and gloves." This helps the teacher prepare for the lab and safety of students during the lab investigation.
- The materials in both the Student and Teacher Editions include a review of safety practices. For example, Activity #272, Safety and Ethics in Investigations allows teachers to discuss and review safety procedures. Several materials contain safety warnings before activities that have safety concerns. For example, before Activity #60 in both the Student and Teacher Editions, there is a safety warning about a chemical being used, and it states to wear eyewear and gloves.

BIOZONE Biology for Texas

Indicator 8.3

Materials provide implementation guidance to meet variability in program design and scheduling.

1	Materials support scheduling considerations and include guidance and recommendations on required time for lessons and activities.	M
2	Materials guide strategic implementation without disrupting the sequence of content that must be taught in a specific order following a developmental progression.	M
3	Materials designated for the course are flexible and can be completed in one school year.	M

Meets | Score 2/2

The materials meet the criteria for this indicator. Materials provide implementation guidance to meet variability in program design and scheduling.

Materials support scheduling considerations and include guidance as well as recommendations on required time for lessons and activities. Following a developmental progression, materials guide strategic implementation without disrupting the sequence of content that must be taught in a specific order. Materials designated for the course are flexible and can be completed in one school year.

Evidence includes but is not limited to:

Materials support scheduling considerations and include guidance and recommendations on required time for lessons and activities.

- The Implementation Guide contains a pacing guide. The pacing guide identifies activities covered, types of activities, how many lessons, and chapters of the book. The Scope and Sequence in the Implementation Guide identifies, in red, the number of days that are recommended for a particular TEKS.
- The Implementation Guide provides a pacing guide that breaks down lessons by minutes, type of activity, and time management tips. The Scope and Sequence provides a calendar that identifies a recommended pace of lessons. Activities identified on the pacing guide, which allow the teacher to complete those best suited for students, are found on the pacing guide.
- The Implementation Guide includes a scope and sequence with a calendar and outline of the recommended sequence and timeframe for lessons to be completed. The Implementation Guide also contains a Lesson Implementation Guide with a breakdown of all unit lessons and a recommended length of time for each activity.
- Materials provide extensive evidence of scheduling support that includes the recommended pace and sequence. Materials provide scheduling considerations and guidance on steps to take to enhance student learning and better manage valuable time.

Materials guide strategic implementation without disrupting the sequence of content that must be taught in a specific order following a developmental progression.

- The Scope and Sequence and Pacing Guide, located in the Implementation Guide, follow the same order as the TEKS.

- Materials cover the logical order of the TEKS shown through the Scope and Sequence Guide. The Classroom Guide includes the length it takes to complete an activity) and guides teachers to enhance or shorten content as appropriate for their students, maintaining a logical sequence of material.
- Materials maintain a reasonable sequence of order and follow the teaching of necessary TEKS; this is seen in the Scope and Sequence Guide located in the Implementation Guide document. Materials maintain a reasonable sequence of order and follow the teaching of necessary TEKS; this is seen in the Teacher's Notes of the Classroom Guide.
- Materials provide a recommended sequence and pacing; however, teachers have the flexibility and can modify each to best accommodate the needs of their students. Materials provide opportunities for modification of pace and sequence. Materials encourage teachers to adjust pace and sequence to meet their students' needs.

Materials designated for the course are flexible and can be completed in one school year.

- The Pacing Calendar, located in the Implementation Guide, is designed to be completed over one school year. TEKS are covered at multiple points throughout the Pacing Guide. The Scope and Sequence in the Implementation Guide are designed to be completed over one school year. TEKS are covered at multiple points throughout the Pacing Guide.
- Materials provide a school-year-long calendar that designates days to cover material in the Scope in Sequence. Days may be eliminated or extended per students' needs.
- The Implementation Guide includes a Scope and Sequence with a calendar and outline of recommended sequence and timeframe for lessons to be completed in one school year. The Implementation Guide contains a Pacing Guide with a checklist of sequential activities to be completed; it includes the week and the grading cycle, which can be completed in one school year.
- Materials provide a calendar for reference, indicating content can be completed in one school year. The calendar can be adapted to meet various scheduling formats and includes consideration of holidays.

BIOZONE Biology for Texas

Indicator 9.1

The visual design of materials is clear and easy to understand.

1	Materials include an appropriate amount of white space and a design that supports and does not distract from student learning.	Yes
2	Materials embed age-appropriate pictures and graphics that support student learning and engagement without being visually distracting.	Yes
3	Materials include digital components that are free of technical errors.	Yes

Not Scored

The visual design of materials is clear and easy to understand.

Materials include an appropriate amount of white space and a design that supports and does not distract from student learning. Materials embed age-appropriate pictures and graphics that support student learning and engagement without being visually distracting. Materials include digital components that are free of technical errors.

Evidence includes but is not limited to:

Materials include an appropriate amount of white space and a design that supports and does not distract from student learning.

- Materials provided to students in the Student Edition includes an appropriate amount of white space. The design of the student materials nor the amount of white space does not distract from student learning. In the Biozone Resource Hub, there is an appropriate amount of white space within the materials so as not to distract student learning. Enough space is provided to differentiate material resources. For example, in the video, What is a Trait, the colored graphic is appealing and relevant to dominant and recessive alleles, and the video is properly titled and offset with proper white spacing. Within the Student Edition of the text, ample space is provided for students to answer questions and differentiate sections of work. For example, Chapter 7 Summing-Up, provides plenty of lines and space for students to fully answer questions about the relatedness among avian species.
- The material contains adequate white space so that the material is clear and understandable for students in both structure and flow. There is ample space provided for students to respond to questions and draw when necessary. For example, Chapter 1, asks students to respond to short answer questions and also draw what they imagine a sponge would look like under high-power magnification microscopy. The materials are organized around appropriate white space that allows students to clearly understand the correlation between diagrams and paragraphs both before and after graphics. For example, students can clearly identify the title of “Eukaryotes Have Complex Cells” and differentiate the paragraph from the corresponding image and the questions that are provided afterward.

BIOZONE Biology for Texas

Materials embed age-appropriate pictures and graphics that support student learning and engagement without being visually distracting.

- The graphics and pictures embedded into the Student Edition are age-appropriate. These pictures and graphics support student learning and are not visually distracting. The pictures provided to students include a description or summary to support student learning.
- Materials provide age-appropriate pictures and graphics to aid in student learning. For example, Activity 93, Transpiration, includes several images and graphics depicting cohesion, adhesion, and capillary flow of water up the xylem during transpiration to aid student understanding of the topic, including text to help explain the process. For example, Activity 205, Ecosystem Dynamics, contains several images and graphics to aid in student learning of ecosystems' abilities to stay stable, become resilient, and sustainable over long periods. Images include pictures of an ecosystem experiencing a natural disaster with before and after photographs. Graphics include graphs of data for students to analyze and draw conclusions about ecosystem stability and different variables changing within those ecosystems.
- The materials provide age-appropriate and curriculum-relevant photographs that support student learning without being a distraction. For example, in the student edition, there is a photo of a potometer and its user as students review how to design an investigation of factors affecting transpiration rate. The BIOZONE Hub contains a variety of additional material that provides extensive access to graphics and visuals to accompany the materials. These are all age appropriate and engage students without being a distraction to student learning. For example, the section on photosynthesis contains a 3-D model of a chloroplast where students can explore the details of the organelle in 3-D.

Materials include digital components that are free of technical errors.

- Materials are free from technical errors. Materials examined, such as digital materials, student editions, and materials in the Hub, do not have spelling, grammar, or punctuation errors. The content material is accurate, and answers are correct to problems presented.
- The Student Edition provides students with a link and a QR code to access the Online BIOZONE Hub. The link and code provided to access the Hub work without errors. The links found in the Online BIOZONE Hub are divided by chapter. The links are in working order.
- The BIOZONE Resource Hub contains several 3D models that provide digital models of content. For example, Chapter 3 has models of 3D cells that are accurately represented and labeled. The BIOZONE Resource Hub contains a variety of digital links and tools to help aid student learning, such as links to external articles, videos, 3D models, and interactive infographics that all work and are relevant to content. For example, Chapter 8 contains a section, How Does an Elephant Lose its Tusks? which has several links that all work and are relevant to the topic for students to explore.
- The BIOZONE Hub contains an extensive array of digital resources that are free from technical errors. Numerous video links are embedded within the content. For example, the photosynthesis content has a link to a video hosted on YouTube, BBC Botany: A Blooming History of Photosynthesis. The materials have embedded digital resources that are available to teachers and students that are free from technical errors. For example, inside the BIOZONE Hub, there is a section on evolution that contains additional information, Evolution in Action: Are Voles Shrinking?, in the form of PDF downloads for teachers and students.

BIOZONE Biology for Texas

Indicator 9.2

Materials are intentionally designed to engage and support student learning with the integration of digital technology.

1	Materials integrate digital technology and tools that support student learning and engagement.	Yes
2	Materials integrate digital technology in ways that support student engagement with science and engineering practices and course-specific content.	Yes
3	Materials integrate digital technology that provides opportunities for teachers and/or students to collaborate.	Yes
4	Materials integrate digital technology that is compatible with a variety of learning management systems.	Yes

Not Scored

Materials are intentionally designed to engage and support student learning with the integration of digital technology.

Materials integrate digital technology and tools that support student learning and engagement. Materials integrate digital technology to support student engagement with science and engineering practices and course-specific content. Materials integrate digital technology that provides opportunities for teachers and/or students to collaborate. Materials integrate digital technology that is compatible with a variety of learning management systems.

Evidence includes but is not limited to:

Materials integrate digital technology and tools that support student learning and engagement.

- The Student Edition integrates digital technology to support student learning through the use of the Biozone Online Hub. The instructions for accessing this feature are shown to students at the start of their book. It identifies how to log in to the platform and identifies what symbol is used throughout the book to signify when the online tool can be used. The embedded technology provides support to student learning and is used to support the print and not replace it. For example, in Activity 6, students can click on the QR code and they are directed to a 3D model of a quaternary-folded protein. This is an enhancement used to support the drawing.
- For example, both the Student Edition and the Biozone Resource Hub contain corresponding activity numbers and titles with information that correlates with each other. The Resource Hub provides digital technology and media that support students' learning goals referenced in the textbook. In Chapter 1, Activity 2, Biomolecules in the Cell, the Resource Hub provides links and interactive 3-D models to help support the understanding of biomolecules and parts of a cell as learned in the textbook. Located in the Classroom Guide, under Differentiated Learning, is a section for the Resource Hub, guiding teachers on implementation in the classroom alongside activities to facilitate better student understanding.
- The Biozone Hub contains a variety of digital technology tools and resources to support student learning. For example, in the section on biomolecules, the material contains embedded videos

(Amoeba Sisters), resource links (Crash Course: Biological Molecules), a dynamic periodic table, as well as interactive 3-D models. The materials contain embedded QR codes scattered throughout the materials that create interactive digital components for students to explore and extend their learning opportunities. For example, in Chapter 4, students review body systems and can scan multiple QR codes that will provide links to additional digital resources.

Materials integrate digital technology in ways that support student engagement with science and engineering practices and course-specific content.

- The materials provided to the students in the Student Edition allow students to use digital technology. For example, students can click on the QR code in Chapter 3 (Activity 52), and a large, 3D model of a mitochondrion comes up. Students can click on the number located on the model, and a description of the portion of the model being investigated pops up, allowing for student engagement. The Resource Hub contains a link at the start of each chapter with the attached resources students can use to support their learning. For example, in Chapter 3 of the Student Edition, students can click on the link on the Chapter 3 overview page, and from there, students are directed to the Resource Hub page that identifies the activities and the digital resources that can be used within the chapter to support student engagement.
- For example, Chapter 8, Activity 188, Modeling Natural Selection in Rock Pocket Mice, includes a link to the Biozone Resource Hub for students to download a spreadsheet to use for the scientific investigation. In Chapter 4, Activity 90, Interacting Systems in Plants, materials include a link to the Biozone Resource Hub for students to analyze images supporting their lab activity.
- The materials integrate technology in ways that support student learning and engagement. For example, in chapter 9, students access an interactive module where they explore biomass pyramids. Materials provide guidance to students on how to navigate and utilize the digital resource found in Biozone. The digital content is also linked through a bit.ly link. Students then perform calculations and analyze the data compared to their predictions. The tab system indicates that this activity is related to TEKS B.13B and SEP B.1B and B.1F. The materials require students to use integrated technology to complete investigations that are tied to content TEKS and SEPs. For example, in Chapter 9, students are asked to use Simpson's Index of Diversity via a calculator provided online in the Resource Hub. Students use the online tool to perform calculations and analyze data. The tab system indicates that this activity is related to TEKS B.13D and SEPs B.1F and B.1B. The material provides detailed guidance to students that directs them on the use of integrated technology tools designed to support student learning. For example, in Chapter 8, students must use a computer to create a spreadsheet as they investigate natural selection and track population frequencies over time. The materials carefully guide students on how to create the spreadsheet and then follow by asking students to use the spreadsheet to answer questions. The tab system indicates that this investigation activity covers TEKS B.10B and SEPs B.2A, B.1G, B.1F, B.2B, and B.3A.

Materials integrate digital technology that provides opportunities for teachers and/or students to collaborate.

- The materials provide clear opportunities for teachers and/or students to be able to collaborate digitally. The Implementation Guide provides teachers with guidance about how to use the Student Data Tracker and how to communicate with students digitally about the data in the tracker. Students are able to collaborate with one another on labs or classroom discussions through shared Google Doc or Teams Word Doc.

- Materials provide student-to-student collaboration in a technology setting. Digital materials are provided for student collaboration, such as forums for students to post in, online activities that students complete in pairs or groups to be used to collaborate on activities and learning. Materials do provide student-to-teacher collaboration in a technology setting. Opportunities for digital collaboration are used for teachers and students to correspond via messaging/Google Chat or video explanations or other online platforms where teachers can provide feedback to students on current projects allowing collaborative digital feedback in a timely fashion.
- In Investigation 9.3, students work in pairs to explore biomass pyramids. This investigation does incorporate collaboration as well as technology.
- In Chapter 9, students complete an investigation using an interactive model. Models include ways to promote student collaboration. Materials require students to collaborate and use technology to complete the assignments/investigations.

Materials integrate digital technology that is compatible with a variety of learning management systems.

- The materials provide the integration of digital technology compatible with a variety of learning management systems. The materials indicate the type of technology and/or online platform the resources are compatible with. Paper versions of materials are provided by the Student Progress Trackers. These can be used as an alternative to digital copies.
- The materials include information about specific devices and operating systems that work for the digital technology resources for these materials. This is listed in the Classroom Guide, Student Edition, Teacher's Edition, and/or Implementation Guide and provides clear information about what devices students and teachers can use to access necessary digital materials.
- The materials offer access to a variety of digital tools that work with multiple types of connected devices. For example, the classroom guide displays guidance on how students can use a phone or tablet to scan QR codes that have links to interactive 3-D models. The material indicate what OS systems, such as Android or iOS the materials support. The materials are accessible through multiple connected devices. The material displays a laptop graphic to show that some of the curriculum is accessible through a computer.

BIOZONE Biology for Texas

Indicator 9.3

Digital technology and online components are developmentally and course-appropriate and provide support for learning.

1	Digital technology and online components are developmentally appropriate for the course and align with the scope and approach to science knowledge and skills progression.	Yes
2	Materials provide teacher guidance for the use of embedded technology to support and enhance student learning.	Yes
3	Materials are available to parents and caregivers to support student engagement with digital technology and online components.	Yes

Not Scored

Digital technology and online components are developmentally and course-appropriate and provide support for learning.

Digital technology and online components are developmentally appropriate for the course and align with the scope and approach to science knowledge and skills progression. Materials provide teacher guidance for the use of embedded technology to support and enhance student learning. Materials are available to parents and caregivers to support student engagement with digital technology and online components.

Evidence includes but is not limited to:

Digital technology and online components are developmentally appropriate for the course and align with the scope and approach to science knowledge and skills progression.

- The Student Edition provides chances for students to access online materials that are aligned with the scope and approach to science knowledge. These online materials are listed throughout the Student Edition as QR codes which contain links that can enhance the student's learning experience. The materials provided to students are developmentally appropriate and align with the TEKS, as seen in Activity 7, where students are discovering the functions of proteins in cells (TEKS 5A). A digital extension is provided for students to click on, which reveals a digital, interactive 3D model of the cell.
- The Implementation Guide provides notes to the teacher referencing the existence of interactives that can be found in the Resource Hub. This provides a reference of when materials can be used as they directly correlate with the content and TEKS for a specific activity. For example, Activity 38 suggests interactives in the Resource Hub that can be used, along with TEKS alignment for B1.C, B1.F, B1.G, and 3.B. Digital technology and online components are appropriate for student use as they support all content from the textbook and all textbook materials have been deemed age appropriate in the Classroom Guide. Further learning materials found in the Resource Hub provide information that is specific to the content and TEKS of the course and is age appropriate as to provide information for student understanding but not so much as to overwhelm a high school student or to include anything inappropriate for a student to see.

- The materials provide developmentally appropriate content that aligns with the scope and approach to science knowledge and skills progression. For example, in the Resource Hub, Chapter 1 covers material within the biology TEKS. The section covers biomolecules, cellular functions, and composition through the use of online videos and 3D models. The digital content that is provided is developmentally appropriate. For example, in chapter 7 of the Resource Hub, there are links to PBS videos as well as interactive 3D models, and a link to an article about a Natural History Museum as students learn about evolution and common ancestry (TEKS B9.A).

Materials provide teacher guidance for the use of embedded technology to support and enhance student learning.

- In the “Using This Book” section of the Teacher Edition, the authors identify how teachers can access the online Resource Hub." The directions include graphics, a website, a QR code, and brief instructions on how to use the online resource. The Implementation Guide highlights for teachers how to use online Data Analysis. The materials indicate how to read and use both the teacher and student versions.
- Materials provide suggestions located in the Implementation Guide for when the teacher can assign or refer to the Resource Hub for extended work or extra resources for student understanding. For example, in the Implementation Guide for Activity 56, Investigating Photosynthetic Rate, the materials state, “Other methods of measuring photosynthetic rate are included on the Resource Hub,” guiding the teacher in the use of technology materials provided. Throughout the textbook, both student and teacher editions, there are embedded QR codes within activities for specific links provided by the Resource Hub. This helps teachers to identify locations in activities where, if students need extra help or modeling, they can view digital resources from the Resource Hub.
- The materials offer guidance to teachers and students on the use of embedded technology that supports and enhances student learning. For example, in Chapter 1, there are multiple QR codes that can be scanned to connect with additional resources/material that will extend learning opportunities. The materials offer guidance to teachers on the use of embedded technology available to students. For example, the teacher's guide contains a page located prior to the Chapter that is dedicated to using the Biozone Resource Hub. This page details how to use QR codes and material to connect with additional resources.

Materials are available to parents and caregivers to support student engagement with digital technology and online components.

- The materials provided to teachers include a letter that can be sent home to parents informing them of what is being taught at the start of each unit. This can be found in the teacher resource of each chapter. Chapter 1 includes an orientation video for students, parents, and caregivers. This video is an online orientation about the online textbook platform.
- Located in the Resource Hub is a 'Home Links' section for parents and caregivers. This section includes a User Guide for Parents and Caregivers, which provides them with information on how the materials are presented to students in the textbook. Additionally, the 'Home Links' page includes various links for resources to help parents and caregivers support their students in science learning, this includes a copy of the User Guide for Parents and Caregivers in Spanish.

- The materials are available to parents and caregivers. The additional digital components found online are icons throughout to support student engagement with the content. For example, on the opening page of the Biozone Resource Hub, there is a section titled “HOMELINK” which is described as “Resources for caregivers, including a home links user guide explaining key design features for the Biology for Texas program, flip-book access of the Student Edition, and useful links to digital resources to help with reinforcing ongoing learning at home.” There are a variety of technology resources available to parents within the Resource Hub. Within the Homelink section of the material, there is an “Additional Resource” page which contains a STEM Family Companion guide, Encouraging teen girls to pursue STEM, Keeping Teens Engaged, ...”