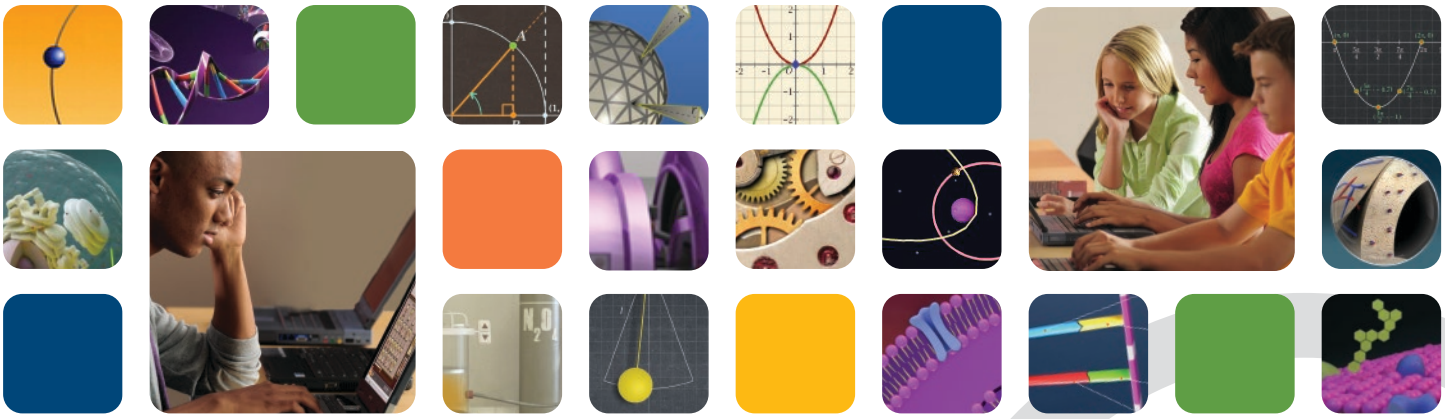
adaptive curriculum™

ac / TEKS Alignment

Dynamic, Interactive Learning



Readiness and Supporting Standards

Readiness Standards

These standards are considered essential for success in the current grade or course. They support college and career readiness as well as address broad, deep ideas with in-depth instruction.

Supporting Standards

These standards play a role in preparing students for the next grade though not a central role. They address more narrowly defined ideas and may be emphasized in a subsequent or previous year.

AC Science Activity Objects consist of five different types:

1. Concept Development

These activities introduce concepts through engaging, real-world scenarios and develop these concepts using an inquiry-based approach.

2. Experiment

These activities engage learners in a virtual lab environment to develop inquiry skills.

3. Skills Application

These activities help learners apply rules and procedures to strengthen computational skills.

4. Problem Solving

These activities engage learners with a guided problem-solving process to apply and enhance their science understanding.

5. Dynamic Modeling

These activities provide learners the opportunity to manipulate variables and observe dynamic changes with interactive 3D objects.

adaptive curriculum™

ac / TEKS Biology Alignment

High School Biology - Introduction

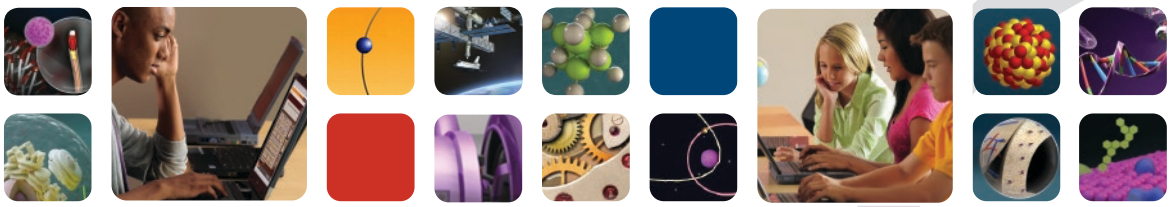
(1) Biology. In Biology, students conduct laboratory and field investigations, use scientific methods during investigations, and make informed decisions using critical thinking and scientific problem solving. Students in Biology study a variety of topics that include: structures and functions of cells and viruses; growth and development of organisms; cells, tissues, and organs; nucleic acids and genetics; biological evolution; taxonomy; metabolism and energy transfers in living organisms; living systems; homeostasis; and ecosystems and the environment.

(2) Nature of science. Science, as defined by the National Academy of Sciences, is the "use of evidence to construct testable explanations and predictions of natural phenomena, as well as the knowledge generated through this process." This vast body of changing and increasing knowledge is described by physical, mathematical, and conceptual models. Students should know that some questions are outside the realm of science because they deal with phenomena that are not scientifically testable.

(3) Scientific inquiry. Scientific inquiry is the planned and deliberate investigation of the natural world. Scientific methods of investigation are experimental, descriptive, or comparative. The method chosen should be appropriate to the question being asked.

(4) Science and social ethics. Scientific decision making is a way of answering questions about the natural world. Students should be able to distinguish between scientific decision-making methods (scientific methods) and ethical and social decisions that involve science (the application of scientific information).

(5) Science, systems, and models. A system is a collection of cycles, structures, and processes that interact. All systems have basic properties that can be described in space, time, energy, and matter. Change and constancy occur in systems as patterns and can be observed, measured, and modeled. These patterns help to make predictions that can be scientifically tested. Students should analyze a system in terms of its components and how these components relate to each other, to the whole, and to the external environment.



HIGH SCHOOL BIOLOGY
Texas Knowledge and Skills (TEKS)

State ID	TEKS	Student Expectation	Content	Activity Object	Animation
1.A	(1) Scientific processes. The student, for at least 40% of instructional time, conducts laboratory and field investigations using safe, environmentally appropriate, and ethical practices. The student is expected to:	(A) demonstrate safe practices during laboratory and field investigations; and	Laboratory Safety	●	
1.B	(1) Scientific processes. The student, for at least 40% of instructional time, conducts laboratory and field investigations using safe, environmentally appropriate, and ethical practices. The student is expected to:	(B) demonstrate an understanding of the use and conservation of resources and the proper disposal or recycling of materials.	Laboratory Safety	●	
2.A	(2) Scientific processes. The student uses scientific methods and equipment during laboratory and field investigations. The student is expected to:	(A) know the definition of science and understand that it has limitations, as specified in subsection (b)(2) of this section;	What is Science?		●
			Scientific Hypotheses and Theories		●
2.B	(2) Scientific processes. The student uses scientific methods and equipment during laboratory and field investigations. The student is expected to:	(B) know that hypotheses are tentative and testable statements that must be capable of being supported or not supported by observational evidence. Hypotheses of durable explanatory power which have been tested over a wide variety of conditions are incorporated into theories;	Osmosis	●	
			Scientific Hypotheses and Theories		●
			Diffusion	●	
			The Effect of Temperature on Enzyme Activity	●	
			Factors Influencing Photosynthesis: Temperature	●	
2.C	(2) Scientific processes. The student uses scientific methods and equipment during laboratory and field investigations. The student is expected to:	(C) know scientific theories are based on natural and physical phenomena and are capable of being tested by multiple independent researchers. Unlike hypotheses, scientific theories are well-established and highly-reliable explanations, but they may be subject to change as new areas of science and new technologies are developed.	Cell Theory and Cell Types	●	
			The History of Biology		●
			Scientific Hypotheses and Theories		●

Readiness Standard ●
Supporting Standard ▼

HIGH SCHOOL BIOLOGY
Texas Knowledge and Skills (TEKS)

State ID	TEKS	Student Expectation	Content	Activity Object	Animation
2.D	(2) Scientific processes. The student uses scientific methods and equipment during laboratory and field investigations. The student is expected to:	(D) distinguish between scientific hypotheses and scientific theories;	Scientific Hypotheses and Theories		●
2.E	(2) Scientific processes. The student uses scientific methods and equipment during laboratory and field investigations. The student is expected to:	(E) plan and implement descriptive, comparative, and experimental investigations, including asking questions, formulating testable hypotheses, and selecting equipment and technology;	Diffusion	●	
			Plants' Needs for Photosynthesis	●	
			Factors Influencing Photosynthesis: Carbon Dioxide	●	
			Factors Influencing Photosynthesis: Intensity and the Color of Light	●	
			The Nucleus and Control of a Cell: Hammering's Experiment with Algae	●	
			Domains and Kingdoms	●	
			Classification of Animals	●	
			Osmosis	●	
			The Effect of Temperature on Enzyme Activity	●	
			Investigating Photosynthesis with Van Helmont	●	
			Cell Theory and Cell Types	●	
			Comparing Plant and Animal Cells	●	
			Hidden Heroes: Bacteria	●	
			General Characteristics of Invertebrates		●
			Phototropism in Plants	●	

Readiness Standard ●
Supporting Standard ▼

HIGH SCHOOL BIOLOGY
Texas Knowledge and Skills (TEKS)

State ID	TEKS	Student Expectation	Content	Activity Object	Animation
2.F	(2) Scientific processes. The student uses scientific methods and equipment during laboratory and field investigations. The student is expected to:	(F) collect and organize qualitative and quantitative data and make measurements with accuracy and precision using tools such as calculators, spreadsheet software, data-collecting probes, computers, standard laboratory glassware, microscopes, various prepared slides, stereoscopes, metric rulers, electronic balances, gel electrophoresis apparatuses, micropipettors, hand lenses, Celsius thermometers, hot plates, lab notebooks or journals, timing devices, cameras, Petri dishes, lab incubators, dissection equipment, meter sticks, and models, diagrams, or samples of biological specimens or structures;	Interactions Among Organisms: Competition	●	
			Diffusion	●	
			Factors Influencing Photosynthesis: Carbon Dioxide	●	
			Domains and Kingdoms	●	
			Osmosis	●	
			The Effect of Temperature on Enzyme Activity	●	
			Investigating Photosynthesis with Van Helmont	●	
			Cell Theory and Cell Types	●	
			Experimental Error		●
			Accuracy and Precision		●
			General Characteristics of Invertebrates		●
			Hidden Heroes: Bacteria	●	
			Surface Area-to-Volume Ratio in Organisms	●	
2.G	(2) Scientific processes. The student uses scientific methods and equipment during laboratory and field investigations. The student is expected to:	(G) analyze, evaluate, make inferences, and predict trends from data; and	Surface Area-to-Volume Ratio in Organisms	●	
			Investigating Photosynthesis with Van Helmont	●	
2.H	(2) Scientific processes. The student uses scientific methods and equipment during laboratory and field investigations. The student is expected to:	(H) communicate valid conclusions supported by the data through methods such as lab reports, labeled drawings, graphic organizers, journals, summaries, oral reports, and technology-based reports.	Factors Influencing Photosynthesis: Carbon Dioxide	●	
			Investigating Photosynthesis with Van Helmont	●	

Readiness Standard ●
Supporting Standard ▼

HIGH SCHOOL BIOLOGY
Texas Knowledge and Skills (TEKS)

State ID	TEKS	Student Expectation	Content	Activity Object	Animation
3.A	(3) Scientific processes. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions within and outside the classroom. The student is expected to:	(A) in all fields of science, analyze, evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student;	Scientific Hypothesis and Theories		●
			Sorting and Identifying Animal Fossils	●	
			Analysis of Fossil Evidence	●	
			Diffusion	●	
			Osmosis	●	
			Homestasis	●	
			Investigating Photosynthesis with Van Helmont	●	
			Investigating Photosynthesis with Priestly and Ingenhousz	●	
			Plants' Needs for Photosynthesis	●	
			Factors Influencing Photosynthesis: Intensity and the Color of Light	●	
3.B	(3) Scientific processes. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions within and outside the classroom. The student is expected to:	(B) communicate and apply scientific information extracted from various sources such as current events, news reports, published journal articles, and marketing materials;	Applying and Communicating Scientific Information		●
			What is Science?		●
			Evaluating Products and Services		●
3.C	(3) Scientific processes. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions within and outside the classroom. The student is expected to:	(C) draw inferences based on data related to promotional materials for products and services;	Evaluating Products and Services		●
3.D	(3) Scientific processes. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions within and outside the classroom. The student is expected to:	(D) evaluate the impact of scientific research on society and the environment;	The History of Biology		●

Readiness Standard ●
Supporting Standard ▼

HIGH SCHOOL BIOLOGY
Texas Knowledge and Skills (TEKS)

State ID	TEKS	Student Expectation	Content	Activity Object	Animation
3.E	(3) Scientific processes. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions within and outside the classroom. The student is expected to:	(E) evaluate models according to their limitations in representing biological objects or events; and	The History of Biology		●
3.F	(3) Scientific processes. The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions within and outside the classroom. The student is expected to:	(F) research and describe the history of biology and contributions of scientists.	The History of Biology		●
			Cell Theory and Cell Types	●	
			Investigating Photosynthesis with Van Helmont	●	
			Investigating Photosynthesis with Priestley and Ingenhousz	●	
			Hammerling's Experiment with Cells	●	
			DNA to Protein Synthesis	●	
			Natural Selection	●	
			Find The Heir: Genetics Applied	●	
4.A	(4) Science concepts. The student knows that cells are the basic structures of all living things with specialized parts that perform specific functions and that viruses are different from cells. The student is expected to:	(A) compare and contrast prokaryotic and eukaryotic cells;	Cell Theory and Cell Types	▼	

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HIGH SCHOOL BIOLOGY
Texas Knowledge and Skills (TEKS)

State ID	TEKS	Student Expectation	Content	Activity Object	Animation
4.B	(4) Science concepts. The student knows that cells are the basic structures of all living things with specialized parts that perform specific functions and that viruses are different from cells. The student is expected to:	(B) investigate and explain cellular processes, including homeostasis, energy conversions, transport of molecules, and synthesis of new molecules.	Diffusion	●	
			Plants' Needs for Photosynthesis	●	
			Factors Influencing Photosynthesis: Carbon Dioxide	●	
			Factors Influencing Photosynthesis: Intensity and the Color of Light	●	
			Factors Influencing Photosynthesis: Temperature	●	
			Comparing Cellular Respiration and Fermentation		●
			Structure and Function of Cell Membrane	●	
			Osmosis	●	
			Homeostasis	●	
			Investigating Photosynthesis with Van Helmont	●	
			Glycolysis		●
			Krebs Cycle		●
			Aerobic Respiration and Photosynthesis		●
			Investigating Photosynthesis with Priestley and Ingenhousz	●	
			DNA to Protein Synthesis	●	
			Electron Transport Chain		●
			Conversion of Glucose into Different Organic Substances		●
			Comparing Lactic Acid Fermentation and Ethyl Alcohol Fermentation		●
			DNA Structure	●	
5.A	(5) Science concepts. The student knows how an organism grows and the importance of cell differentiation. The student is expected to:	(A) describe the stages of the cell cycle, including deoxyribonucleic acid (DNA) replication and mitosis, and the importance of the cell cycle to the growth of organisms;	The Cell Cycle and Mitosis	●	
			The Surface Area-to-Volume Ratio of Cells		●
			Identifying Cancerous Cells	●	
			Cancer Treatment	●	
5.B	(5) Science concepts. The student knows how an organism grows and the importance of cell differentiation. The student is expected to:	(B) examine specialized cells, including roots, stems, and leaves of plants; and animal cells such as blood, muscle, and epithelium;	Cell Organization		▼

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HIGH SCHOOL BIOLOGY
Texas Knowledge and Skills (TEKS)

State ID	TEKS	Student Expectation	Content	Activity Object	Animation
5.C	(5) Science concepts. The student knows how an organism grows and the importance of cell differentiation. The student is expected to:	(C) describe the roles of DNA, ribonucleic acid (RNA), and environmental factors in cell differentiation; and	Factors Involving Cell Differentiation		▼
5.D	(5) Science concepts. The student knows how an organism grows and the importance of cell differentiation. The student is expected to:	(D) recognize that disruptions of the cell cycle lead to diseases such as cancer	Identifying Cancerous Cells	▼	
			Cancer	▼	
6.A	(6) Science concepts. The student know the mechanisms of genetics, including the role of nucleic acids and the principles of Mendelian Genetics. The student is expected to:	(A) identify components of DNA, and describe how information for specifying the traits of an organism is carried in the DNA	DNA Structure	●	
			Find the Heir: Genetics Applied	●	
6.B	(6) Science concepts. The student knows the mechanisms of genetics, including the role of nucleic acids and the principles of Mendelian Genetics. The student is expected to:	(B) recognize that components that make up the genetic code are common to all organisms;	Biological Molecules as Evidence of Evolution		▼
			DNA to Protein Synthesis	▼	
			DNA Structure	▼	
			DNA Fingerprinting		▼
6.C	(6) Science concepts. The student knows the mechanisms of genetics, including the role of nucleic acids and the principles of Mendelian Genetics. The student is expected to:	(C) explain the purpose and process of transcription and translation using models of DNA and RNA;	DNA to Protein Synthesis	▼	
6.D	(6) Science concepts. The student knows the mechanisms of genetics, including the role of nucleic acids and the principles of Mendelian Genetics. The student is expected to:	(D) recognize that gene expression is a regulated process;	The Evolution and Complexity of Cells I: The First Cell	▼	
6.E	(6) Science concepts. The student knows the mechanisms of genetics, including the role of nucleic acids and the principles of Mendelian Genetics. The student is expected to:	(E) identify and illustrate changes in DNA and evaluate the significance of these changes;	Mutations		●
6.F	(6) Science concepts. The student knows the mechanisms of genetics, including the role of nucleic acids and the principles of Mendelian Genetics. The student is expected to:	(F) predict possible outcomes of various genetic combinations such as monohybrid crosses, dihybrid crosses and non-Mendelian inheritance;	Dihybrid Crosses		●
			Non-Mendelian Inheritance		●
			Mendel's Experiment	●	
			Genetic Inheritance in People	●	
			Find the Heir: Genetics Applied	●	

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HIGH SCHOOL BIOLOGY
Texas Knowledge and Skills (TEKS)

State ID	TEKS	Student Expectation	Content	Activity Object	Animation
6.H	(6) Science concepts. The student knows the mechanisms of genetics, including the role of nucleic acids and the principles of Mendelian Genetics. The student is expected to:	(H) describe how techniques such as DNA fingerprinting, genetic modifications, and chromosomal analysis are used to study the genomes of organisms.	DNA Fingerprinting		▼
			Cloning		▼
			The Human Genome Project		▼
7.A	(7) Science concepts. The student knows evolutionary theory is a scientific explanation for the unity and diversity of life. The student is expected to:	(A) analyze and evaluate how evidence of common ancestry among groups is provided by the fossil record, biogeography, and homologies, including anatomical, molecular, and developmental;	Biogeography as Evidence of Evolution		●
			Anatomical and Developmental Homologies as Evidence of Evolution		●
			Biological Molecules as Evidence of Evolution		●
			Fossils as Evidence of Evolution		●
			Sorting and Identifying Animal Fossils	●	
			Pangaea: Image of Earth 250 Million Years Ago	●	
			Analysis of Fossil Evidence	●	
7.B	(7) Science concepts. The student knows evolutionary theory is a scientific explanation for the unity and diversity of life. The student is expected to:	(B) analyze and evaluate scientific explanations concerning any data of sudden appearance, stasis, and sequential nature of groups in the fossil record;	The Evolution and Complexity of Cells I: the First Cell		▼
			Fossils as Evidence of Evolution		▼
			Sorting and Identifying Animal Fossils	▼	
			Analysis of Fossil Evidence	▼	
7.C	(7) Science concepts. The student knows evolutionary theory is a scientific explanation for the unity and diversity of life. The student is expected to:	(C) analyze and evaluate how natural selection produces change in populations, not individuals;	Types of Natural Selection		▼
7.D	(7) Science concepts. The student knows evolutionary theory is a scientific explanation for the unity and diversity of life. The student is expected to:	(D) analyze and evaluate how the elements of natural selection, including inherited variation, the potential of a population to produce more offspring than can survive, and a finite supply of environmental resources, result in differential reproductive success;	Interactions Among Organisms: Competition	▼	
			The Distribution of Seeds		▼
			Hardy-Weinberg Equation	▼	
			Natural Selection	▼	
			Biological Adaptations: Bird Beaks	▼	
7.E	(7) Science concepts. The student knows evolutionary theory is a scientific explanation for the unity and diversity of life. The student is expected to:	(E) analyze and evaluate the relationship of natural selection to adaptation and to the development of diversity in and among species;	Mass Extinction		●
			Mate Selection		●
			Hardy-Weinberg Equation	●	
			Natural Selection	●	
			Biological Adaptations: Bird Beaks	●	

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HIGH SCHOOL BIOLOGY
Texas Knowledge and Skills (TEKS)

State ID	TEKS	Student Expectation	Content	Activity Object	Animation
7.F	(7) Science concepts. The student knows evolutionary theory is a scientific explanation for the unity and diversity of life. The student is expected to:	(F) analyze and evaluate the effects of other evolutionary mechanisms, including genetic drift, gene flow, mutation, and recombination; and	Genetic Drift		▼
			Hardy-Weinberg Equation	▼	
			Natural Selection	▼	
			Biological Adaptations: Bird Beaks	▼	
			Gene Flow		▼
			Mutations		▼
			Genetic Recombination		▼
7.G	(7) Science concepts. The student knows evolutionary theory is a scientific explanation for the unity and diversity of life. The student is expected to:	(G) analyze and evaluate scientific explanations concerning the complexity of the cell.	The Evolution and Complexity of Cells I: The First Cell		▼
			The Evolution and Complexity of Cells II		▼
			The Nervous System	▼	
8.A	(8) Science concepts. The student knows that taxonomy is a branching classification based on the shared characteristics of organisms and can change as new discoveries are made. The student is expected to:	(A) define taxonomy and recognize the importance of a standardized taxonomic system to the scientific community;	History of Taxonomy		▼
			Taxonomic Ranking		▼
			Introduction to Classification	▼	
			Biological Classification		▼
8.B	(8) Science concepts. The student knows that taxonomy is a branching classification based on the shared characteristics of organisms and can change as new discoveries are made. The student is expected to:	(B) categorize organisms using a hierarchical classification system based on similarities and differences shared among groups; and	Domains and Kingdoms	●	
			Classification of Animals	●	
			Classification of Bacteria	●	
			Introduction to Protists	●	

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HIGH SCHOOL BIOLOGY
Texas Knowledge and Skills (TEKS)

State ID	TEKS	Student Expectation	Content	Activity Object	Animation
8.C	(8) Science concepts. The student knows that taxonomy is a branching classification based on the shared characteristics of organisms and can change as new discoveries are made. The student is expected to:	(C) compare characteristics of taxonomic groups, including archaea, bacteria, protists, fungi, plants, and animals.	The Animal Kingdom		▼
			Domains and Kingdoms	▼	
			Classification of Animals	▼	
			Reproduction in Bacteria		▼
			Comparing Monocots and Dicots		▼
			Endospore		▼
			Protista Kingdom		▼
			Importance of Protista		▼
			General Characteristics of Invertebrates		▼
			Introduction to Protists	▼	
			Structure of Bacteria		▼
			General Characteristics of Amphibians		▼
			General Characteristics of Reptiles		▼
			General Characteristics of Birds		▼
			General Characteristics of Mammals		▼
			Hidden Heroes: Bacteria	▼	
			The Plant Kingdom		▼
			Archaea		▼
			Benefits of Bacteria		▼
			Harms of Bacteria		▼
9.A	(9) Science concepts. The student knows the significance of various molecules involved in metabolic processes and energy conversions that occur in living organisms. The student is expected to:	(A) compare the structures and functions of different types of biomolecules, including carbohydrates, lipids, proteins, and nucleic acids;	Starch		●
			Glycogen		●
			Cellulose		●
			Chitin		●
			Lipids		●
			Proteins		●
			Introduction to Enzymes		●
			Functions of Enzymes		●
			Carbon and Carbohydrates		●

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HIGH SCHOOL BIOLOGY
Texas Knowledge and Skills (TEKS)

State ID	TEKS	Student Expectation	Content	Activity Object	Animation
9.B	(9) Science concepts. The student knows the significance of various molecules involved in metabolic processes and energy conversions that occur in living organisms. The student is expected to:	(B) compare the reactants and products of photosynthesis and cellular respiration in terms of energy and matter;	Plants' Needs for Photosynthesis	▼	
			Factors Influencing Photosynthesis: Carbon Dioxide	▼	
			Factors Influencing Photosynthesis: Intensity and the Color or Light	▼	
			Comparing Cellular Respiration and Fermentation		▼
			Investigating Photosynthesis with Van Helmont	▼	
			Glycolysis		▼
			Krebs Cycle		▼
			Aerobic Respiration and Photosynthesis		▼
			Investigating Photosynthesis with Priestley and Ingenhousz	▼	
			Electron Transport Chain		▼
			Comparing Lactic Acid Fermentation and Ethyl Alcohol Fermentation		▼
9.C	(9) Science concepts. The student knows the significance of various molecules involved in metabolic processes and energy conversions that occur in living organisms. The student is expected to:	(C) identify and investigate the role of enzymes; and	The Effect of Temperature on Enzyme Activity	▼	
			Effect of pH on Enzyme Activity	▼	
			Introduction to Enzymes		▼
			Functions of Enzymes		▼
9.D	(9) Science concepts. The student knows the significance of various molecules involved in metabolic processes and energy conversions that occur in living organisms. The student is expected to:	(D) analyze and evaluate the evidence regarding formation of simple organic molecules and their organization into long complex molecules having information such as the DNA molecule for self-replicating life.	Hydrolysis		▼
			Carbon and Carbohydrates		▼
			Starch		▼
			Glycogen		▼
			Polymerization and Hydrolysis		▼
			DNA to Protein Synthesis	▼	
			Biological Molecules as Evidence of Evolution		▼
			DNA Structure	▼	

Readiness Standard ●
Supporting Standard ▼

HIGH SCHOOL BIOLOGY
Texas Knowledge and Skills (TEKS)

State ID	TEKS	Student Expectation	Content	Activity Object	Animation
10.A	(10) Science concepts. The student knows that biological systems are composed of multiple levels. The student is expected to:	(A) describe the interactions that occur among systems that perform the functions of regulation, nutrient absorption, reproduction, and defense from injury or illness in animals;	Male Reproductive System		●
			Menstruation		●
			Menstrual Cycle		●
			Female Reproductive System		●
			Disorders of Immune System		●
			An Organ of the Excretory System: Kidneys		●
			Immune System		●
			The Nervous System	●	
			Hear with the Ear	●	
			Digestive System	●	
10.B	(10) Science concepts. The student knows that biological systems are composed of multiple levels. The student is expected to:	(B) describe the interactions that occur among systems that perform the functions of transport, reproduction, and response in plants; and	Water Transportation within Plants		●
			Transpiration in Plants		●
			Transport of Organic Matter in Plants		●
			Life Cycle of Flowering Plants		●
			Alternation of Generations		●
			Phototropism in Plants	●	
			Nastic Movement		●
			Photoperiodism in Plants		●
			Thigmotropizm in Plants		●
10.C	(10) Science concepts. The student knows that biological systems are composed of multiple levels. The student is expected to:	(C) analyze the levels of organization in biological systems and relate the levels to each other and to the whole system.	Cell Organization		▼
			The Nervous System	▼	
11.A	(11) Science concepts. The student knows that biological systems work to achieve and maintain balance. The student is expected to:	(A) describe the role of internal feedback mechanisms in the maintenance of homeostasis;	An Organ of the Excretory System: Kidneys		▼
			The Structure of Bones	▼	
			The Nervous System	▼	
			Hear with the Ear	▼	
			Vision and the Eye	▼	

Readiness Standard ●
Supporting Standard ▼

HIGH SCHOOL BIOLOGY
Texas Knowledge and Skills (TEKS)

State ID	TEKS	Student Expectation	Content	Activity Object	Animation
11.B	(11) Science concepts. The student knows that biological systems work to achieve and maintain balance. The student is expected to:	(B) investigate and analyze how organisms, populations, and communities respond to external factors;	Homeostasis	▼	
			Phototropism in Plants	▼	
			Factors Affecting Population Growth		▼
			The Energy Flow from Producers to Consumers	▼	
			Mass Extinction		▼
			Ecological Succession		▼
			Nastic Movement		▼
			Interaction Among Organisms: Competition	▼	
11.C	(11) Science concepts. The student knows that biological systems work to achieve and maintain balance. The student is expected to:	(C) summarize the role of microorganisms in both maintaining and disrupting the health of both organisms and ecosystems; and	Benefits of Bacteria		▼
			Importance of Protista		▼
			Hidden Heroes: Bacteria	▼	
			Harms of Bacteria		▼
			Disruptive Effect of Microorganisms on Ecosystems		▼
11.D	(11) Science concepts. The student knows that biological systems work to achieve and maintain balance. The student is expected to:	(D) describe how events and processes that occur during ecological succession can change populations and species diversity.	Ecological Succession		●
12.A	(12) Science concepts. The student knows that interdependence and interactions occur within an environmental system. The student is expected to:	(A) interpret relationships, including predation, parasitism, commensalism, mutualism, and competition, among organisms;	Energy Flow from Producers to Consumers	●	
			Interactions Among Organisms: Competition	●	
			Parasitism	●	
			Commensalism	●	
			Mutualism	●	
12.B	(12) Science concepts. The student knows that interdependence and interactions occur within an environmental system. The student is expected to:	(B) compare variations and adaptations of organisms in different ecosystems;	Comparing the Adaptations of Organisms in Different Ecosystems		▼
			Plant Survival: The Xeroscape Garden	▼	

Readiness Standard ●
Supporting Standard ▼

HIGH SCHOOL BIOLOGY
Texas Knowledge and Skills (TEKS)

State ID	TEKS	Student Expectation	Content	Activity Object	Animation
12.C	(12) Science concepts. The student knows that interdependence and interactions occur within an environmental system. The student is expected to:	(C) analyze the flow of matter and energy through trophic levels using various models, including food chains, food webs, and ecological pyramids;	Energy Flow from Producers to Consumers	●	
			Food Chains and Food Webs		●
			Ecological Pyramids		●
12.D	(12) Science concepts. The student knows that interdependence and interactions occur within an environmental system. The student is expected to:	(D) recognize that long-term survival of species is dependent on changing resource bases that are limited;	Energy Flow from Producers to Consumers	▼	
12.E	(12) Science concepts. The student knows that interdependence and interactions occur within an environmental system. The student is expected to:	(E) describe the flow of matter through the carbon and nitrogen cycles and explain the consequences of disrupting these cycles; and	Carbon Cycle		▼
			Nitrogen Cycle		▼
			Global Warming		▼
			Acid Rain		▼
12.F	(12) Science concepts. The student knows that interdependence and interactions occur within an environmental system. The student is expected to:	(F) describe how environmental change can impact ecosystem stability.	Global Warming		●
			Acid Rain		●
			The Effects of Natural Disasters on Ecosystems		●

Readiness Standard ●
Supporting Standard ▼

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