Life Science Essentials II	Scope and Sequence
Unit Lesson	**Objectives**
Cell Structure and Processes	
Cell Structure	
	Identify the organelles of a cell.
	Examine the functions of cell organelles.
Animal and Plant Cells	
	Differentiate prokaryotic and eukaryotic cells.
	Compare and contrast animal and plant cells.
	Identify the levels of organization in animals and plants.
Photosynthesis	
	Explain the steps in the process of photosynthesis.
	Identify the products and reactants of photosynthesis.
Cellular Respiration	
	Explain the steps in the process of cellular respiration.
	Identify the products and reactants of cellular respiration.
Cell Cycle	
	Identify the three stages of the cell cycle.
	Distinguish the steps of mitosis.
Unit Test	
Heredity	
Genetic Code	
	Analyze the contributions of different scientists to the discovery of the genetic code.
	Identify the components and structure of DNA.

Life Science Essentials II		Scope and Sequence
Unit	**Lesson**	**Objectives**
		Relate DNA, genes, and chromosomes.
		Examine how cells make proteins.
	Introduction to Heredity	
		Examine the contributions made by Gregor Mendel to the field of genetics.
		Explain how traits are inherited.
		Distinguish dominant and recessive alleles.
		Differentiate between genotype and phenotype.
	Predicting Heredity	
		Define probability and use it to explain the results of a genetic cross.
		Determine the probability of genotype combinations using a Punnett square.
		Identify the phenotype of an organism based on its genotype.
	Meiosis	
		Identify and describe the steps of meiosis.
		Explain why meiosis is necessary for sexual reproduction.
		Differentiate meiosis from mitosis.
	Advances in Genetics	
		Compare the processes of selective breeding, cloning, and genetic engineering.
		Describe the impact of genetic technologies on society and the environment.
		Examine the use of gene therapy to treat disease.
	Unit Test	
Evolutionary Theory		
	Natural Selection	

Life Science Essentials II		Scope and Sequence
Unit	**Lesson**	**Objectives**
		Examine how natural selection leads to evolution.
		Identify the conditions required for natural selection.
		Identify ways in which genetic variation and environmental factors contribute to natural selection.
		Describe factors that contribute to the extinction of a species.
	The Fossil Record	
		Identify how a fossil forms.
		Explain how scientists determine the age of a fossil.
		Examine how the fossil record indicates a long history of changing life-forms.
	Evidence for Evolution	
		Determine how comparative anatomy supports the theory of evolution.
		Compare patterns of embryological development in different organisms.
	Evolutionary Relationships	
		Analyze the relationships among organisms based on a variety of shared characteristics.
		Interpret evolutionary relationships among organisms on a cladogram.
	Animal Behavior	
		Differentiate between learned and inherited behaviors.
		Relate responses in organisms to internal stimuli.
		Determine ways in which organisms respond to external stimuli.
		Distinguish among the various patterns of behavior exhibited by animals.
	Unit Test	
The Diversity of Life		
	Diversity of Life	

Life Science Essentials II		Scope and Sequence
Unit	**Lesson**	**Objectives**
		Compare and contrast the physical characteristics of different plants.
		Compare and contrast the physical characteristics of different animals.
		Identify why the life cycles of different organisms vary.
	Overview of Plants	
		Examine the characteristics common to all plants.
		Identify the things a plant needs to survive on land.
		Compare the characteristics of nonvascular and vascular plants.
	Fungi	
		Examine the characteristics common to all fungi.
		Compare and contrast the various groups of fungi.
		Identify the roles of fungi in nature.
	Overview of Animals	
		Examine the characteristics that are common to most animals.
		Identify the main functions that allow animals to meet their basic needs.
		Compare and contrast the characteristics of invertebrate and vertebrate animals.
	Worms	
		Classify worms into three main groups.
		Identify the characteristics of each group of worms.
	Unit Test	
Human Anatomy		
	Body Organization and Homeostasis	
		Identify and order the levels of organization in the body.

Life Science Essentials II		Scope and Sequence
Unit	**Lesson**	**Objectives**
		Analyze how organ systems function together to maintain homeostasis.
	The Musculoskeletal and Integumentary Systems	
		Identify the major structures and functions of the musculoskeletal system.
		Compare and contrast the three types of muscle.
		Describe how bones and muscles work together to allow movement.
		Examine the major structures and functions of the integumentary system.
	The Digestive and Excretory Systems	
		Identify the major structures and functions of the digestive system.
		Examine how food is physically and chemically broken down by the digestive system.
		Identify the major structures and functions of the excretory system.
		Analyze how the kidneys work.
		Construct and revise an explanation of how macromolecules are used in the body.
	The Circulatory and Respiratory Systems	
		Identify the major structures and functions of the circulatory system.
		Analyze the components of blood.
		Examine the major structures and functions of the respiratory system.
		Describe how breathing and gas exchange occur.
		Develop a model to illustrate the interaction of the circulatory and respiratory systems.
		Use the model to show how the circulatory and respiratory systems work together to promote gas exchange.
	The Nervous System	
		Identify the major structures and functions of the nervous system.

Life Science Essentials II		Scope and Sequence
Unit	**Lesson**	**Objectives**
		Analyze how sensory receptors communicate with the brain in response to stimuli.
		Examine the major structures and functions of the endocrine system.
		Analyze how negative feedback works in the endocrine system.
	Unit Test	
Cumulative exam		
	Cumulative Exam Review	
	Cumulative Exam	