

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

Life Science Essentials**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.

Natural Selection

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.

Evidence for Evolution

Determine how comparative anatomy supports the theory of evolution.

Compare patterns of embryological development in different organisms.

Unit Test

Classification of Living Things

Classification of Living Things

Life Science Essentials**Scope and Sequence****Unit Lesson****Objectives**

Characterize the domains of living organisms.

List the characteristics used to classify organisms into each kingdom.

Distinguish major animal and plant phyla.

Identify the characteristics that differentiate one species from another.

Bacteria

Identify the characteristics of bacterial cells.

Examine how bacteria reproduce.

Compare and contrast eubacteria and archaeobacteria.

Analyze the roles of helpful and harmful bacteria.

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 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.

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.

Unit Test

Life Science Essentials**Scope and Sequence****Unit Lesson****Objectives****Ecology**

Living Things and the Environment

Differentiate between a habitat and a niche.

Examine biotic and abiotic factors in the environment.

Identify the levels of organization within an ecosystem.

Populations

Identify factors that affect population size.

Identify limiting factors that affect a population in a given environment.

Interactions among Living Things

Differentiate competition, predation, and cooperation.

Distinguish among the three types of symbiotic relationships.

Energy Flow in Ecosystems

Explain the roles of producers, consumers, and decomposers in an ecosystem.

Identify producers, consumers, and decomposers in food chains and food webs.

Examine the movement of energy through an ecosystem in food chains and food webs.

Analyze the transfer of energy through the trophic levels in an energy pyramid.

Biomes

Characterize Earth's major terrestrial biomes.

Identify adaptations that enable organisms to survive in distinct environments.

Unit Test

Human Biology

Body Organization and Homeostasis

Unit Lesson

Objectives

Identify and order the levels of organization in the body.

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.

The Nervous and Endocrine Systems

Identify the major structures and functions of the nervous system.

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.

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.

Unit Lesson**Objectives**

Unit Test

Cumulative Exam

Cumulative Exam Review

Cumulative Exam