Strand 1 - Biological Structures, Functions, and Processes	
TEKS Knowledge and Skills Statement/ STAAR-Tested Student Expectations	**STAAR Alternate 2 Essence Statement**
Biology (5) Science concepts. (A) (B)	
Bio 5	**Prerequisite Skills Linked to Assessed Curriculum**

Continued

Bio 5	Prerequisite Skills Linked to Assessed Curriculum

Strand 1 - Biological Structures, Functions, and Processes	
TEKS Knowledge and Skills Statement/ STAAR-Tested Student Expectations	STAAR Alternate 2 Essence Statement
Biology (6) Science concepts. The student knows how an organism grows and the importance of cell differentiation. The student is expected to: (A) explain the importance of the cell cycles to the growth of organisms, including an overview of the stages of the cell cycle and deoxyribonucleic acid (DNA) replication models; (B) explain the process of cell specialization through cell differentiation, including the role of environmental factors; (C) relate disruptions of the cell cycle to how they lead to the development of diseases such as cancer.	Recognizes the importance of the cell cycle and cell differentiation to the growth of organisms.

Bio 6	Prerequisite Skills Linked to Assessed Curriculum
	• 8.13.A: Identify the function of the cell membrane, cell wall, nucleus, ribosomes, cytoplasm, mitochondria, chloroplasts, and vacuoles in plant or animal cells. • 8.13.B: Describe the function of genes within chromosomes in determining inherited traits of offspring. • 8.13.C: Describe how variations of traits within a population lead to structural, behavioral, and physiological adaptations that in uence the likelihood of survival and reproductive success of a species over generations. • 7.13.A: Identify and model the main functions of the systems of the human organism, including the circulatory, respiratory, skeletal, muscular, digestive, urinary, reproductive, integumentary, nervous, immune, and endocrine systems. • 7.13.B: Describe the hierarchical organization of cells, tissues, organs, and organ systems within plants and animals. • 7.13.C: Compare the results of asexual and sexual reproduction of plants and animals in relation to the diversity of offspring and the changes in the population over time. • 7.13.D: Describe and give examples of how natural and arti cial selection change the occurrence of traits in a population over generations. •

Bio 6	Prerequisite Skills Linked to Assessed Curriculum
	• 2.6.B: Conduct a descriptive investigation to explain how physical properties can be changed through processes such as cutting, folding, sanding, melting, or freezing. • 2.6.C: Demonstrate that small units such as building blocks can be combined or reassembled to form new objects for different purposes and explain the materials chosen based on their physical properties. • 1.13.A: Identify the external structures of different animals and compare how those structures help different animals live, move, and meet basic needs for survival. • 1.13.B: Record observations of and describe basic life cycles of animals, including a bird, a mammal, and a sh. • 1.13.C: Compare ways that young animals resemble their parents. • 1.12.B: Describe and record examples of interactions and dependence between living and nonliving components in terrariums or aquariums. • 1.6.A: Classify objects by observable physical properties, including, shape, color, and texture, and attributes such as larger and smaller and heavier and lighter. • 1.6.B: Explain and predict changes in materials caused by heating and cooling. • 1.6.C: Demonstrate and explain that a whole object is a system made of organized parts such as a toy that can be taken apart and put back together. • K.13.A: Identify the structures of plants, including roots, stems, leaves, owers, and fruits. • K.13.B: Identify the different structures that animals have that allow them to interact with their environment such as seeing, hearing, moving, and grasping objects. • K.13.C: Identify and record the changes from seed, seedling, plant, ower, and fruit in a simple plant life cycle. • K13.D: Identify ways that young plants resemble the parent plant. • K.12.A: Observe and identify the dependence of plants on air, sunlight, water, nutrients in the soil, and space to grow. • K.12.B: Observe and identify the dependence of animals on air, water, food, space, and shelter. • PK4.VI.B.3: Observe, investigate, describe, and discuss the relationship of organisms in their environments.

Bio 13	Prerequisite Skills Linked to Assessed Curriculum
	• 4.12.B: Describe the cycling of matter and ow of energy through food webs , including the roles of the Sun, producers, consumers, and decomposers. • 3.12.A: Explain how temperature and precipitation affect animal growth and behavior through migration and hibernation and plant responses through dormancy. • 3.12.B: Identify and describe the ow of energy in a food chain and predict how changes in a food chain such as removal of frogs from a pond or bees from a eld affect the ecosystem. • 3.12.C: Describe how natural changes to the environment such as oods and droughts cause some organisms to thrive and others to perish or move to new locations. • 3.8.A: Identify everyday examples of energy, including light, sound, thermal, and mechanical. • 3.6.D: Demonstrate that materials can be combined based on their physical properties to create or modify objects such as building a tower or adding clay to sand to make a stronger brick and justify the selection of materials based on their physical properties. • 2.12.A: Describe how the physical characteristics of environments, including the amount of rainfall, support plants and animals within an ecosystem. • 2.12.B: Create and describe food chains identifying producers and consumers to demonstrate how animals depend on other living things. • 2.12.C: Explain and demonstrate how some plants depend on other living things, wind, or water for pollination and to move their seeds around. • 2.9.A: Describe the Sun as a star that provides light and heat and explain that the Moon re ects the Sun's light. • 1.12.B: Describe and record examples of interactions and dependence between living and nonliving components in terrariums or aquariums. • 1.12.C: Identify and illustrate how living organisms depend on each other through food chains. • K.12.A: Observe and identify the dependence of plants on air, sunlight, water, nutrients in the soil, and space to grow. • K.12.B: Observe and identify the dependence of animals on air, water, food, space, and shelter. • K.10.C: Identify evidence that supports the idea that air is all around us and demonstrate that wind is moving air using items such as a windsock, pinwheel, or ribbon. • K.9.A: Identify, describe, and predict the patterns of day and night and their observable characteristics. • PK4.VI.B.2: Observe, describe, and discuss the life cycles of organisms.