

STAAR Alternate 2 Spring 2025

Biology Essence Statements

Includes only the overlapping curriculum that is eligible for assessment in the 2024-2025 school year.

STAAR Reporting Category 1	STAAR Reporting Category 2	STAAR Reporting Category 3	STAAR Reporting Category 4	STAAR Reporting Category 5
Cell Structure and Function: The student will demonstrate an understanding of biomolecules as building blocks of cells, and that cells are the basic unit of structure and function of living things.	Mechanisms of Genetics: The student will demonstrate an understanding of the mechanisms of genetics.	Biological Evolution and Classification: The student will demonstrate an understanding of the theory of biological evolution and the hierarchical classification of organisms.	Biological Processes and Systems: The student will demonstrate an understanding of metabolic processes, energy conversions, and interactions and functions of systems in organisms.	Interdependence within Environmental Systems: The student will demonstrate an understanding of the interdependence and interactions that occur within an environmental system and their significance.
Knowledge and Skills Statement Biology (5) Science concepts. The student knows that biological structures at multiple levels of organization perform specific functions and processes that affect life. (Readiness and Supporting Standard) Essence Statement Knows that all living things are composed of cells that perform specific functions and that viruses are different from cells.	Knowledge and Skills Statement Biology (7) Science concepts. The student knows the role of nucleic acids in gene expression. (Readiness and Supporting Standard) Essence Statement Recognizes the structure of DNA.	Knowledge and Skills Statement Biology (9) Science concepts. The student knows evolutionary theory is a scientific explanation for the unity and diversity of life that has multiple lines of evidence. (Readiness and Supporting Standard) Essence Statement Knows evolutionary theory is a scientific explanation for the unity and diversity of life.	Knowledge and Skills Statement Biology (12) Science concepts. The student knows that multicellular organisms are composed of multiple systems that interact to perform complex functions. (Readiness and Supporting Standard) Essence Statement Knows that biological systems have functions and interact.	Knowledge and Skills Statement Biology (13) Science concepts. The student knows that interactions at various levels of organization occur within an ecosystem to maintain stability. (Readiness and Supporting Standard) Essence Statement Recognizes the balance and interdependence within biological systems and their interactions within the environment.
Knowledge and Skills Statement Biology (6) Science concepts. The student knows how an organism grows and the importance of cell differentiation. (Readiness and Supporting Standard) Essence Statement Recognizes the importance of the cell cycle and cell differentiation to the growth of organisms.	Knowledge and Skills Statement Biology (8) Science concepts. The student knows the role of nucleic acids and the principles of inheritance and variation of traits in Mendelian and non-Mendelian genetics. (Readiness and Supporting Standard) Essence Statement Knows that the structure of DNA determines inherited traits in organisms.	Knowledge and Skills Statement Biology (10) Science concepts. The student knows evolutionary theory is a scientific explanation for the unity and diversity of life that has multiple mechanisms. (Readiness and Supporting Standard) Essence Statement Knows that the unity and diversity caused by evolution can occur by multiple mechanisms.	*Biology (12) Science concepts in the STAAR Alternate 2 Curriculum Framework, effective 2025-2026, are listed in Strand 1.	**Biology (13) Science concepts in the STAAR Alternate 2 Curriculum Framework, effective 2025-2026, are listed in Strand 4.