

STAAR Alternate 2 Spring 2025

Grade 8 Science 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
<p>Matter and Energy: The student will demonstrate an understanding of the properties of matter and energy and their interactions.</p>	<p>Force, Motion, and Energy: The student will demonstrate an understanding of force, motion, and energy and their relationships.</p>	<p>Earth and Space: The student will demonstrate an understanding of components, cycles, patterns, and natural events of Earth and space systems.</p>	<p>Organisms and Environments: The student will demonstrate an understanding of the structures and functions of living organisms and their interdependence on each other and on their environment.</p>
<p>Knowledge and Skills Statement (8.6) Matter and energy. The student understands that matter can be classified according to its properties and matter is conserved in chemical changes that occur within closed systems. (Readiness Standard)</p> <p>(7.6) Matter and energy. The student distinguishes between elements and compounds, classifies changes in matter, and understands the properties of solutions. (Supporting Standard)</p> <p>(6.6) Matter and energy. The student knows that matter is made of matter, can be classified according to its properties, and can undergo changes. (Supporting Standard)</p> <p>Essence Statement Understands that matter can be classified according to its physical and chemical properties, is conserved in chemical changes, and can undergo changes.</p>	<p>Knowledge and Skills Statement (8.7) Force, motion, and energy. The student understands the relationship between force and motion within systems. (Readiness and Supporting Standard)</p> <p>(7.7) Force, motion, and energy. The student describes the cause-and-effect relationship between force and motion. (Supporting Standard)</p> <p>(6.7) Force, motion, and energy. The student knows the nature of forces and their role in systems that experience stability or change. (Supporting Standard)</p> <p>Essence Statement Recognizes that relationships exist between force and motion and identifies how forces such as gravity, friction, and magnetism can act on objects.</p> <p>Knowledge and Skills Statement (8.8) Force, motion, and energy. The student knows how energy is transferred through waves. (Supporting Standard)</p> <p>(7.8) Force, motion, and energy. The student understands the behavior of thermal energy as it flows into and out of systems. (Supporting Standard)</p> <p>(6.8) Force, motion, and energy. The student knows that the total energy in systems is conserved</p>	<p>Knowledge and Skills Statement (8.9) Earth and space. The student describes the characteristics of the universe and the relative scale of its components. (Supporting Standard)</p> <p>(7.9) Earth and space. The student understands the patterns of movement, organization, and characteristics of components of our solar system. (Supporting Standard)</p> <p>(6.9) Earth and space. The student models the cyclical movements of the Sun, Earth, and Moon and describes their effects. (Supporting Standard)</p> <p>Essence Statement Recognizes characteristics of the universe and the patterns of movement of the Sun, Earth, and Moon.</p> <p>Knowledge and Skills Statement (8.10) Earth and space. The student knows that interactions between Earth, ocean, and weather systems impact climate. (Readiness and Supporting Standard)</p> <p>(7.10) Earth and space. The student understands the causes and effects of plate tectonics. (Readiness and Supporting Standard)</p> <p>(6.10) Earth and space. The student understands the rock cycle and the structure of Earth. (Supporting Standard)</p> <p>Essence Statement</p>	<p>Knowledge and Skills Statement (8.12) Organisms and environments. The student understands stability and change in populations and ecosystems. (Readiness and Supporting Standard)</p> <p>(7.12) Organisms and environments. The student understands that ecosystems are dependent upon the cycling of matter and the flow of energy. (Supporting Standard)</p> <p>(6.12) Organisms and environments. The student knows that interdependence occurs between living systems and the environment. (Supporting Standard)</p> <p>Essence Statement Understands that interdependence between living systems and the environment are important to the health of an ecosystem.</p> <p>Knowledge and Skills Statement (8.13) Organisms and environments. The student knows how cell functions support the health of an organism and how adaptation and variation relate to survival. (Readiness and Supporting Standard)</p> <p>(7.13) Organisms and environments. The student knows how systems are organized and function to support the health of an organism and how traits are inherited. (Supporting Standard)</p> <p>(6.13) Organisms and environments.</p>

	<p>through energy transfers and transformations. (Supporting Standard)</p> <p>Essence Statement Knows how energy is conserved through transfers and transformations and understands the types of thermal energy, including conduction, convection, and radiation.</p>	<p>Knows that Earth changes over time as a result of interactions within its systems, including oceans, weather, and tectonic plates.</p> <p>Knowledge and Skills Statement (7.11) Earth and space. The student understands how human activity can impact the hydrosphere. (Supporting Standard)</p> <p>Essence Statement Understands how human activity can impact water systems.</p>	<p>The student knows that organisms have an organizational structure and variations can influence survival of populations. (Supporting Standard)</p> <p>Essence Statement Knows how cells and body systems are organized to support the health and survival of populations and how genes determine inherited traits of offspring.</p>
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