STAAR Alternate 2 Spring 2027
Middle School Science Essence Statements

STAAR Strand 1	STAAR Strand 2	STAAR Strand 3	STAAR Strand 4
Matter and Energy	**Force, Motion, and Energy**	**Earth and Space**	**Organisms and Environments**
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) **(7.6) Matter and energy.** The student distinguishes between elements and compounds, classifies changes in matter, and understands the properties of solutions. (Readiness and Supporting Standard) **(6.6) Matter and energy.** The student knows that matter is made of atoms, can be classified according to its properties, and can undergo changes. (Supporting Standard) **Essence Statement** Understands that matter can be classified according to its physical and chemical properties, is conserved in chemical changes, and can undergo changes.	**Knowledge and Skills Statement** **(8.7) Force, motion, and energy.** The student understands the relationship between force and motion within systems. (Readiness Standard) **(7.7) Force, motion, and energy.** The student describes the cause-and-effect relationship between force and motion. (Supporting Standard) **(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) **Essence Statement** Recognizes that relationships exist between force and motion and identifies how forces such as gravity, friction, and magnetism can act on objects. **Knowledge and Skills Statement** **(8.8) Force, motion, and energy.** The student knows how energy is transferred through waves. (Supporting Standard) **(7.8) Force, motion, and energy.** The student understands the behavior of thermal energy as it flows into and out of systems. (Supporting Standard) **(6.8) Force, motion, and energy.** The student knows that the total energy in systems is conserved through energy transfers and transformations. (Supporting Standard) **Essence Statement** Knows how energy is conserved through transfers and transformations and understands the types of thermal	**Knowledge and Skills Statement** **(8.9) Earth and space.** The student describes the characteristics of the universe and the relative scale of its components. (Readiness and Supporting Standard) **(7.9) Earth and space.** The student understands the patterns of movement, organization, and characteristics of components of our solar system. (Supporting Standard) **(6.9) Earth and space.** The student models the cyclical movements of the Sun, Earth, and Moon and describes their effects. (Supporting Standard) **Essence Statement** Recognizes characteristics of the universe and the patterns of movement of the Sun, Earth, and Moon. **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) **(7.10) Earth and space.** The student understands the causes and effects of plate tectonics. (Readiness and Supporting Standard) **(6.10) Earth and space.** The student understands the rock cycle and the structure of Earth. (Supporting Standard) **Essence Statement** Knows that Earth changes over time as a result of interactions within its systems, including oceans, weather, and tectonic plates.	**Knowledge and Skills Statement** **(8.12) Organisms and environments.** The student understands stability and change in populations and ecosystems. (Readiness and Supporting Standard) **(7.12) Organisms and environments.** The student understands that ecosystems are dependent upon the cycling of matter and the flow of energy. (Supporting Standard) **(6.12) Organisms and environments.** The student knows that interdependence occurs between living systems and the environment. (Supporting Standard) **Essence Statement** Understands that interdependence between living systems and the environment are important to the health of an ecosystem. **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) **(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) **(6.13) Organisms and environments.** The student knows that organisms have an organizational structure and variations can influence survival of populations. (Supporting Standard)

	energy, including conduction, convection, and radiation.	**Knowledge and Skills Statement** **(7.11) Earth and space.** The student understands how human activity can impact the hydrosphere. (Supporting Standard) **Essence Statement** Understands how human activity can impact water systems.	**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.