2021 TEKS Curriculum Crosswalk

Grades 6,7,8

Physical Science, Life Science, Earth Science

No matter where your district is on its inquiry journey, Propello helps students actively engage in the learning process with high-quality, phenomena-based, 5E instructional materials.

Together with Propello, the sky's the limit. ✈️

6th Grade

Texas Science Standard	Corresponding Propello Content
6.6 Matter and Energy: Matter and energy. The student knows that matter is made of atoms, can be classified according to its properties, and can undergo changes. The student is expected to:	
6.6A Compare solids, liquids, and gases in terms of their structure, shape, volume, and kinetic energy of atoms and molecules	• Particles & Properties of Matter • States of Matter • Temperature in a System • Temperature & Changes of State • Pressure & Changes of State • Energy In A System • Thermal Energy
6.6B Investigate the physical properties of matter to distinguish between pure substances, homogeneous mixtures (solutions), and heterogeneous mixtures	• Properties of Matter
6.6C Identify elements on the periodic table as metals, nonmetals, metalloids, and rare Earth elements based on their physical properties and importance to modern life	
6.6 D Compare the density of substances relative to various fluids	
6.6 E Identify the formation of a new substance by using the evidence of a possible chemical change, including production of a gas, change in thermal energy, production of a precipitate, and color change.	• Properties of Matter • Temperature in a System • Chemical Changes • Conservation of Mass • Energy Changes in Chemical Reactions • Reactions that Absorb Energy • Reactions that Release Energy
6.7 Force, Motion, and Energy: The student knows the nature of forces and their role in systems that experience stability or change. The student is expected to:	
6.7 A Identify and explain how forces act on objects, including gravity, friction, magnetism, applied forces, and normal forces, using real-world applications	• Forces and Inertia • Changing Motion • Non-Contact Forces • Magnetic Forces • Potential Energy
6.7 B Calculate the net force on an object in a horizontal or vertical direction using diagrams and determine if the forces are balanced or unbalanced	
6.7. C Identify simultaneous force pairs that are equal in magnitude and opposite in direction that result from the interactions between objects using Newton's Third Law of Motion.	• Forces and Inertia • Collisions
6.8 Force, Motion, and Energy: The student knows that the total energy in systems is conserved through energy transfers and transformations. The student is expected to:	
6.8A Compare and contrast gravitational, elastic, and chemical potential energies with kinetic energy	• Kinetic Energy • Potential Energy • Energy of a System

6.8 B Describe how energy is conserved through transfers and transformations in systems such as electrical circuits, food webs, amusement park rides, or photosynthesis	• Energy Flows through Ecosystems • Energy of a System • Energy Transfer
6.8 C Explain how energy is transferred through transverse and longitudinal waves.	• Properties of Waves • Sound and Mechanical Waves
6.9 Earth and Space: The student models the cyclical movements of the Sun, Earth, and Moon and describes their effects. The student is expected to:	
6.9 A Model and illustrate how the tilted Earth revolves around the Sun, causing changes in seasons; and	• Seasons
6.9 B Describe and predict how the positions of the Earth, Sun, and Moon cause daily, spring, and neap cycles of ocean tides due to gravitational forces.	
6.10 Earth and Space: The student understands the rock cycle and the structure of Earth. The student is expected to:	
6.10 A Differentiate between the biosphere, hydrosphere, atmosphere, and geosphere and identify components of each system;	• Earth's Systems • Water on Earth
6.10 B Model and describe the layers of Earth, including the inner core, outer core, mantle, and crust	• Plate Tectonics
6.10 C Describe how metamorphic, igneous, and sedimentary rocks form and change through geologic processes in the rock cycle.	• Earth's Systems • Matter Cycles Through Earth's Systems
6.11 Earth and Space: The student understands how resources are managed. The student is expected to:	
6.11 A Research and describe why resource management is important in reducing global energy, poverty, malnutrition, and air and water pollution	• Natural Resource Use • Preserving Biodiversity • Conservation • Pollution • Protecting Earth's Resources • Limits to Population Growth
6.11 B Explain how conservation, increased efficiency, and technology can help manage air, water, soil, and energy resources.	• Protecting Earth's Resources • Pollution • Technology • Conservation • Limits to Population Growth • Preserving Biodiversity
6.12 Organisms and Environments: The student knows that interdependence occurs between living systems and the environment. The student is expected to:	
6.12 A Investigate how organisms and populations in an ecosystem depend on and may compete for biotic factors such as food and abiotic factors such as availability of light and water, range of temperatures, or soil composition	• Biodiversity • Ecosystems • Energy Flows Through Ecosystems • Matter Cycles Through Ecosystems • Interactions in Ecosystems • Limits to Population Growth • Reproduction with Flowers • Reproduction with Cones

6.12 B Describe and give examples of predatory, competitive, and symbiotic relationships between organisms, including mutualism, parasitism, and commensalism	• Ecosystems • Interactions in Ecosystems • Limits to Population Growth • Limits to Population Growth
6.12 C Describe the hierarchical organization of organism, population, and community within an ecosystem.	• Biodiversity • Matter Cycles Through Ecosystems • Ecosystems
6.13 Organisms and Environments: The student knows that organisms have an organizational structure and variations can influence survival of populations. The student is expected to:	
6.13 A describe the historical development of cell theory and explain how organisms are composed of one or more cells, which come from pre-existing cells and are the basic unit of structure and function	• The Building Blocks of Living Things • Cellular Organization and Function • Organization of Living Things
6.13 B identify and compare the basic characteristics of organisms, including prokaryotic and eukaryotic, unicellular and multicellular, and autotrophic and heterotrophic	• The Building Blocks of Living Things • Cellular Organization and Function • Organization of Living Things • Photosynthesis • Energy Flows through Ecosystems • Matter Cycles through Ecosystems
6.13 C describe how variations within a population can be an advantage or disadvantage to the survival of a population as environments change.	• Genetic Factors • Natural Selection • Population Changes over Time

7th Grade

Texas Science Standard	Corresponding Propello Content
7.6 Force, Motion and Energy: The student distinguishes between elements and compounds, classifies changes in matter, and understands the properties of solutions. The student is expected to:	
7.6 A Compare and contrast elements and compounds in terms of atoms and molecules, chemical symbols, and chemical formulas	• The Structure of Matter • The Properties of Matter • Matter and Energy on Earth
7.6 B Use the periodic table to identify the atoms and the number of each kind within a chemical formula	
7.6 C Distinguish between physical and chemical changes in matter	• Properties of Matter • Properties of Physical States • Temperature and Changes of State • Chemical Changes • Conservation of Mass
7.6 D Describe aqueous solutions in terms of solute and solvent, concentration, and dilution; and	
7.6 E Investigate and model how temperature, surface area, and agitation affect the rate of dissolution of solid solutes in aqueous solutions.	
7.7 Force, Motion and Energy: The student describes the cause-and-effect relationship between force and motion. The student is expected to:	
7.7 A Calculate average speed using distance and time measurements from investigations	• Position and Motion

7.7 B Distinguish between speed and velocity in linear motion in terms of distance, displacement, and direction	• Position and Motion • Kinetic Energy
7.7 C Measure, record, and interpret an object's motion using distance-time graphs	• Position and Motion
7.7 D Analyze the effect of balanced and unbalanced forces on the state of motion of an object using Newton's First Law of Motion.	• Forces and Inertia
7.8 Force, Motion and Energy: The student understands the behavior of thermal energy as it flows into and out of systems. The student is expected to:	
7.8 A investigate methods of thermal energy transfer into and out of systems, including conduction, convection, and radiation	• Energy Transfer • Thermal Conductivity
7.8 B Investigate how thermal energy moves in a predictable pattern from warmer to cooler until all substances within the system reach thermal equilibrium	• Energy in a System • Thermal Energy • Energy Transfer • Thermal Conductivity
7.8 C Explain the relationship between temperature and the kinetic energy of the particles within a substance.	• States of Matter • Temperature in a System • Temperature and Changes of State • Energy in a System
7.9 Earth and Space: The student understands the patterns of movement, organization, and characteristics of components of our solar system. The student is expected to:	
7.9 A describe the physical properties, locations, and movements of the Sun, planets, moons, meteors, asteroids, comets, Kuiper belt, and Oort cloud	• Patterns of Motion • Our Solar System • Eclipses • Formation of the Solar System
7.9 B Describe how gravity governs motion within Earth's solar system	• Patterns of Motion • Our Solar System • Formation of the Solar System
7.9 C Analyze the characteristics of Earth that allow life to exist such as the proximity of the Sun, presence of water, and composition of the atmosphere.	• Earth's Systems
7.10 Earth and Space: The student understands the causes and effects of plate tectonics. The student is expected to:	
7.10 A Describe the evidence that supports that Earth has changed over time, including fossil evidence, plate tectonics, and superposition	• Earth's History • The Geologic Timescale • Evidence of Changes to Earth's Surface • Plate Tectonics • Earthquakes
7.10 B Describe how plate tectonics causes ocean basin formation, earthquakes, mountain building, and volcanic eruptions, including supervolcanoes and hot spots.	• Plate Tectonics • Energy Flows Through Earth's Systems • Earthquakes
7.11 Earth and Space: The student understands how human activity can impact the hydrosphere. The student is expected to:	
7.11 A Analyze the beneficial and harmful influences of human activity on groundwater and surface water in a watershed	• Resource Use

7.11 B Describe human dependence and influence on ocean systems and explain how human activities impact these systems.	• Temperature in a System • Energy of a System • Thermal Energy • Energy Transfer • Thermal Conductivity • Biodiversity • Preserving Biodiversity • Resource Use • Pollution
7.12 Organisms and Environments: The student understands that ecosystems are dependent upon the cycling of matter and the flow of energy. The student is expected to:	
7.12 A Diagram the flow of energy within trophic levels and describe how the available energy decreases in successive trophic levels in energy pyramids	• Ecosystems • Energy Flows through Ecosystems • Matter Cycles Through Ecosystems • Photosynthesis
7.12 B Describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere.	• Energy and Life • Respiration • Energy Flows through Ecosystems • Matter Cycles through Ecosystems • Biodiversity
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. The student is expected to:	
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	• Organization of Living Things • Human Body Systems • The Nervous System • The Senses
7.13 B Describe the hierarchical organization of cells, tissues, organs, and organ systems within plants and animals	• Organization of Living Things • Human Body Systems • The Nervous System • The Senses
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	• Traits and Inheritances • Mutations • Mitosis and Meiosis • Reproductive Strategies • Reproduction with Flowers • Reproduction with Cones • Animal Behaviors • Genetic Factors • Natural Selection
7.13 D Describe and give examples of how natural and artificial selection change the occurrence of traits in a population over generations.	• Genetic Factors • Selective Breeding • Natural Selection • Artificial Selection and Genetic Technologies
7.14 Organisms and Environments: The student knows how the taxonomic system is used to describe relationships between organisms. The student is expected to:	
7.14 A Describe the taxonomic system that categorizes organisms based on similarities and differences shared among groups	

7.14 B Describe the characteristics of the recognized kingdoms and their importance in ecosystems such as bacteria aiding digestion or fungi decomposing organic matter.	

8th Grade

Texas Science Standard	Corresponding Propello Content
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. The student is expected to:	
8.6 A Explain by modeling how matter is classified as elements, compounds, homogeneous mixtures, or heterogeneous mixtures	• The Structure of Matter • The Properties of Matter • Earth's Systems
8.6 B Use the periodic table to identify the atoms involved in chemical reactions	• Properties of Matter • Conservation of Mass • Reactions that Absorb Energy • Reactions that Release Energy
8.6 C Describe the properties of cohesion, adhesion, and surface tension in water and relate to observable phenomena such as the formation of droplets, transport in plants, and insects walking on water	
8.6 D Compare and contrast the properties of acids and bases, including pH relative to water	
8.6 E Investigate how mass is conserved in chemical reactions and relate conservation of mass to the rearrangement of atoms using chemical equations, including photosynthesis.	
8.7 Force, Motion, and Energy: The student understands the relationship between force and motion within systems. The student is expected to:	
8.7 A Calculate and analyze how the acceleration of an object is dependent upon the net force acting on the object and the mass of the object using Newton's Second Law of Motion	• Position and Motion • Forces and Inertia • Changing Motion
8.7 B Investigate and describe how Newton's three laws of motion act simultaneously within systems such as in-vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches.	• Forces and Inertia • Changing Motion • Collisions
8.8 Force, Motion, and Energy. The student knows how energy is transferred through waves. The student is expected to:	
8.8 A Compare the characteristics of amplitude, frequency, and wavelength in transverse waves, including the electromagnetic spectrum	• Sound and Mechanical Waves • Light Waves and Reflection
8.8 B Explain the use of electromagnetic waves in applications such as radiation therapy, wireless technologies, fiber optics.	• Light Waves and Reflection • Communications Systems • Analog and Digital Signals • Modern Communication Systems

8.9 Earth and Space: The student describes the characteristics of the universe and the relative scale of its components. The student is expected to:	
8.9 A Describe the life cycle of stars and compare and classify stars using the Hertzsprung-Russell diagram	
8.9 B Categorize galaxies as spiral, elliptical, and irregular and locate Earth's solar system within the Milky Way galaxy	• 1.3 Patterns of Motion
8.9 C Research and analyze scientific data used as evidence to develop scientific theories to describe the origin of the universe.	
8.10 Earth and Space: The student knows that interactions between Earth, ocean, and weather systems impact climate. The student is expected to:	
8.10 A Describe how energy from the Sun, hydrosphere, and atmosphere interact and influence weather and climate	• Weather in Earth's Systems • Weather Patterns • Changing Weather • Predicting Weather • Air Circulation and Ocean Currants • Climate • Earth's Climate
8.10 B Identify global patterns of atmospheric movement and how they influence local weather	• Weather Patterns • Changing Weather • Predicting Weather • Air Circulation and Ocean Currants • Climate • Earth's Climates • Severe Weather
8.10 C Describe the interactions between ocean currents and air masses that produce tropical cyclones, including typhoons and hurricanes.	• Changing Weather • Air Circulation and Ocean Currants • Climate • Earth's Climates • Severe Weather
8.11 Earth and Space: The student knows that natural events and human activity can impact global climate. The student is expected to:	
8.11 A Use scientific evidence to describe how natural events, including volcanic eruptions, meteor impacts, abrupt changes in ocean currents, and the release and absorption of greenhouse gases influence climate	• Earth's History • Evidence of Changes to Earth's Surface • Climate • Volcanos • Climate Change
8.11 B Use scientific evidence to describe how human activities, including the release of greenhouse gases, deforestation, and urbanization, can influence climate	• Ecosystem Services • Preserving Biodiversity • Earth's Climates • Nonrenewable and Renewable Resources • Resource Use • Climate Change • Human Impact on Earth's Systems • Conservation
8.11 C Describe the carbon cycle.	• Respiration • Matter Cycles through Ecosystems • Matter Cycles through Earth's Systems

8.12 Organisms and Environments: The student understands stability and change in populations and ecosystems. The student is expected to:	
8.12 A Explain how disruptions such as population changes, natural disasters, and human intervention impact the transfer of energy in food webs in ecosystems	• Ecosystems • Population Growth • Limits to Population Growth • Changes to Ecosystems • Biodiversity • Ecosystem Services • Preserving Biodiversity • Populations Change Over Time • Nonrenewable and Renewable Resources • Resource Use • Pollution • Human Impact on Earth's Systems • Sustainability
8.12 B Describe how primary and secondary ecological succession affect populations and species diversity after ecosystems are disrupted by natural events or human activity	• Changes in Ecosystems • Natural Selection • Populations Change over Time
8.12 C Describe how biodiversity contributes to the stability and sustainability of an ecosystem and the health of the organisms within the ecosystem.	• Biodiversity • Conservation
8.13 Organisms and Environments: Organisms and environments. The student knows how cell functions support the health of an organism and how adaptation and variation relate to survival. The student is expected to:	
8.13 Alidentify the function of the cell membrane, cell wall, nucleus, ribosomes, cytoplasm, mitochondria, chloroplasts, and vacuoles in plant or animal cells;	• Cellular Organization and Function
8.13 B Describe the function of genes within chromosomes in determining inherited traits of offspring	• Traits and Inheritance • Mitosis and Meiosis
8.13 C Describe how variations of traits within a population lead to structural, behavioral, and physiological adaptations that influence the likelihood of survival and reproductive success of a species over generations.	• Reproduction with Flowers • Reproduction with Cones • Genetic Factors • Environmental Factors • Natural Selection • Population Change over Time