

PROCESS STANDARDS: SCIENTIFIC INVESTIGATION AND REASONING		Unit	30% or More Students Did NOT Meet Expectations	
8.1	The student, for at least 40% of instructional time, conducts laboratory and field investigations following safety procedures and environmentally appropriate and ethical practices.	Tools to Know		
8.2	The student uses scientific inquiry methods during laboratory and field investigations.			
8.3	The student uses critical thinking, scientific reasoning, and problem solving to make informed decisions and knows the contributions of relevant scientists.	Ways to Show		
8.4	The student knows how to use a variety of tools and safety equipment to conduct science inquiry.			

TOOLS TO KNOW		Unit	30% or More Students Did NOT Meet Expectations	
8.1(A)	demonstrate safe practices during laboratory and field investigations as outlined in the Texas Safety Standards			
8.1(B)	practice appropriate use and conservation of resources, including disposal, reuse, or recycling of materials			
8.2(A)	plan and implement comparative and descriptive investigations by making observations, asking well-defined questions, and using appropriate equipment and technology			
8.2(B)	design and implement comparative and experimental investigations by making observations, asking well-defined questions, formulating testable hypotheses, and using appropriate equipment and technology			
8.4(A)	use appropriate tools to collect, record, and analyze information, including lab journals/notebooks, beakers, meter sticks, graduated cylinders, anemometers, psychrometers, hot plates, test tubes, spring scales, balances, microscopes, thermometers, calculators, computers, spectrosopes, timing devices, and other equipment as needed to teach the curriculum			
8.4(B)	use preventative safety equipment, including chemical splash goggles, aprons, and gloves, and be prepared to use emergency safety equipment, including an eye/face wash, a fire blanket, and a fire extinguisher			

WAYS TO SHOW		Unit	30% or More Students Did NOT Meet Expectations	
8.2(C)	collect and record data using the International System of Units (SI) and qualitative means such as labeled drawings, writing, and graphic organizers			
8.2(D)	construct tables and graphs, using repeated trials and means, to organize data and identify patterns			
8.2(E)	analyze data to formulate reasonable explanations, communicate valid conclusions supported by the data, and predict trends			
8.3(A)	in all fields of science, analyze, evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student			
8.3(B)	use models to represent aspects of the natural world such as an atom, a molecule, space, or a geologic feature			
8.3(C)	identify advantages and limitations of models such as size, scale, properties, and materials			

8.3(D) relate the impact of research on scientific thought and society, including the history of science and contributions of scientists as related to the content			
Properties of Atoms	Unit	30% or More Students Did NOT Meet Expectations	
8.5 Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties.			
6.5 Matter and energy. The student knows the differences between elements and compounds.			
6.6 Matter and energy. The student knows matter has physical properties that can be used for classification and 7.6 can undergo physical and chemical changes.			
Readiness Standards	Unit	30% or More Students Did NOT Meet Expectations	
6.5(A)* know that an element is a pure substance represented by chemical symbols			
6.6(A)^ compare metals, nonmetals, and metalloids using physical properties such as luster, conductivity, or malleability			
8.5(A) describe the structure of atoms, including the masses, electrical charges, and locations, of protons and neutrons in the nucleus and electrons in the electron cloud			
8.5(B) identify that protons determine an element’s identity and valence electrons determine its chemical properties, including reactivity			
8.5(C) interpret the arrangement of the Periodic Table, including groups and periods, to explain how properties are used to classify elements			
Supporting Standards	Unit	30% or More Students Did NOT Meet Expectations	
6.5(B) recognize that a limited number of the many known elements comprise the largest portion of solid Earth, living matter, oceans, and the atmosphere			
6.5(C) differentiate between elements and compounds on the most basic level			
6.6(C) test the physical properties of minerals, including hardness, color, luster, and streak			
7.6(A) identify that organic compounds contain carbon and other elements such as hydrogen, oxygen, phosphorus, nitrogen, or sulfur			



Chemical Formulas, Equations, and Reactions		Unit	30% or More Students Did NOT Meet Expectations	
8.5	Matter and energy. The student knows that matter is composed of atoms and has chemical and physical properties.			
6.5	Matter and energy. The student knows the difference between elements and compounds.			
6.6	Matter and energy. The student knows matter has chemical and physical properties and 7.6 can undergo physical and chemical changes.			
Readiness Standards		Unit	30% or More Students Did NOT Meet Expectations	
8.5(D)	recognize that chemical formulas are used to identify substances and determine the number of atoms of each element in chemical formulas containing subscripts			
8.5(E)	investigate how evidence of chemical reactions indicate that new substances with different properties are formed			
6.6(B)	calculate density to identify an unknown substance			
Supporting Standards		Unit	30% or More Students Did NOT Meet Expectations	
8.5(F)	recognize whether a chemical equation containing coefficients is balanced or not and how that relates to the law of conservation of mass			
6.5(D)	identify the formation of a new substance by using the evidence of a possible chemical change such as production of a gas, change in temperature, production of a precipitate, or color change			

Force, Motion, and Energy	Unit	30% or More Students Did NOT Meet Expectations	
8.6/7.7 Force, motion, and energy. The student knows that there is a relationship between force, motion, and energy.			
6.8 Force, motion, and energy. The student knows force and motion are related to potential and kinetic energy.			
6.9 Force, motion, and energy. The student knows that the Law of Conservation of Energy states that energy can neither be created nor destroyed, it just changes form.			
Readiness Standards	Unit	30% or More Students Did NOT Meet Expectations	
6.8(C)^ calculate average speed using distance and time measurements			
6.9(A) investigate methods of thermal energy transfer, including conduction, convection, and radiation			
6.9(C)^ demonstrate energy transformations such as energy in a flashlight battery changes from chemical energy to electrical energy to light energy			
7.7(A)^ contrast situations where work is done with different amounts of force to situations where no work is done such as moving a box with a ramp and without a ramp, or standing still			
8.6(A) demonstrate and calculate how unbalanced forces change the speed or direction of an object's motion			
8.6(C) investigate and describe applications of Newton's law of inertia, law of force and acceleration, and law of action-reaction such as in vehicle restraints, sports activities, amusement park rides, Earth's tectonic activities, and rocket launches			
Supporting Standards	Unit	30% or More Students Did NOT Meet Expectations	
6.8(A) compare and contrast potential and kinetic energy			
6.8(B)* identify and describe the changes in position, direction, and speed of an object when acted upon by unbalanced forces			
6.8(D) measure and graph changes in motion			
6.9(B) verify through investigations that thermal energy moves in a predictable pattern from warmer to cooler until all the substances attain the same temperature such as an ice cube melting			
8.6(B) differentiate between speed, velocity, and acceleration			

Sun, Earth, and Moon	Unit	30% or More Students Did NOT Meet Expectations	
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8.7 Earth and space. The student knows the effects resulting from cyclical movements of the Sun, Earth, and Moon			
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Readiness Standards	Unit	30% or More Students Did NOT Meet Expectations	
8.7(A) model and illustrate how the tilted Earth rotates on its axis, causing day and night, and revolves around the Sun causing changes in seasons			
8.7(B) demonstrate and predict the sequence of events in the lunar cycle			

Supporting Standards	Unit	30% or More Students Did NOT Meet Expectations	
8.7(C) relate the position of the Moon and Sun to their effect on ocean tides			

Characteristics of the Universe	Unit	30% or More Students Did NOT Meet Expectations	
8.8 Earth and space. The student knows characteristics of the universe.			
7.9 Earth and space. The student knows components of our solar system.			
6.11 Earth and space. The student understands the organization of our solar system and the relationships among the various bodies that comprise it.			

Readiness Standards	Unit	30% or More Students Did NOT Meet Expectations	
6.11(A)* describe the physical properties, locations, and movements of the Sun, planets, Galilean moons, meteors, asteroids, and comets			
7.9(A) analyze the characteristics of objects in our solar system that allow life to exist such as the proximity of the Sun, presence of water, and composition of the atmosphere			
8.8(A) describe components of the universe, including stars, nebulae, and galaxies, and use models such as the Hertzsprung-Russell diagram for classification			

Supporting Standards	Unit	30% or More Students Did NOT Meet Expectations	
6.11(B)^ understand that gravity is the force that governs the motion of our solar system			
7.9(B) identify the accommodations, considering the characteristics of our solar system, that enabled manned space exploration			
8.8(B) recognize that the Sun is a medium-sized star near the edge of a disc-shaped galaxy of stars and that the Sun is many thousands of times closer to Earth than any other star			
8.8(C) explore how different wavelengths of the electromagnetic spectrum such as light and radio waves are used to gain information about distances and properties of components in the universe			
8.8(D) model and describe how light years are used to measure distances and sizes in the universe			

Impact of Natural Events	Unit	30% or More Students Did NOT Meet Expectations	
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8.9 Earth and space. The student knows that natural events can impact Earth systems.		
7.8 Earth and space. The student knows that natural events and human activity can impact Earth systems.6.10(B) classify rocks as metamorphic, igneous, or sedimentary by the processes of their formation		
6.10 Earth and space. The student understands the structure of Earth, the rock cycle, and plate tectonics.		
Readiness Standards	Unit	30% or More Students Did NOT Meet Expectations
6.10(B) classify rocks as metamorphic, igneous, or sedimentary by the processes of their formation		
7.8(A) predict and describe how different types of catastrophic events impact ecosystems such as floods, hurricanes, or tornadoes		
8.9(B) relate plate tectonics to the formation of crustal features		
8.9(C) interpret topographic maps and satellite views to identify land and erosional features and predict how these features may be reshaped by weathering		
Supporting Standards	Unit	30% or More Students Did NOT Meet Expectations
6.10(A) build a model to illustrate the structural layers of Earth, including the inner core, outer core, mantle, crust, asthenosphere, and lithosphere		
6.10(C)* identify the major tectonic plates, including Eurasian, African, Indo-Australian, Pacific, North American, and South American		
6.10(D)* describe how plate tectonics causes major geological events such as ocean basins, earthquakes, volcanic eruptions, and mountain building		
7.8(B) analyze the effects of weathering, erosion, and deposition on the environment in ecoregions of Texas		
8.9(A) describe the historical development of evidence that supports plate tectonic theory		
Climatic Interactions	Unit	30% or More Students Did NOT Meet Expectations

8.10 Earth and space. The student knows that climatic interactions exist among Earth, ocean, and weather systems.			
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Readiness Standards	Unit	30% or More Students Did NOT Meet Expectations	
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Supporting Standards	Unit	30% or More Students Did NOT Meet Expectations	
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8.10(A) recognize that the Sun provides the energy that drives convection within the atmosphere and oceans, producing winds and ocean currents			
8.10(B) identify how global patterns of atmospheric movement influence local weather using weather maps that show high and low pressures and fronts			
8.10(C) identify the role of the oceans in the formation of weather systems such as hurricanes			

Additional Assessed Standards	Unit	30% or More Students Did NOT Meet Expectations	
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