6TH GRADE - MATTER AND ENERGY

TEKS Standard	Station Labs	Complete 5E Lessons
6.5 A - know that an element is a pure substance represented by chemical symbols	Elements, Compounds and Mixtures	Elements, Compounds and Mixtures Molecules
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	Elements, Compounds, Mixtures	Elements, Compounds, Mixtures
6.5 C - differentiate between elements and compounds on the most basic level	Elements, Compounds, Mixtures	Elements, Compounds, Mixtures
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.	Chemical Changes	Chemical Changes
6.6 A - compare metals, nonmetals, and metalloids using physical properties such as luster, conductivity, or malleability	Metals, Nonmetals, and Metalloids	Metals, Nonmetals, and Metalloids
6.6 B - calculate density to identify an unknown substance	Density of Irregular Shaped Objects Density of Regular	Density of Irregular Shaped Objects Density of Regular
6.6 C - test the physical properties of minerals, including hardness, color, luster, and streak	Shaped Objects Minerals	Shaped Objects Minerals
6.7 A - research and debate the advantages and disadvantages of using coal, oil, natural gas, nuclear power, biomass, wind, hydropower, geothermal, and solar resources	Nonrenewable Resources	Nonrenewable Resources
	Renewable Resources	Renewable Resources

6TH GRADE – MATTER AND ENERGY

6.7 B - design a logical plan to manage energy resources in the home, school, or community.	Nonrenewable Resources	Nonrenewable Resources
	Renewable Resources	Renewable Resources

6TH GRADE - FORCE, MOTION, AND ENERGY

TEKS Standard	Station Labs	Complete 5E Lessons
6.8 A - compare and contrast potential and kinetic energy	Potential and Kinetic Energy	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	Balanced and Unbalanced Forces	Balanced and Unbalanced Forces
6.8 C - calculate average speed using distance and time measurements	Net Force Average Speed	Net Force Average Speed
6.8 D - measure and graph changes in motion	Motion Graphing	Motion Graphing
6.8 E - investigate how inclined planes and pulleys can be used to change the amount of force to move an object.	Simple Machines	Simple Machines
6.9 A - investigate methods of thermal energy transfer, including conduction, convection, and radiation	Conduction, Convection, Radiation	Conduction, Convection, Radiation
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	Conduction, Convection, Radiation	Conduction, Convection, Radiation
6.9 C - demonstrate energy transformations such as energy in a flashlight battery changes from chemical energy to electrical energy to light energy.	<u>Energy</u> <u>Transformations</u>	Energy Transformations

6TH GRADE – EARTH AND SPACE

TEKS Standard	Station Labs	Complete 5E Lessons
6.10 A - build a model to illustrate the structural layers of Earth, including the inner core, outer core, mantle, crust, asthenosphere, and lithosphere	Earth's Layers	Earth's Layers
6.10 B - classify rocks as metamorphic, igneous, or sedimentary by the processes of their formation	Rock Cycle	Rock Cycle
6.10 C - identify the major tectonic plates, including Eurasian, African, Indo-Australian, Pacific, North American, and South American	<u>Plate Tectonics</u>	<u>Plate Tectonics</u>
6.10 D - describe how plate tectonics causes major geological events such as ocean basins, earthquakes, volcanic eruptions, and mountain building.	<u>Plate Tectonics</u>	<u>Plate Tectonics</u>
6.11 A - describe the physical properties, locations, and movements of the Sun, planets, Galilean moons, meteors, asteroids, and comets	Outer Planets Outer Planets Asteroids, Meteors, and Comets	Outer Planets Asteroids, Meteors, and Comets
6.11 B - understand that gravity is the force that governs the motion of our solar system	<u>Gravity</u>	<u>Gravity</u>
6.11 C - describe the history and future of space exploration, including the types of equipment and transportation needed for space travel.	N/A	N/A

6TH GRADE – ORGANISMS AND ENVIRONMENTS

TEKS Standard	Station Labs	Complete 5E Lessons
6.12 A - understand that all organisms are composed of one or more cells	Cell Theory	<u>Cell Theory</u>
6.12 B - recognize that the presence of a nucleus determines whether a cell is prokaryotic or eukaryotic	Prokaryotic and Eukaryotic Cells	Prokaryotic and Eukaryotic Cells
6.12 C - recognize that the broadest taxonomic classification of living organisms is divided into currently recognized Domains	<u>Classification</u>	<u>Classification</u>
6.12 D - identify the basic characteristics of organisms, including prokaryotic or eukaryotic, unicellular or multicellular, autotrophic or heterotrophic, and mode of reproduction, that further classify them in the currently recognized Kingdoms	Classification Reproduction Characteristics of Organisms	Classification Reproduction Characteristics of Organisms
6.12 E - describe biotic and abiotic parts of an ecosystem in which organisms interact	Biotic and Abiotic Factors	Biotic and Abiotic Factors
6.12 F - diagram the levels of organization within an ecosystem, including organism, population, community, and ecosystem	Food Webs Organism Relationships	Food Webs Organism Relationships

7TH GRADE - MATTER AND ENERGY

TEKS Standard	Station Labs	Complete 5E Lessons
7.5 A - recognize that radiant energy from the Sun is transformed into chemical energy through the process of photosynthesis		
	<u>Photosynthesis</u> -	<u>Photosynthesis</u>
	Coming Soon	Coming Soon
7.5 B - demonstrate and explain the cycling of matter within living systems such as in the decay of biomass in a compost bin	Nitrogen Cycle Coming Soon Carbon Cycle Coming Soon	Nitrogen Cycle Coming Soon Carbon Cycle Coming Soon
7.5 C - diagram the flow of energy through living systems, including food chains, food webs, and energy pyramids	Food Webs	Food Webs
	Energy Pyramids	Energy Pyramids
7.6 A - identify that organic compounds contain carbon and other elements such as hydrogen, oxygen, phosphorus, nitrogen, or sulfur	Organic Compounds	Organic Compounds
7.6 B - distinguish between physical and chemical changes in matter in the digestive system	Chemical Changes	Chemical Changes
7.6 C - recognize how large molecules are broken down into smaller molecules such as carbohydrates can be broken down into sugars	Organic Compounds	Organic Compounds

7TH GRADE - FORCE, MOTION AND, ENERGY

TEKS Standard	Station Labs	Complete 5E Lessons
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	<u>Work</u>	<u>Work</u>
7.7 B - illustrate the transformation of energy within an organism such as the transfer from chemical energy to heat and thermal energy in digestion	Energy Transformations	Energy Transformations
7.7 C - demonstrate and illustrate forces that affect motion in everyday life such as emergence of seedlings, turgor pressure, and geotropism.	<u>Tropisms</u> Coming Soon	<u>Tropisms</u> Coming Soon

7TH GRADE - EARTH AND SPACE

TEKS Standard	Station Labs	Complete 5E Lessons
7.8 A - predict and describe how different types of catastrophic events impact ecosystems such as floods, hurricanes, or tornadoes	Catastrophic Events	Catastrophic Events
7.8 B - analyze the effects of weathering, erosion, and deposition on the environment in ecoregions of Texas	Erosion and Deposition	Erosion and Deposition
7.8 C - model the effects of human activity on groundwater and surface water in a		
watershed.	<u>Watersheds</u>	<u>Watersheds</u>
	Coming Soon	Coming Soon
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	<u>Atmosphere</u>	<u>Atmosphere</u>
7.9 B - identify the accommodations, considering the characteristics of our solar system, that enabled manned space exploration	N/A	N/A

7TH GRADE - ORGANISMS AND ENVIRONMENTS

TEKS Standard	Station Labs	Complete 5E Lessons
7.10 B - describe how biodiversity contributes to the sustainability of an ecosystem	<u>Biodiversity</u>	<u>Biodiversity</u>
7.10 C - observe, record, and describe the role of ecological succession such as in a microhabitat of a garden with weeds.	Succession	Succession
7.11 A - examine organisms or their structures such as insects or leaves and use dichotomous keys for identification	Dichotomous Keys	<u>Dichotomous Keys</u>
7.11 B - explain variation within a population or species by comparing external features, behaviors, or physiology of organisms that enhance their survival such as migration, hibernation, or storage of food in a bulb	N/A	N/A
7.11 C - identify some changes in genetic traits that have occurred over several generations through natural selection and selective breeding such as the Galapagos Medium Ground Finch (Geospiza fortis) or domestic animals.	Natural Selection	<u>Natural Selection</u>
7.12 A - investigate and explain how internal structures of organisms have adaptations that allow specific functions such as gills in fish, hollow bones in birds, or xylem in plants	Natural Selection	Natural Selection
7.12 B - identify the main functions of the systems of the human organism, including the circulatory, respiratory, skeletal, muscular, digestive, excretory, reproductive, integumentary, nervous, and endocrine systems	All Body Systems Labs	All Body Systems Labs
7.12 C - recognize levels of organization in plants and animals, including cells, tissues, organs, organ systems, and organisms	Inherited Traits	Inherited Traits
7.12 D - differentiate between structure and function in plant and animal cell organelles, including cell membrane, cell wall, nucleus, cytoplasm, mitochondrion, chloroplast, and vacuole	Cells	Cells
7.12 E - compare the functions of a cell to the functions of organisms such as waste removal	Cells	Cells

7TH GRADE – ORGANISMS AND ENVIRONMENTS

7.12 F - recognize that according to cell theory all organisms are composed of cells and cells carry on similar functions such as extracting energy from food to sustain life	Cell Theory	Cell Theory
7.13 A - investigate how organisms respond to external stimuli found in the environment such as phototropism and fight or flight	Tropisms Coming Soon	<u>Tropisms</u> Coming Soon
7.13 B - describe and relate responses in organisms that may result from internal stimuli such as wilting in plants and fever or vomiting in animals that allow them to maintain balance.		
7.13 C - identify that organic compounds contain carbon and other elements such as hydrogen, oxygen, phosphorus, nitrogen, or sulfur	Organic Compounds	Organic Compounds
7.14 A - define heredity as the passage of genetic instructions from one generation to the next generation	Inherited Traits	Inherited Traits
7.14 B - compare the results of uniform or diverse offspring from sexual reproduction or asexual reproduction	Reproduction	Reproduction
7.14 C - recognize that inherited traits of individuals are governed in the genetic material found in the genes within chromosomes in the nucleus.	Genetics	<u>Genetics</u>
	Inherited Traits	Inherited Traits

8TH GRADE - FORCE, MATTER, AND ENERGY

TEKS Standard	Station Labs	Complete 5E Lessons
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	<u>Atoms</u>	<u>Atoms</u>
8.5 B - identify that protons determine an element's identity and valence electrons determine its chemical properties, including reactivity	Atoms	<u>Atoms</u>
8.5 C - interpret the arrangement of the Periodic Table, including groups and periods, to explain how properties are used to classify elements	Periodic Table	Periodic Table
	Metals, Nonmetals, Metalloids	Metals, Nonmetals, Metalloids
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	Counting Atoms and Elements	Counting Atoms and Elements
8.5 E - investigate how evidence of chemical reactions indicate that new substances with different properties are formed	Chemical Changes	Chemical Changes
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	Balancing Chemical Equations	Balancing Chemical Equations

8TH GRADE - FORCE, MATTER, AND ENERGY

8.6 A - demonstrate and calculate how unbalanced forces change the speed or direction of an object's motion	Balanced and Unbalanced Forces Average Speed	Balanced and Unbalanced Forces Average Speed
8.6 B - differentiate between speed, velocity, and acceleration	Speed, Velocity, Acceleration	Speed, Velocity, Acceleration
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	Newton's 1st Law Newton's 2nd Law Newton's 3rd Law	Newton's Laws

8TH GRADE – EARTH AND SPACE

TEKS Standard	Station Labs	Complete 5E Lessons
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	<u>Seasons</u>	<u>Seasons</u>
8.7 B - demonstrate and predict the sequence of events in the lunar cycle	Lunar Cycle	Lunar Cycle
8.7 C - relate the position of the Moon and Sun to their effect on ocean tides	<u>Tides</u>	<u>Tides</u>
8.8 A - describe components of the universe, including stars, nebulae, and galaxies, and use models such as the Herztsprung-Russell diagram for classification	Galaxies H-R Diagram Life Cycle of Stars	Galaxies H-R Diagram Life Cycle of Stars
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	Galaxies	<u>Galaxies</u> <u>Light Years</u>
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	Electromagnetic Spectrum	Electromagnetic Spectrum
8.8 D - model and describe how light years are used to measure distances and sizes in the universe		<u>Light Years</u>
8.8 E - research how scientific data are used as evidence to develop scientific theories to describe the origin of the universe	Big Bang Theory	Big Bang Theory

8TH GRADE – EARTH AND SPACE

8.9 A - describe the historical development of evidence that supports plate tectonic theory	Continental Drift Theory	Continental Drift Theory
8.9 B - relate plate tectonics to the formation of crustal features	<u>Plate Tectonics</u>	<u>Plate Tectonics</u>
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	Topographic Maps	Topographic Maps
8.10 A - recognize that the Sun provides the energy that drives convection within the atmosphere and oceans, producing winds and ocean currents	Convection Currents	Convection 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	Air Masses Air Pressure	Air Masses Air Pressure
8.10 C - identify the role of the oceans in the formation of weather systems such as hurricanes.	<u>Hurricanes</u>	<u>Hurricanes</u>

8TH GRADE - ENVIRONMENT AND ORGANISMS

TEKS Standard	Station Labs	Complete 5E Lessons
8.11 A - describe producer/consumer, predator/prey, and parasite/host relationships as they occur in food webs within marine, freshwater, and terrestrial ecosystems	Organism Relationships Food Webs	Organism Relationships Food Webs
8.11 B - investigate how organisms and populations in an ecosystem depend on and may compete for biotic and abiotic factors such as quantity of light, water, range of temperatures, or soil composition;	Biotic and Abiotic Factors	Biotic and Abiotic Factors
8.11 C - explore how short and long-term environmental changes affect organisms and traits in subsequent populations	Short and Long- Term Environmental Impacts	Short and Long-Term Environmental Impacts
8.11 D - recognize human dependence on ocean systems and explain how human activities such as runoff, artificial reefs, or use of resources have modified these systems.	Coming Soon Watersheds Oceans	Coming Soon Watersheds Oceans