Lab-Aids Correlations for

TEXAS ESSENTIAL KNOWLEDGE AND SKILLS (TEKS) FOR SCIENCE FOR MIDDLE SCHOOL, Adopted 2021

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The following tables show how a select group of kits and modules, developed by Lab-Aids and/or the Science Education for Public Understanding Program (SEPUP) group, align with the Texas Essential Knowledge and Skills (TEKS) for Science for Middle School, Adopted 2021. Many of our other kits and modules, as well as curriculum units, would also be appropriate for addressing the TEKS for Science for Middle School. Complete descriptions for all our products can be accessed online at www.lab-aids.com.

ABOUT OUR PROGRAMS

Lab-Aids has maintained its home offices and operations in Ronkonkoma, NY, since 1963. We publish over 200 kits and core curriculum programs to support science teaching and learning, grades 6-12. Lab-Aids Kits provide teachers with a hands-on approach to teaching core content, including science and engineering practices, recurring themes, Nature of Science, and scientific processes. All Lab-Aids Kits include a comprehensive teacher guide to support the activities. Each kit contains one to three activities, including student pages and equipment, to help teachers cover the content.

In addition to kits, Lab-Aids publishes core curricula that supports an inquiry-driven pedagogy, with support for literacy skill development and with assessment programs that clearly show what students know and are able to do as a result of program use. All programs have extensive support for technology and feature comprehensive teacher support. For more information, please visit www.lab-aids.com and navigate to the program of interest.

6th Grade 7th Grade 8th Grade Process Skills

Kit #	Lab-Aids Kit	Middle School TEKS
1-S	Simulated Blood Typing	1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems
3	Aids And STD Transmission and Control (A Simulation)	1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems
4	Simulated Urinalysis Investigation	1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems
4A	Simulated Veterinary Urinalysis Investigation	1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems
7	Human Genetic Traits Investigation	13B - describe the function of genes within chromosomes in determining inherited traits of offspring
9	Observing Mitosis	13A - identify the function of the cell membrane, cell wall, nucleus, ribosomes, cytoplasm, mitochondria, chloroplasts, and vacuoles in plant or animal cells
22	Investigating Osmosis and Diffusion	13A - identify the function of the cell membrane, cell wall, nucleus, ribosomes, cytoplasm, mitochondria, chloroplasts, and vacuoles in plant or animal cells
29S	Cellular Respiration: Energy and Matter in Cells	1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 3A - develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories 3C - engage respectfully in scientific argumentation using applied scientific explanations and empirical evidence 5D - examine and model the parts of a system and their interdependence in the function of the system 5E - analyze and explain how energy flows and matter cycles through systems and how energy and matter are conserved through a variety of systems
30S	Photosynthesis and Cellular Respiration	1A - ask questions and define problems based on observations or information from text, phenomena, models, or investigations 3A - develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories 3B - communicate explanations and solutions individually and collaboratively in a variety of settings and formats 1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 5A - identify and apply patterns to understand and connect scientific phenomena or to design solutions

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		5D - examine and model the parts of a system and their interdependence in the function of the system 5E - analyze and explain how energy flows and matter cycles through systems and how energy and matter are conserved through a variety of systems 8B - describe how energy is conserved through transfers and transformations in systems such as electrical circuits, food webs, amusement park rides, or photosynthesis 11B - describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere 6E - investigate how mass is conserved in chemical reactions and relate conservation of mass to the rearrangement of atoms using chemical equations, including photosynthesis
31	Photosynthesis, Plants, and Food	1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 12B - describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere
32	Biology and Chemistry of Soil Experiment	12B - describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere
37	Basic Owl Pellet Study	2C - use mathematical calculations to assess quantitative relationships in data 12B - describe and give examples of predatory, competitive, and symbiotic relationships between organisms, including mutualism, parasitism, and commensalism 12A - diagram the flow of energy within trophic levels and describe how the available energy decreases in successive trophic levels in energy pyramids 12B - diagram the flow of energy within trophic levels and describe how the available energy decreases in successive trophic levels in energy pyramids
38	Biofuels: Investigating Ethanol Production and Combustion	1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 6E - investigate how mass is conserved in chemical reactions and relate conservation of mass to the rearrangement of atoms using chemical equations, including photosynthesis
52	Dendrochronology: Tree Ring Dating	1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems

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61	Plant Cell Study	13A - identify the function of the cell membrane, cell wall, nucleus, ribosomes, cytoplasm, mitochondria, chloroplasts, and vacuoles in plant or animal cells
62	Study of the Structure and Function of Mitochondria	1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 13A - identify the function of the cell membrane, cell wall, nucleus, ribosomes, cytoplasm, mitochondria, chloroplasts, and vacuoles in plant or animal cells
70	Genetics Concepts	1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 2C - use mathematical calculations to assess quantitative relationships in data 13B - describe the function of genes within chromosomes in determining inherited traits of offspring
71	DNA Modeling: Molecular Structure and Replication	1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems
72	DNA, RNA, and Protein Synthesis Modeling	1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems
73	Random Chance Probability	2C - use mathematical calculations to assess quantitative relationships in data
74R	Natural Selection: Variation in Species and Normal Distribution	2C - use mathematical calculations to assess quantitative relationships in data
75	DNA Fingerprinting Diagnostics	1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems
76	Genetic Equilibrium, The Hardy-Weinberg Principle, and Natural Selection	2C - use mathematical calculations to assess quantitative relationships in data
80	Introduction to pH Measurement	6D - compare and contrast the properties of acids and bases, including pH relative to water
81R	pH Measurements/Indicator	6D - compare and contrast the properties of acids and bases, including pH relative to water
82	Properties of Acids and Bases Experiment	6D - compare and contrast the properties of acids and bases, including pH relative to water
83	Identification of Substances	6C - distinguish between physical and chemical changes in matter
84	Identification of Chemical Reactions	6E - 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 6C - distinguish between physical and chemical changes in matter

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85	Determination of Chemical Formulas	2C - use mathematical calculations to assess quantitative relationships in data
89	Modeling Chemical Equilibrium	1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems
91	Natural Selection Experiment	2C - use mathematical calculations to assess quantitative relationships in data 13D - describe and give examples of how natural and artificial selection change the occurrence of traits in a population over generations 13C - 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
100	Indirect Observations: The Lab-Aids® Ob-Scertainer™	1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems
101	One in a Million	2C - use mathematical calculations to assess quantitative relationships in data
102	Measurement: Distance, Angles, Graphs, and Scale	2C - use mathematical calculations to assess quantitative relationships in data
109S	Elements and the Periodic Table	1A - ask questions and define problems based on observations or information from text, phenomena, models, or investigations 3B - communicate explanations and solutions individually and collaboratively in a variety of settings and formats 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 6B - use the periodic table to identify the atoms and the number of each kind within a chemical formula 6B - use the periodic table to identify the atoms involved in chemical reactions
110R	Families of Elements Experiment	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

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111	Flame Tests and Emission Spectroscopy	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
114	Density: Layers of Liquids	6D - compare the density of substances relative to various fluids
121	Size of Molecules Experiment	2C - use mathematical calculations to assess quantitative relationships in data
129R	Introduction to Molecular Models	6A compare and contrast elements and compounds in terms of atoms and molecules, chemical symbols, and chemical formulas 6A - explain by modeling how matter is classified as elements, compounds, homogeneous mixtures, or heterogeneous mixtures
141	Atomic Structure and Chemical Interactions	1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 6A compare and contrast elements and compounds in terms of atoms and molecules, chemical symbols, and chemical formulas 6A - explain by modeling how matter is classified as elements, compounds, homogeneous mixtures, or heterogeneous mixtures
142	Conservation of Matter	2C - use mathematical calculations to assess quantitative relationships in data 6E - investigate how mass is conserved in chemical reactions and relate conservation of mass to the rearrangement of atoms using chemical equations, including photosynthesis
145N	Atomic Structure, Valence, and Bonding	1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 6A compare and contrast elements and compounds in terms of atoms and molecules, chemical symbols, and chemical formulas
180	Aspirin Study	2C - use mathematical calculations to assess quantitative relationships in data
181	Understanding and Comparing Antacids	2C - use mathematical calculations to assess quantitative relationships in data
205S	Investigating the Design and Output of Wet Cell Batteries	1A - ask questions and define problems based on observations or information from text, phenomena, models, or investigations 1B - use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems 1C - use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards 1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 2D - evaluate experimental and engineering designs

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		3A - develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories 3B - communicate explanations and solutions individually and collaboratively in a variety of settings and formats 5A - identify and apply patterns to understand and connect scientific phenomena or to design solutions
206RS	Comparing the Energy Efficiency of Different Light Bulbs	1A - ask questions and define problems based on observations or information from text, phenomena, models, or investigations 1D - use appropriate tools such as graduated cylinders, metric rulers, periodic tables, balances, scales, thermometers, temperature probes, laboratory ware, timing devices, pH indicators, hot plates, models, microscopes, slides, life science models, petri dishes, dissecting kits, magnets, spring scales or force sensors, tools that model wave behavior, satellite images, hand lenses, and lab notebooks or journals 1F - construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data 2A - identify advantages and limitations of models such as their size, scale, properties, and materials 2C - use mathematical calculations to assess quantitative relationships in data 3B - communicate explanations and solutions individually and collaboratively in a variety of settings and formats 5A - identify and apply patterns to understand and connect scientific phenomena or to design solutions 5B - identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems 8B - describe how energy is conserved through transfers and transformations in systems such as electrical circuits, food webs, amusement park rides, or photosynthesis 8A - investigate methods of thermal energy transfer into and out of systems, including conduction, convection, and radiation
207S	Converting Gravitational Potential Energy to Kinetic Energy	1A - ask questions and define problems based on observations or information from text, phenomena, models, or investigations 1B - use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems 1D - use appropriate tools such as graduated cylinders, metric rulers, periodic tables, balances, scales, thermometers, temperature probes, laboratory ware, timing devices, pH indicators, hot plates, models, microscopes, slides, life science models, petri dishes, dissecting kits, magnets, spring scales or

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		force sensors, tools that model wave behavior, satellite images, hand lenses, and lab notebooks or journals 1E - collect quantitative data using the International System of Units (SI) and qualitative data as evidence 2C - use mathematical calculations to assess quantitative relationships in data 3A - develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories 3B - communicate explanations and solutions individually and collaboratively in a variety of settings and formats 5B - identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems 8A - compare and contrast gravitational, elastic, and chemical potential energies with kinetic energy 8B - describe how energy is conserved through transfers and transformations in systems such as electrical circuits, food webs, amusement park rides, or photosynthesis
209S	The Electromagnetic Spectrum	1A - ask questions and define problems based on observations or information from text, phenomena, models, or investigations 1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 2B - analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations 2C - use mathematical calculations to assess quantitative relationships in data 3A - develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories 3B - develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories 3C - engage respectfully in scientific argumentation using applied scientific explanations and empirical evidence 5A - identify and apply patterns to understand and connect scientific phenomena or to design solutions 5B - identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems 8A - compare the characteristics of amplitude, frequency, and wavelength in transverse waves, including the electromagnetic spectrum 8B - explain the use of electromagnetic waves in applications such as radiation therapy, wireless technologies, fiber optics, microwaves, ultraviolet sterilization, astronomical observations, and X-rays

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211	Energy Transfer: Waves, Sound and Light	1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 8C - explain how energy is transferred through transverse and longitudinal waves 8A - compare the characteristics of amplitude, frequency, and wavelength in transverse waves, including the electromagnetic spectrum
212	Energy Transfer: Motion of a Pendulum	2C - use mathematical calculations to assess quantitative relationships in data 8B - describe how energy is conserved through transfers and transformations in systems such as electrical circuits, food webs, amusement park rides, or photosynthesis
213	Energy Transfer: Motors, Generators, and Sources of Electricity	8B - describe how energy is conserved through transfers and transformations in systems such as electrical circuits, food webs, amusement park rides, or photosynthesis
214	Simple Machines (1 Station)	2C - use mathematical calculations to assess quantitative relationships in data 7A - identify and explain how forces act on objects, including gravity, friction, magnetism, applied forces, and normal forces, using real-world applications 8B - describe how energy is conserved through transfers and transformations in systems such as electrical circuits, food webs, amusement park rides, or photosynthesis
217	Magnetic Fields and Forces	7A - identify and explain how forces act on objects, including gravity, friction, magnetism, applied forces, and normal forces, using real-world applications
220S	Investigating Photovoltaic Cells	1A - ask questions and define problems based on observations or information from text, phenomena, models, or investigations 1B - use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems 1F - construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data 1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 2B - analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations 3A - develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories

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		3B - develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories 3C - engage respectfully in scientific argumentation using applied scientific explanations and empirical evidence
318S	Soil Nutrients and Fertilizers	1A - ask questions and define problems based on observations or information from text, phenomena, models, or investigations 1C - use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards 1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 3C - engage respectfully in scientific argumentation using applied scientific explanations and empirical evidence 11A - research and describe why resource management is important in reducing global energy, poverty, malnutrition, and air and water pollution
320	Simulating Threshold Effects of Soil Ph on Hydrangea Plants	1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems
321	Organically Grown? (Testing for Pesticides)	1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems
351S	Exploring Newton's First Law: Inertia	1A - ask questions and define problems based on observations or information from text, phenomena, models, or investigations 1F - construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data 1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 3A - develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories 3B - communicate explanations and solutions individually and collaboratively in a variety of settings and formats 3C - engage respectfully in scientific argumentation using applied scientific explanations and empirical evidence 5A - identify and apply patterns to understand and connect scientific phenomena or to design solutions 5B - identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems 7A - identify and explain how forces act on objects, including gravity, friction, magnetism, applied forces, and normal forces, using real-world applications

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352S	Classifying Objects in the Solar System	1A - ask questions and define problems based on observations or information from text, phenomena, models, or investigations 2B - analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations 3B - communicate explanations and solutions individually and collaboratively in a variety of settings and formats 3C - engage respectfully in scientific argumentation using applied scientific explanations and empirical evidence 9A - describe the physical properties, locations, and movements of the Sun, planets, moons, meteors, asteroids, comets, Kuiper belt, and Oort cloud
353S	Analyzing and Explaining Moon Phases	1A - ask questions and define problems based on observations or information from text, phenomena, models, or investigations 1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 2A - identify advantages and limitations of models such as their size, scale, properties, and materials 2B - analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations 3B - communicate explanations and solutions individually and collaboratively in a variety of settings and formats 5A - identify and apply patterns to understand and connect scientific phenomena or to design solutions
403S	Classifying Sedimentary, Metamorphic and Igneous Rocks	1A - ask questions and define problems based on observations or information from text, phenomena, models, or investigations 1D - use appropriate tools such as graduated cylinders, metric rulers, periodic tables, balances, scales, thermometers, temperature probes, laboratory ware, timing devices, pH indicators, hot plates, models, microscopes, slides, life science models, petri dishes, dissecting kits, magnets, spring scales or force sensors, tools that model wave behavior, satellite images, hand lenses, and lab notebooks or journals 2B - analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations 3B - communicate explanations and solutions individually and collaboratively in a variety of settings and formats 3C - engage respectfully in scientific argumentation using applied scientific explanations and empirical evidence 10C - describe how metamorphic, igneous, and sedimentary rocks form and change through geologic processes in the rock cycle
404S	The Rock Cycle Activity	1A - ask questions and define problems based on observations or information from text, phenomena, models, or investigations 1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems

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		3C - engage respectfully in scientific argumentation using applied scientific explanations and empirical evidence 5B - identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems 10C - describe how metamorphic, igneous, and sedimentary rocks form and change through geologic processes in the rock cycle
406S	Examining Fossils	1A - ask questions and define problems based on observations or information from text, phenomena, models, or investigations 3C - engage respectfully in scientific argumentation using applied scientific explanations and empirical evidence 10A - describe the evidence that supports that Earth has changed over time, including fossil evidence, plate tectonics, and superposition
430	Rock Cycle: An Interactive Exploration Through Geologic Time	1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 10C - describe how metamorphic, igneous, and sedimentary rocks form and change through geologic processes in the rock cycle
434S	Contaminants and the Water Cycle	1A - ask questions and define problems based on observations or information from text, phenomena, models, or investigations 1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 2A - identify advantages and limitations of models such as their size, scale, properties, and materials 3B - communicate explanations and solutions individually and collaboratively in a variety of settings and formats 5B - identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems 8A - investigate methods of thermal energy transfer into and out of systems, including conduction, convection, and radiation 11A - analyze the beneficial and harmful influences of human activity on groundwater and surface water in a watershed
435	Reading River Sediments: A Simulated Mineral Exploration	1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems
436S	Modeling Convection	1A - ask questions and define problems based on observations or information from text, phenomena, models, or investigations 1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 3A - develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories

Kit #	Lab-Aids Kit	Middle School TEKS
		3C - engage respectfully in scientific argumentation using applied scientific explanations and empirical evidence 5A - identify and apply patterns to understand and connect scientific phenomena or to design solutions 5B - Identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems
437	Modeling and Investigating Watersheds	1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 11A - analyze the beneficial and harmful influences of human activity on groundwater and surface water in a watershed
438S	Plate Tectonics: Plate Boundary Computer Simulation	1A - ask questions and define problems based on observations or information from text, phenomena, models, or investigations 1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 2B - analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations 3A - develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories 5A - identify and apply patterns to understand and connect scientific phenomena or to design solutions 5B - identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems 10B - describe how plate tectonics causes ocean basin formation, earthquakes, mountain building, and volcanic eruptions, including supervolcanoes and hot spots
439S	Making and Interpreting Topographic Maps	1A - ask questions and define problems based on observations or information from text, phenomena, models, or investigations 1F - construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data 1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 2B - analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations 3B - communicate explanations and solutions individually and collaboratively in a variety of settings and formats communicate explanations and solutions individually and collaboratively in a variety of settings and formats
440S	Copper Mining and Extraction	1A - ask questions and define problems based on observations or information from text, phenomena, models, or investigations 1C - use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards

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		1D - use appropriate tools such as graduated cylinders, metric rulers, periodic tables, balances, scales, thermometers, temperature probes, laboratory ware, timing devices, pH indicators, hot plates, models, microscopes, slides, life science models, petri dishes, dissecting kits, magnets, spring scales or force sensors, tools that model wave behavior, satellite images, hand lenses, and lab notebooks or journals 1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 3A - develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories 3B - communicate explanations and solutions individually and collaboratively in a variety of settings and formats communicate explanations and solutions individually and collaboratively in a variety of settings and formats
441S	Using Chemical Reactions to Reduce Waste	1A - ask questions and define problems based on observations or information from text, phenomena, models, or investigations 1C - use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards 1D - use appropriate tools such as graduated cylinders, metric rulers, periodic tables, balances, scales, thermometers, temperature probes, laboratory ware, timing devices, pH indicators, hot plates, models, microscopes, slides, life science models, petri dishes, dissecting kits, magnets, spring scales or force sensors, tools that model wave behavior, satellite images, hand lenses, and lab notebooks or journals 1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 3c - engage respectfully in scientific argumentation using applied scientific explanations and empirical evidence 11A - research and describe why resource management is important in reducing global energy, poverty, malnutrition, and air and water pollution
442	Modeling Stream Erosion and Deposition	1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems
443S	Correlating Sedimentary Strata	1A - ask questions and define problems based on observations or information from text, phenomena, models, or investigations 1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 2B - analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations

Kit #	Lab-Aids Kit	Middle School TEKS
		3B - communicate explanations and solutions individually and collaboratively in a variety of settings and formats 3C - engage respectfully in scientific argumentation using applied scientific explanations and empirical evidence 10A - describe the evidence that supports that Earth has changed over time, including fossil evidence, plate tectonics, and superposition
444S	Using Remote Sensing to Determine Topography	1A - ask questions and define problems based on observations or information from text, phenomena, models, or investigations 1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 2A - identify advantages and limitations of models such as their size, scale, properties, and materials 2B - analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations 2C - use mathematical calculations to assess quantitative relationships in data 3A - develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories 3B - communicate explanations and solutions individually and collaboratively in a variety of settings and formats 3C - engage respectfully in scientific argumentation using applied scientific explanations and empirical evidence
445S	Plate Tectonics: Examining Evidence for Continental Drift	1A - ask questions and define problems based on observations or information from text, phenomena, models, or investigations 1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 2B - analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations 3A - develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories 3B - communicate explanations and solutions individually and collaboratively in a variety of settings and formats 3C - engage respectfully in scientific argumentation using applied scientific explanations and empirical evidence 5A - identify and apply patterns to understand and connect scientific phenomena or to design solutions 5B - identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems 5C - identify and apply patterns to understand and connect scientific phenomena or to design solutions

Kit #	Lab-Aids Kit	Middle School TEKS
		10A - describe the evidence that supports that Earth has changed over time, including fossil evidence, plate tectonics, and superposition
446S	Engineering and Design: Modeling and Mitigating Stream Processes	1A - ask questions and define problems based on observations or information from text, phenomena, models, or investigations 1B - use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems 1D - use appropriate tools such as graduated cylinders, metric rulers, periodic tables, balances, scales, thermometers, temperature probes, laboratory ware, timing devices, pH indicators, hot plates, models, microscopes, slides, life science models, petri dishes, dissecting kits, magnets, spring scales or force sensors, tools that model wave behavior, satellite images, hand lenses, and lab notebooks or journals 1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 2A - identify advantages and limitations of models such as their size, scale, properties, and materials 2B - analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations 3A - develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories 3B - communicate explanations and solutions individually and collaboratively in a variety of settings and formats 3C - engage respectfully in scientific argumentation using applied scientific explanations and empirical evidence 5B - identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems 11A - research and describe why resource management is important in reducing global energy, poverty, malnutrition, and air and water pollution 11A - analyze the beneficial and harmful influences of human activity on groundwater and surface water in a watershed
450	Introduction to Radioactivity and Half Life	1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 2C - use mathematical calculations to assess quantitative relationships in data
480S	Weather Forecasting	1A - ask questions and define problems based on observations or information from text, phenomena, models, or investigations 5B - identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems

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481E	Climate Change: Organisms as Climate Indicators	1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 2C - use mathematical calculations to assess quantitative relationships in data 5B - identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems
482E	Climate Change: Carbon Cycling	2C - use mathematical calculations to assess quantitative relationships in data 5B - identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems 12B - describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere 11A - 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 11B - use scientific evidence to describe how human activities, including the release of greenhouse gases, deforestation, and urbanization, can influence climate 11C - describe the carbon cycle
483S	Climate Change: Earth's Changing Atmosphere	1A - ask questions and define problems based on observations or information from text, phenomena, models, or investigations 5B - identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems 10A - describe how energy from the Sun, hydrosphere, and atmosphere interact and influence weather and climate 11A - 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 11B - use scientific evidence to describe how human activities, including the release of greenhouse gases, deforestation, and urbanization, can influence climate
485S	Engineering & Design: Reducing Erosion	1A - ask questions and define problems based on observations or information from text, phenomena, models, or investigations 1B - use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems 1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 2A - identify advantages and limitations of models such as their size, scale, properties, and materials

Kit #	Lab-Aids Kit	Middle School TEKS
		2B - analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations 2D - evaluate experimental and engineering designs 3B - communicate explanations and solutions individually and collaboratively in a variety of settings and formats 3C - engage respectfully in scientific argumentation using applied scientific explanations and empirical evidence 5A - identify and apply patterns to understand and connect scientific phenomena or to design solutions 5B - identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems
490S	Engineering and Design: Mechanical Hands	1A - ask questions and define problems based on observations or information from text, phenomena, models, or investigations 1B - use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems 1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 2D - evaluate experimental and engineering designs 3C - engage respectfully in scientific argumentation using applied scientific explanations and empirical evidence
493S	Engineering and Design: Chemical Handwarmers	1A - ask questions and define problems based on observations or information from text, phenomena, models, or investigations 1B - use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems 1C - use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards 1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 2D - evaluate experimental and engineering designs 3C - engage respectfully in scientific argumentation using applied scientific explanations and empirical evidence 5B - identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems
496S	Engineering and Design: Maglev Transport Systems	1A - ask questions and define problems based on observations or information from text, phenomena, models, or investigations 1B - use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems 1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 2D - evaluate experimental and engineering designs 3C - engage respectfully in scientific argumentation using applied scientific explanations and empirical evidence

Kit #	Lab-Aids Kit	Middle School TEKS
		5A - identify and apply patterns to understand and connect scientific phenomena or to design solutions
545S	What is a Species?	1A - ask questions and define problems based on observations or information from text, phenomena, models, or investigations
547S	Modeling The Effects of an Introduced Species	1A - ask questions and define problems based on observations or information from text, phenomena, models, or investigations 1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 3C - engage respectfully in scientific argumentation using applied scientific explanations and empirical evidence 5B - identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems 12A - 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 12A - explain how disruptions such as population changes, natural disasters, and human intervention impact the transfer of energy in food webs in ecosystems
550S	Classifying Animals	1A - ask questions and define problems based on observations or information from text, phenomena, models, or investigations 13B - identify and compare the basic characteristics of organisms, including prokaryotic and eukaryotic, unicellular and multicellular, and autotrophic and heterotrophic
555S	Organisms as Indicators of Ecosystem Health	1A - ask questions and define problems based on observations or information from text, phenomena, models, or investigations 1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 2C - use mathematical calculations to assess quantitative relationships in data 3C - engage respectfully in scientific argumentation using applied scientific explanations and empirical evidence 5B - identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems
556	Ecological Succession	5B - identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems 12A - 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

Kit #	Lab-Aids Kit	Middle School TEKS
		12A - explain how disruptions such as population changes, natural disasters, and human intervention impact the transfer of energy in food webs in ecosystems 12B - describe how primary and secondary ecological succession affect populations and species diversity after ecosystems are disrupted by natural events or human activity
557S	Tragedy of the Commons: Sustainable Resource Use	1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 2C - use mathematical calculations to assess quantitative relationships in data 5B - identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems 11A - research and describe why resource management is important in reducing global energy, poverty, malnutrition, and air and water pollution 12A - explain how disruptions such as population changes, natural disasters, and human intervention impact the transfer of energy in food webs in ecosystems
558S	Biomes and Biodiversity	5B - identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems 12C - describe how biodiversity contributes to the stability and sustainability of an ecosystem and the health of the organisms within the ecosystem
603S	Investigating and Applying Genetics	1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 2C - use mathematical calculations to assess quantitative relationships in data 13B - describe the function of genes within chromosomes in determining inherited traits of offspring
606S	Cell Differentiation and Gene Expression	1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 5B - identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems 13B - describe the function of genes within chromosomes in determining inherited traits of offspring
607S	Modeling Protein Structure and Its Relationship to Traits	1A - ask questions and define problems based on observations or information from text, phenomena, models, or investigations 1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 5B - identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems

Kit #	Lab-Aids Kit	Middle School TEKS
		13B - describe the function of genes within chromosomes in determining inherited traits of offspring
607AS	Genes, Proteins, Traits, Mutations, and Livestock	1A - ask questions and define problems based on observations or information from text, phenomena, models, or investigations 5B - identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems 13B - describe the function of genes within chromosomes in determining inherited traits of offspring
706S	Making and Modeling Polymers	1A - ask questions and define problems based on observations or information from text, phenomena, models, or investigations 1C - use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards 1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 5B - identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems
803S	Investigating Human Respiration	1A - ask questions and define problems based on observations or information from text, phenomena, models, or investigations 1C - use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards 1D - use appropriate tools such as graduated cylinders, metric rulers, periodic tables, balances, scales, thermometers, temperature probes, laboratory ware, timing devices, pH indicators, hot plates, models, microscopes, slides, life science models, petri dishes, dissecting kits, magnets, spring scales or force sensors, tools that model wave behavior, satellite images, hand lenses, and lab notebooks or journals 1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 2C - use mathematical calculations to assess quantitative relationships in data 5B - identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems
804S	Body Systems, Structures, and Functions	1A - ask questions and define problems based on observations or information from text, phenomena, models, or investigations 1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 3C - engage respectfully in scientific argumentation using applied scientific explanations and empirical evidence 2A - identify advantages and limitations of models such as their size, scale, properties, and materials 2B - analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations

Kit #	Lab-Aids Kit	Middle School TEKS
		13A - 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
902S	Genes, Mutations, Evolution, and Sickle Cell	1A - ask questions and define problems based on observations or information from text, phenomena, models, or investigations 1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 2C - use mathematical calculations to assess quantitative relationships in data 3C - engage respectfully in scientific argumentation using applied scientific explanations and empirical evidence 5A - identify and apply patterns to understand and connect scientific phenomena or to design solutions 5B - identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems 13C - describe how variations within a population can be an advantage or disadvantage to the survival of a population as environments change 13B - describe the function of genes within chromosomes in determining inherited traits of offspring
903S	Evolution: Examining Fossil and DNA Evidence	1A - ask questions and define problems based on observations or information from text, phenomena, models, or investigations 2B - analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations 3C - engage respectfully in scientific argumentation using applied scientific explanations and empirical evidence
904S	Natural Selection and Antibiotic Resistant Bacteria	1A - ask questions and define problems based on observations or information from text, phenomena, models, or investigations 1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 2B - analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations 2C - use mathematical calculations to assess quantitative relationships in data 3C - engage respectfully in scientific argumentation using applied scientific explanations and empirical evidence 5B - identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems 13C - describe how variations within a population can be an advantage or disadvantage to the survival of a population as environments change

Kit #	Lab-Aids Kit	Middle School TEKS
		13D - describe and give examples of how natural and artificial selection change the occurrence of traits in a population over generations 13C - 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
905	Selective Breeding	13D - describe and give examples of how natural and artificial selection change the occurrence of traits in a population over generations
906	Tracking The Spread of Infectious Diseases	1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 5B - identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems
907S	Animal Health and Food Safety: Chicken Little, Chicken Big	1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 2C - use mathematical calculations to assess quantitative relationships in data 5B - identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems
908S	Cancer and the Cell Cycle	1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 5B - identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems
910S	Skeletal and Embryological Evidence for Evolutionary Relationships	1A - ask questions and define problems based on observations or information from text, phenomena, models, or investigations 2B - analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations
912S	Modeling the Inheritance of Traits	1A - ask questions and define problems based on observations or information from text, phenomena, models, or investigations 1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems 3A - develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories 13B - describe the function of genes within chromosomes in determining inherited traits of offspring
913S	Epidemiology: Tracking the Source of an Emerging Disease	1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems

Kit #	Lab-Aids Kit	Middle School TEKS
1271	Forensic Science: Introduction to DNA Fingerprinting	1G - develop and use models to represent phenomena, systems, processes, or solutions to engineering problems

Module #	Lab-Aids Module	Middle School TEKS
P210	Force and Motion	2C - use mathematical calculations to assess quantitative relationships in data
P610	Density: Understanding Through Experimental Design	2C - use mathematical calculations to assess quantitative relationships in data 6D - compare the density of substances relative to various fluids
300A	Understanding and Using Energy and Technology	2C - use mathematical calculations to assess quantitative relationships in data
300B	Using Energy Effectively in Lighting and Life	2C - use mathematical calculations to assess quantitative relationships in data

Module #	SEPUP Modules	Middle School TEKS
DM-2	Decision Making: Probability and Risk Taking	2C - use mathematical calculations to assess quantitative relationships in data
HM-2	Hazardous Materials Investigation: The Barrel Mystery	6A - compare solids, liquids, and gases in terms of their structure, shape, volume, and kinetic energy of atoms and molecules 6B - investigate the physical properties of matter to distinguish between pure substances, homogeneous mixtures (solutions), and heterogeneous mixtures 6A - explain by modeling how matter is classified as elements, compounds, homogeneous mixtures, or heterogeneous mixtures
SP-2	Investigating Wastewater: Solutions and Pollution	2C - use mathematical calculations to assess quantitative relationships in data
TT-2	Thresholds and Toxicology	2C - use mathematical calculations to assess quantitative relationships in data
P310	Investigating Alternative Energy: Hydrogen and Fuel Cells (1 Station)	2C - use mathematical calculations to assess quantitative relationships in data