



CATHOLIC TEXTBOOK PROJECT

Texas MS Science Standards

Correlated to Novare Science Textbooks

6th Grade

(1–4) Scientific and Engineering Practices		BOOK CORRELATION
K&S 1 - A	ask questions and define problems based on observations or information from text, phenomena, models, or investigations	Experimental Investigations
K&S 1 - B	use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems	Experimental Investigations
K&S 1 - C	use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards	Experimental Investigations
K&S 1 - D	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	Experimental Investigations
K&S 1 - E	collect quantitative data using the International System of Units (SI) and qualitative data as evidence	Experimental Investigations
K&S 1 - F	construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data	Experimental Investigations
K&S 1 - G	develop and use models to represent phenomena, systems, processes, or solutions to engineering problems	Experimental Investigations
K&S 1 - H	distinguish between scientific hypotheses, theories, and laws	PS.C7
K&S 2 - A	identify advantages and limitations of models such as their size, scale, properties, and materials	Experimental Investigations
K&S 2 - B	analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations	PS.Appendix A
K&S 2 - C	use mathematical calculations to assess quantitative relationships in data	Experimental Investigations

Key: PS = Physical Science, LS = Life Science, ES = Earth Science, PS.C1.2.3 = Physical Science Book, Chapter 1, Section 2, Subsection 3

K&S 2 - D	evaluate experimental and engineering designs	Experimental Investigations
K&S 3 - A	develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories	Experimental Investigations
K&S 3 - B	communicate explanations and solutions individually and collaboratively in a variety of settings and formats	Experimental Investigations
K&S 3 - C	engage respectfully in scientific argumentation using applied scientific explanations and empirical evidence	Experimental Investigations
K&S 4 - A	relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content	Experimental Investigations
K&S 4 - B	make informed decisions by evaluating evidence from multiple appropriate sources to assess the credibility, accuracy, cost-effectiveness, and methods used	Experimental Investigations
K&S 4 - C	research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers	Not Covered
(5) Recurring Themes and Concepts		BOOK CORRELATION
K&S 5 - A	identify and apply patterns to understand and connect scientific phenomena or to design solutions	Experimental Investigations
K&S 5 - B	identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems	Experimental Investigations
K&S 5 - C	analyze how differences in scale, proportion, or quantity affect a system's structure or performance	Experimental Investigations
K&S 5 - D	examine and model the parts of a system and their interdependence in the function of the system	Experimental Investigations
K&S 5 - E	analyze and explain how energy flows and matter cycles through systems and how energy and matter are conserved through a variety of systems	PS.C3, LS.C8

K&S 5 - F	analyze and explain the complementary relationship between the structure and function of objects, organisms, and systems	Experimental Investigations, PS.C6, LS.C3, LS.C11.3.3
K&S 5 - G	analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems	Experimental Investigations, PS.C10, LS.C12
(6) Matter and Energy		BOOK CORRELATION
K&S 6 - A	compare solids, liquids, and gases in terms of their structure, shape, volume, and kinetic energy of atoms and molecules	PS.C9.3
K&S 6 - B	investigate the physical properties of matter to distinguish between pure substances, homogeneous mixtures (solutions), and heterogeneous mixtures	PS.C6
K&S 6 - C	identify elements on the periodic table as metals, nonmetals, metalloids, and rare Earth elements based on their physical properties and importance to modern life	PS.C6.1, 6.3
K&S 6 - D	compare the density of substances relative to various fluids	Experimental Investigation 6, PS.C9.4
K&S 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	PS.C11.2–3
(7–8) Force, Motion, and Energy		BOOK CORRELATION
K&S 7 - A	identify and explain how forces act on objects, including gravity, friction, magnetism, applied forces, and normal forces, using real-world applications	PS.C5, 10
K&S 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	PS.C10
K&S 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	PS.C10.4
K&S 8 - A	compare and contrast gravitational, elastic, and chemical potential energies with kinetic energy	PS.C2

K&S 8 - B	describe how energy is conserved through transfers and transformations in systems such as electrical circuits, food webs, amusement park rides, or photosynthesis	PS.C2, 3; LS.C5
K&S 8 - C	explain how energy is transferred through transverse and longitudinal waves	PS.C12
(9–11) Earth and Space		BOOK CORRELATION
K&S 9 - A	model and illustrate how the tilted Earth revolves around the Sun, causing changes in seasons	ES.C1.3
K&S 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	ES.C12.4
K&S 10 - A	differentiate between the biosphere, hydrosphere, atmosphere, and geosphere and identify components of each system	ES.C1.1
K&S 10 - B	model and describe the layers of Earth, including the inner core, outer core, mantle, and crust	ES.C7.6
K&S 10 - C	describe how metamorphic, igneous, and sedimentary rocks form and change through geologic processes in the rock cycle	ES.C5
K&S 11 - A	research and describe why resource management is important in reducing global energy, poverty, malnutrition, and air and water pollution	ES.C4.4, 5.5, 8.3, 9.4, 12.5–6, 15
K&S 11 - B	explain how conservation, increased efficiency, and technology can help manage air, water, soil, and energy resources	ES.C4.4, 5.5, 8.3, 9.4, 12.5–6, 15
(12–13) Organisms and Environments		BOOK CORRELATION
K&S 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	LS.C7, 8
K&S 12 - B	describe and give examples of predatory, competitive, and symbiotic relationships between organisms, including mutualism, parasitism, and commensalism	LS.C7.3

K&S 12 - C	describe the hierarchical organization of organism, population, and community within an ecosystem	LS.C7.1.2
K&S 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	LS.C2.4
K&S 13 - B	identify and compare the basic characteristics of organisms, including prokaryotic and eukaryotic, unicellular and multicellular, and autotrophic and heterotrophic	LS.C2.4, 5
K&S 13 - C	describe how variations within a population can be an advantage or disadvantage to the survival of a population as environments change	LS.C12.3

7th Grade

(1–4) Scientific and Engineering Practices		BOOK CORRELATION
K&S 1 - A	ask questions and define problems based on observations or information from text, phenomena, models, or investigations	Experimental Investigations
K&S 1 - B	use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems	Experimental Investigations
K&S 1 - C	use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards	Experimental Investigations
K&S 1 - D	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	Experimental Investigations
K&S 1 - E	collect quantitative data using the International System of Units (SI) and qualitative data as evidence	Experimental Investigations
K&S 1 - F	construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data	Experimental Investigations
K&S 1 - G	develop and use models to represent phenomena, systems, processes, or solutions to engineering problems	Experimental Investigations
K&S 1 - H	distinguish between scientific hypotheses, theories, and laws	PS.C7
K&S 2 - A	identify advantages and limitations of models such as their size, scale, properties, and materials	Experimental Investigations
K&S 2 - B	analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations	PS.Appendix A

Key: PS = Physical Science, LS = Life Science, ES = Earth Science, PS.C1.2.3 = Physical Science Book, Chapter 1, Section 2, Subsection 3

K&S 2 - C	use mathematical calculations to assess quantitative relationships in data	Experimental Investigations
K&S 2 - D	evaluate experimental and engineering designs	Experimental Investigations
K&S 3 - A	develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories	Experimental Investigations
K&S 3 - B	communicate explanations and solutions individually and collaboratively in a variety of settings and formats	Experimental Investigations
K&S 3 - C	engage respectfully in scientific argumentation using applied scientific explanations and empirical evidence	Experimental Investigations
K&S 4 - A	relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content	Experimental Investigations
K&S 4 - B	make informed decisions by evaluating evidence from multiple appropriate sources to assess the credibility, accuracy, cost-effectiveness, and methods used	Experimental Investigations
K&S 4 - C	research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers	Not Covered
(5) Recurring Themes and Concepts		BOOK CORRELATION
K&S 5 - A	identify and apply patterns to understand and connect scientific phenomena or to design solutions	Experimental Investigations
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K&S 5 - D	examine and model the parts of a system and their interdependence in the function of the system	Experimental Investigations

K&S 5 - E	analyze and explain how energy flows and matter cycles through systems and how energy and matter are conserved through a variety of systems	PS.C3, LS.C8
K&S 5 - F	analyze and explain the complementary relationship between the structure and function of objects, organisms, and systems	Experimental Investigations, PS.C6, LS.C3, LS.C11.3.3
K&S 5 - G	analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems	Experimental Investigations, PS.C10, LS.C12
(6) Matter and Energy		BOOK CORRELATION
K&S 6 - A	compare and contrast elements and compounds in terms of atoms and molecules, chemical symbols, and chemical formulas	PS.C6.1–4
K&S 6 - B	use the periodic table to identify the atoms and the number of each kind within a chemical formula	PS.C6.4
K&S 6 - C	distinguish between physical and chemical changes in matter	PS.C9, 11
K&S 6 - D	describe aqueous solutions in terms of solute and solvent, concentration, and dilution	PS.C6.5
K&S 6 - E	investigate and model how temperature, surface area, and agitation affect the rate of dissolution of solid solutes in aqueous solutions	PS.C6.5
(7–8) Force, Motion, and Energy		BOOK CORRELATION
K&S 7 - A	calculate average speed using distance and time measurements from investigations	PS.C10.2
K&S 7 - B	distinguish between speed and velocity in linear motion in terms of distance, displacement, and direction	PS.C10.2
K&S 7 - C	measure, record, and interpret an object's motion using distance-time graphs	PS.C10.2

K&S 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	PS.C10.4
K&S 8 - A	investigate methods of thermal energy transfer into and out of systems, including conduction, convection, and radiation	PS.C3.3
K&S 8 - B	investigate how thermal energy moves in a predictable pattern from warmer to cooler until all substances within the system reach thermal equilibrium	PS.C3.3
K&S 8 - C	explain the relationship between temperature and the kinetic energy of the particles within a substance	PS.C3.3
(9–11) Earth and Space		BOOK CORRELATION
K&S 9 - A	describe the physical properties, locations, and movements of the Sun, planets, moons, meteors, asteroids, comets, Kuiper belt, and Oort cloud	ES.C1.2 covers most; Does not cover Kuiper belt or Oort Cloud
K&S 9 - B	describe how gravity governs motion within Earth's solar system	Does not address directly but gravitational force is discussed in PS.C5.5
K&S 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	ES.C1.2, PS.C4
K&S 10 - A	describe the evidence that supports that Earth has changed over time, including fossil evidence, plate tectonics, and superposition	ES.C11
K&S 10 - B	describe how plate tectonics causes ocean basin formation, earthquakes, mountain building, and volcanic eruptions, including supervolcanoes and hot spots	ES.C6, 7.1, 7.4
K&S 11 - A	analyze the beneficial and harmful influences of human activity on groundwater and surface water in a watershed	ES.C9.3–5
K&S 11 - B	describe human dependence and influence on ocean systems and explain how human activities impact these systems	ES.C12.1, 12.5–6

(12–14) Organisms and Environments		BOOK CORRELATION
K&S 12 - A	diagram the flow of energy within trophic levels and describe how the available energy decreases in successive trophic levels in energy pyramids	LS.C8.2
K&S 12 - B	describe how ecosystems are sustained by the continuous flow of energy and the recycling of matter and nutrients within the biosphere	LS.C8.3–4
K&S 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	LS.C3
K&S 13 - B	describe the hierarchical organization of cells, tissues, organs, and organ systems within plants and animals	LS.C3, 4.1–3
K&S 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	LS.C4, 12
K&S 13 - D	describe and give examples of how natural and artificial selection change the occurrence of traits in a population over generations	LS.C12
K&S 14 - A	describe the taxonomic system that categorizes organisms based on similarities and differences shared among groups	LS.C12.4–5
K&S 14 - B	describe the characteristics of the recognized kingdoms and their importance in ecosystems such as bacteria aiding digestion or fungi decomposing organic matter	LS.C8, 12.5

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K&S 5 - G	analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems	Experimental Investigations, PS.C10, LS.C12
(6) Matter and Energy		BOOK CORRELATION
K&S 6 - A	explain by modeling how matter is classified as elements, compounds, homogeneous mixtures, or heterogeneous mixtures	PS.C6
K&S 6 - B	use the periodic table to identify the atoms involved in chemical reactions	PS.C6.3, 11
K&S 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	LS.C2.2.3
K&S 6 - D	compare and contrast the properties of acids and bases, including pH relative to water	PS.C11.1
K&S 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	PS.C11
(7–8) Force, Motion, and Energy		BOOK CORRELATION
K&S 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	PS.C10.4
K&S 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	PS.C10.4
K&S 8 - A	compare the characteristics of amplitude, frequency, and wavelength in transverse waves, including the electromagnetic spectrum	PS.C2.3, 12

K&S 8 - B	explain the use of electromagnetic waves in applications such as radiation therapy, wireless technologies, fiber optics, microwaves, ultraviolet sterilization, astronomical observations, and X-rays	PS.C2.3
(9–11) Earth and Space		BOOK CORRELATION
K&S 9 - A	describe the life cycle of stars and compare and classify stars using the HertzsprungRussell diagram	Not Covered
K&S 9 - B	categorize galaxies as spiral, elliptical, and irregular and locate Earth's solar system within the Milky Way galaxy	Not Covered
K&S 9 - C	research and analyze scientific data used as evidence to develop scientific theories that describe the origin of the universe	Lightly touched upon in PS.C4.3
K&S 10 - A	describe how energy from the Sun, hydrosphere, and atmosphere interact and influence weather and climate	ES.C9.1, 13, 14, 15.1
K&S 10 - B	identify global patterns of atmospheric movement and how they influence local weather	ES.C13.4
K&S 10 - C	describe the interactions between ocean currents and air masses that produce tropical cyclones, including typhoons and hurricanes	ES.C14.4
K&S 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	ES.C15.3
K&S 11 - B	use scientific evidence to describe how human activities, including the release of greenhouse gases, deforestation, and urbanization, can influence climate	ES.C15.3
K&S 11 - C	describe the carbon cycle	Not Covered; Can be taught in LS.C8
(12–13) Organisms and Environments		BOOK CORRELATION
K&S 12 - A	explain how disruptions such as population changes, natural disasters, and human intervention impact the transfer of energy in food webs in ecosystems	LS.C8, 10.3

K&S 12 - B	describe how primary and secondary ecological succession affect populations and species diversity after ecosystems are disrupted by natural events or human activity	LS.C9.3
K&S 12 - C	describe how biodiversity contributes to the stability and sustainability of an ecosystem and the health of the organisms within the ecosystem	LS.C7–10
K&S 13 - A	identify the function of the cell membrane, cell wall, nucleus, ribosomes, cytoplasm, mitochondria, chloroplasts, and vacuoles in plant or animal cells	LS.C2.4
K&S 13 - B	describe the function of genes within chromosomes in determining inherited traits of offspring	LS.C4
K&S 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	LS.C4, 12