SRA Life, Earth, and Physical Science Laboratories
correlation to
South Carolina Science Academic Standards
Grade 6

SRA Life, Earth, and Physical Science Laboratories provide core science content in an alternate reading format. Each *SRA Science Lab* contains 180 Science Cards covering key science concepts and vocabulary. Each lab covers 90 different science topics presented at two different reading levels to meet varied student abilities. The *Teacher's Handbook* includes hands-on inquiry activities as well as vocabulary building exercises. The *Classroom Resource CD-ROM* includes Writing Strategies in Science along with tests and vocabulary games.

Science Inquiry
Standard 6-1: The student will demonstrate an understanding of technological design and scientific inquiry, including the processes skills, mathematical thinking, controlled investigative design and analysis, and problem solving.
Indicators: 6-1.1 Use appropriate tools and instruments (including a spring scale, beam balance, barometer, and sling psychrometer) safely and accurately when conducting a controlled scientific investigation.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Inquiry
Standard 6-1: The student will demonstrate an understanding of technological design and scientific inquiry, including the processes skills, mathematical thinking, controlled investigative design and analysis, and problem solving.
Indicators: 6-1.2 Differentiate between observation and inference during the analysis and interpretation of data.
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Science Inquiry
Standard 6-1: The student will demonstrate an understanding of technological design and scientific inquiry, including the processes skills, mathematical thinking, controlled investigative design and analysis, and problem solving.
Indicators: 6-1.3 Classify organisms, objects, and materials according to their physical characteristics by using a dichotomous key.
Life Science Lab, Level A: Cards 2, 3, 20, 21, 25, 27, 34, 39, 40, 76, 77 **Life Science Lab, Level B:** Cards 2, 3, 20, 21, 25, 27, 34, 39, 40, 76, 77 **Earth Science Lab, Level A:** Cards 3, 4, 5, 6, 7, 8, 69, 71, 72, 73, 76, 83 **Earth Science Lab, Level B:** Cards 3, 4, 5, 6, 7, 8, 69, 71, 72, 73, 76, 82 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale*, pages 73-75 **Physical Science Lab, Level A:** Cards **Physical Science Lab, Level B:** Cards **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases*, pages 77-79

Science Inquiry
Standard 6-1: The student will demonstrate an understanding of technological design and scientific inquiry, including the processes skills, mathematical thinking, controlled investigative design and analysis, and problem solving.
Indicators: 6-1.4 Use a technological design process to plan and produce a solution to a problem or a product (including identifying a problem, designing a solution or a product, implementing the design, and evaluating the solution or the product).
This concept is not covered.

Science Inquiry
Standard 6-1: The student will demonstrate an understanding of technological design and scientific inquiry, including the processes skills, mathematical thinking, controlled investigative design and analysis, and problem solving.
Indicators: 6-1.5 Use appropriate safety procedures when conducting investigations.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells*, pages 77-79; Hands-On Activity 2, *Culturing Bacteria*, pages 81-83; Hands-On Activity 3, *Investigating Arthropods*, pages 85-87; Hands-On Activity 4, *Your Cardiovascular System*, pages 89-91; Hands-On Activity 5, *Making Fossils*, pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?*, pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain*, pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale*, pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action*, pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map*, pages 81-83; Hands-On Activity 4, *Using Sound Waves*, pages 85-87; Hands-On Activity 5, *What is in the Air?*, pages 89-91; Hands-On Activity 6, *Modeling a Tornado*, pages 93-95; Hands-On Activity 7, *Sizes in the Solar System*, pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density*, pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases*, pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates*, pages 81-83; Hands-On Activity 3, *Energy Conversion*, pages 85-87; Hands-On Activity 4, *Reducing Friction*, pages 89-91; Hands-On Activity 5, *Making a Potato Battery*, pages 93-95; Hands-On Activity 6, *Making Sound*, pages 97-99 **Classroom Resource CD-ROM:** Writing Strategy 15

Structures, Processes, and Responses of Plants
Standard 6-2: The student will demonstrate an understanding of relationships of structures, processes, and responses of plants that allow them to survive and reproduce. (Life Science)
Indicators: 6-2.1 Summarize the characteristics that all organisms share (including the obtainment and use of resources for energy, the response to stimuli, the ability to reproduce, and process of physical growth and development).
Life Science Lab, Level A: Cards 1, 5, 9 **Life Science Lab, Level B:** Cards 1, 5, 9

Structures, Processes, and Responses of Plants
Standard 6-2: The student will demonstrate an understanding of relationships of structures, processes, and responses of plants that allow them to survive and reproduce. (Life Science)
Indicators: 6-2.2 Recognize the hierarchical structure of the classification (taxonomy) of organisms (including the seven major levels or categories of living things—namely, kingdom, phylum, class, order, family, genus, and species).
Life Science Lab, Level A: Cards 2, 3, 11, 12, 14, 15, 16, 25, 27, 34 **Life Science Lab, Level B:** Cards 2, 3, 11, 12, 14, 15, 16, 25, 27, 34

Structures, Processes, and Responses of Plants
Standard 6-2: The student will demonstrate an understanding of relationships of structures, processes, and responses of plants that allow them to survive and reproduce. (Life Science)
Indicators: 6-2.3 Compare the characteristic structures of various groups of plants (including vascular or nonvascular, seed or spore-producing, flowering or cone-bearing, and monocot or dicot).
Life Science Lab, Level A: Cards 16, 18, 19, 20, 21, 22 **Life Science Lab, Level B:** Cards 16, 18, 19, 20, 21, 22

Structures, Processes, and Responses of Plants
Standard 6-2: The student will demonstrate an understanding of relationships of structures, processes, and responses of plants that allow them to survive and reproduce. (Life Science)
Indicators: 6-2.4 Summarize the basic functions of the structures of a flowering plant for defense, survival, and reproduction.
Life Science Lab, Level A: Cards 20, 22 **Life Science Lab, Level B:** Cards 20, 22

Structures, Processes, and Responses of Plants
Standard 6-2: The student will demonstrate an understanding of relationships of structures, processes, and responses of plants that allow them to survive and reproduce. (Life Science)
Indicators: 6-2.5 Summarize each process in the life cycle of flowering plants (including germination, plant development, fertilization, and seed production).
Life Science Lab, Level A: Cards 20, 22 **Life Science Lab, Level B:** Cards 20, 22

Structures, Processes, and Responses of Plants
Standard 6-2: The student will demonstrate an understanding of relationships of structures, processes, and responses of plants that allow them to survive and reproduce. (Life Science)
Indicators: 6-2.6 Differentiate between the processes of sexual and asexual reproduction of flowering plants.
Life Science Lab, Level A: Cards 60, 61 **Life Science Lab, Level B:** Cards 60, 61

Structures, Processes, and Responses of Plants
Standard 6-2: The student will demonstrate an understanding of relationships of structures, processes, and responses of plants that allow them to survive and reproduce. (Life Science)
Indicators: 6-2.7 Summarize the processes required for plant survival (including photosynthesis, respiration, and transpiration).
Life Science Lab, Level A: Cards 1, 16, 17, 23, 24 **Life Science Lab, Level B:** Cards 1, 16, 17, 23, 24

Structures, Processes, and Responses of Plants
Standard 6-2: The student will demonstrate an understanding of relationships of structures, processes, and responses of plants that allow them to survive and reproduce. (Life Science)
Indicators: 6-2.8 Explain how plants respond to external stimuli (including dormancy and the forms of tropism known as phototropism, gravitropism, hydrotropism, and thigmotropism).
Life Science Lab, Level A: Card 24 **Life Science Lab, Level B:** Card 24

Structures, Processes, and Responses of Plants
Standard 6-2: The student will demonstrate an understanding of relationships of structures, processes, and responses of plants that allow them to survive and reproduce. (Life Science)
Indicators: 6-2.9 Explain how disease-causing fungi can affect plants.
Life Science Lab, Level A: Card 15 **Life Science Lab, Level B:** Card 15

Structures, Processes, and Responses of Animals
Standard 6-3: The student will demonstrate an understanding of structures, processes, and responses of animals that allow them to survive and reproduce. (Life Science)
Indicators: 6-3.1 Compare the characteristic structures of invertebrate animals (including sponges, segmented worms, echinoderms, mollusks, and arthropods) and vertebrate animals (fish, amphibians, reptiles, birds, and mammals).
Life Science Lab, Level A: Cards 27, 28, 29, 30, 31, 32, 33 **Life Science Lab, Level B:** Cards 27, 28, 29, 30, 31, 32, 33 **Life Science Lab Teacher's Handbook:** Hands-On Activity 3, *Investigating Arthropods,* pages 85-87

Structures, Processes, and Responses of Animals
Standard 6-3: The student will demonstrate an understanding of structures, processes, and responses of animals that allow them to survive and reproduce. (Life Science)
Indicators: 6-3.2 Summarize the basic functions of the structures of animals that allow them to defend themselves, to move, and to obtain resources.
Life Science Lab, Level A: Cards 25, 41, 43 **Life Science Lab, Level B:** Cards 25, 41, 43

Structures, Processes, and Responses of Animals
Standard 6-3: The student will demonstrate an understanding of structures, processes, and responses of animals that allow them to survive and reproduce. (Life Science)
Indicators: 6-3.3 Compare the response that a warm-blooded (endothermic) animal makes to a fluctuation in environmental temperature with the response that a cold-blooded (ectothermic) animals makes to such a fluctuation.
Life Science Lab, Level A: Card 34 **Life Science Lab, Level B:** Card 34

Structures, Processes, and Responses of Animals
Standard 6-3: The student will demonstrate an understanding of structures, processes, and responses of animals that allow them to survive and reproduce. (Life Science)
Indicators: 6-3.4 Explain how environmental stimuli cause physical responses in animals (including shedding, blinking, shivering, sweating, panting, and food gathering).
Life Science Lab, Level A: Cards 41, 43 **Life Science Lab, Level B:** Cards 41, 43

Structures, Processes, and Responses of Animals
Standard 6-3: The student will demonstrate an understanding of structures, processes, and responses of animals that allow them to survive and reproduce. (Life Science)
Indicators: 6-3.5 Illustrate animal behavioral responses (including hibernation, migration, defense, and courtship) to environmental stimuli.
Life Science Lab, Level A: Cards 41, 43, 83 **Life Science Lab, Level B:** Cards 41, 43, 83

Structures, Processes, and Responses of Animals
Standard 6-3: The student will demonstrate an understanding of structures, processes, and responses of animals that allow them to survive and reproduce. (Life Science)
Indicators: 6-3.6 Summarize how the internal stimuli (including hunger, thirst, and sleep) of animals ensure their survival.
Life Science Lab, Level A: Cards 1, 25 **Life Science Lab, Level B:** Cards 1, 25

Structures, Processes, and Responses of Animals
Standard 6-3: The student will demonstrate an understanding of structures, processes, and responses of animals that allow them to survive and reproduce. (Life Science)
Indicators: 6-3.7 Compare learned to inherited behaviors in animals.
Life Science Lab, Level A: Card 43 **Life Science Lab, Level B:** Card 43

Earth's Atmosphere and Weather
Standard 6-4: The student will demonstrate an understanding of the relationship between Earth's atmospheric properties and processes and its weather and climate. (Earth Science)
Indicators: 6-4.1 Compare the composition and structure of Earth's atmospheric layers (including the gases and differences in temperature and pressure within the layers).
Earth Science Lab, Level A: Cards 36, 37, 38, 39, 40 **Earth Science Lab, Level B:** Cards 36, 37, 38, 39, 40

Earth's Atmosphere and Weather
Standard 6-4: The student will demonstrate an understanding of the relationship between Earth's atmospheric properties and processes and its weather and climate. (Earth Science)
Indicators: 6-4.2 Summarize the interrelationships among the dynamic processes of the water cycle (including precipitation, evaporation, transpiration, condensation, surface-water flow, and groundwater flow).
Earth Science Lab, Level A: Cards 44, 47, 48, 49, 52, 53, 54, 82, 83, 84 **Earth Science Lab, Level B:** Cards 44, 47, 48, 49, 52, 53, 54, 82, 83, 84

Earth's Atmosphere and Weather
Standard 6-4: The student will demonstrate an understanding of the relationship between Earth's atmospheric properties and processes and its weather and climate. (Earth Science)
Indicators: 6-4.3 Classify shapes and types of clouds according to elevation and their associated weather conditions and patterns.
Earth Science Lab, Level A: Cards 48, 49 **Earth Science Lab, Level B:** Cards 48, 49

Earth's Atmosphere and Weather
Standard 6-4: The student will demonstrate an understanding of the relationship between Earth's atmospheric properties and processes and its weather and climate. (Earth Science)
Indicators: 6-4.4 Summarize the relationship of the movement of air masses, high and low pressure systems, and frontal boundaries to storms (including thunderstorms, hurricanes, and tornadoes) and other weather conditions.
Earth Science Lab, Level A: Cards 39, 40, 41, 45, 46, 50, 51, 52, 53, 54 **Earth Science Lab, Level B:** Cards 39, 40, 41, 45, 46, 50, 51, 52, 53, 54 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 6, *Modeling a Tornado,* pages 93-95

Earth's Atmosphere and Weather
Standard 6-4: The student will demonstrate an understanding of the relationship between Earth's atmospheric properties and processes and its weather and climate. (Earth Science)
Indicators: 6-4.5 Use appropriate instruments and tools to collect weather data (including wind speed and direction, air temperature, humidity, and air pressure).
Earth Science Lab, Level A: Cards 43, 44, 47, 49, 50, 51 **Earth Science Lab, Level B:** Cards 43, 44, 47, 49, 50, 51

Earth's Atmosphere and Weather
Standard 6-4: The student will demonstrate an understanding of the relationship between Earth's atmospheric properties and processes and its weather and climate. (Earth Science)
Indicators: 6-4.6 Predict weather conditions and patterns based on weather data collected from direct observations and measurements, weather maps, satellites, and radar.
Earth Science Lab, Level A: Cards 39, 43, 45, 46, 48, 49, 50, 51, 56, 57, 58 **Earth Science Lab, Level B:** Cards 39, 43, 45, 46, 48, 49, 50, 51, 56, 57, 58

Earth's Atmosphere and Weather
Standard 6-4: The student will demonstrate an understanding of the relationship between Earth's atmospheric properties and processes and its weather and climate. (Earth Science)
Indicators: 6-4.7 Explain how solar energy affects Earth's atmosphere and surface (land and water).
Earth Science Lab, Level A: Cards 37, 38, 39, 40, 41, 42, 45, 47, 52, 53, 54, 59, 60, 61 **Earth Science Lab, Level B:** Cards 37, 38, 39, 40, 41, 42, 45, 47, 52, 53, 54, 59, 60, 61 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 6, *Modeling a Tornado,* pages 93-95 **Physical Science Lab, Level A:** Card 44 **Physical Science Lab, Level B:** Card 44

Earth's Atmosphere and Weather
Standard 6-4: The student will demonstrate an understanding of the relationship between Earth's atmospheric properties and processes and its weather and climate. (Earth Science)
Indicators: 6-4.8 Explain how convection affects weather patterns and climate.
Earth Science Lab, Level A: Cards 38, 55, 56, 57, 58, 60 **Earth Science Lab, Level B:** Cards 38, 55, 56, 57, 58, 60 **Physical Science Lab, Level A:** Card 44 **Physical Science Lab, Level B:** Card 44

Earth's Atmosphere and Weather
Standard 6-4: The student will demonstrate an understanding of the relationship between Earth's atmospheric properties and processes and its weather and climate. (Earth Science)
Indicators: 6-4.9 Explain the influence of global winds and the jet stream on weather and climatic conditions.
Earth Science Lab, Level A: Cards 40, 41, 55, 56, 57, 58 **Earth Science Lab, Level B:** Cards 40, 41, 55, 56, 57, 58 **Physical Science Lab, Level A:** Card 44 **Physical Science Lab, Level B:** Card 44

Conservation of Energy
Standard 6-5: The student will demonstrate an understanding of the law of conservation of energy and the properties of energy and work. (Physical Science)
Indicators: 6-5.1 Identify the sources and properties of heat, solar, chemical, mechanical, and electrical energy.
Physical Science Lab, Level A: Cards 27, 28, 29, 30, 36, 37, 41, 42, 45, 46, 47, 48, 49, 66, 67, 70, 76 **Physical Science Lab, Level B:** Cards 27, 28, 29, 30, 36, 37, 41, 42, 45, 46, 47, 48, 49, 66, 67, 70, 76

Conservation of Energy
Standard 6-5: The student will demonstrate an understanding of the law of conservation of energy and the properties of energy and work. (Physical Science)
Indicators: 6-5.2 Explain how energy can be transformed from one form to another (including the two types of mechanical energy, potential and kinetic, as wells as chemical and electrical energy) in accordance with the law of conservation of energy.
Physical Science Lab, Level A: Cards 36, 37, 39, 40, 41, 42, 45, 46, 47, 48, 49, 66, 67, 70 **Physical Science Lab, Level B:** Cards 36, 37, 39, 40, 41, 42, 45, 46, 47, 48, 49, 66, 67, 70 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 3, *Energy Conversion*, pages 85-87

Conservation of Energy
Standard 6-5: The student will demonstrate an understanding of the law of conservation of energy and the properties of energy and work. (Physical Science)
Indicators: 6-5.3 Explain how magnetism and electricity are interrelated by using descriptions, models, and diagrams of electromagnets, generators, and simple electrical motors.
Physical Science Lab, Level A: Cards 74, 75, 76 **Physical Science Lab, Level B:** Cards 74, 75, 76

Conservation of Energy
Standard 6-5: The student will demonstrate an understanding of the law of conservation of energy and the properties of energy and work. (Physical Science)
Indicators: 6-5.4 Illustrate energy transformations (including the production of light, sound, heat, and mechanical motion) in electrical circuits.
Physical Science Lab, Level A: Cards 66, 67, 68, 69, 70, 72, 73 **Physical Science Lab, Level B:** Cards 66, 67, 68, 69, 70, 72, 73 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 5, *Making a Potato Battery*, pages 93-95

Conservation of Energy
Standard 6-5: The student will demonstrate an understanding of the law of conservation of energy and the properties of energy and work. (Physical Science)
Indicators: 6-5.5 Illustrate the directional transfer of heat energy through convection, radiation, and conduction.
Physical Science Lab, Level A: Cards 42, 43, 44 **Physical Science Lab, Level B:** Cards 42, 43, 44

Conservation of Energy
Standard 6-5: The student will demonstrate an understanding of the law of conservation of energy and the properties of energy and work. (Physical Science)
Indicators: 6-5.6 Recognize that energy is the ability to do work (force exerted over a distance.
Physical Science Lab, Level A: Cards 62, 63, 64, 65 **Physical Science Lab, Level B:** Cards 62, 63, 64, 65

Conservation of Energy
Standard 6-5: The student will demonstrate an understanding of the law of conservation of energy and the properties of energy and work. (Physical Science)
Indicators: 6-5.7 Explain how the design of simple machines (including levers, pulleys, and inclined planes) helps reduce the amount of force required to do work.
Physical Science Lab, Level A: Cards 63, 64 **Physical Science Lab, Level B:** Cards 63, 64

Conservation of Energy
Standard 6-5: The student will demonstrate an understanding of the law of conservation of energy and the properties of energy and work. (Physical Science)
Indicators: 6-5.8 Illustrate ways that simple machines exist in common tools and in complex machines.
Physical Science Lab, Level A: Cards 41, 63, 64 **Physical Science Lab, Level B:** Cards 41, 63, 64

SRA Life, Earth, and Physical Science Laboratories
correlation to
South Carolina Science Academic Standards
Grade 7

SRA Life, Earth, and Physical Science Laboratories provide core science content in an alternate reading format. Each *SRA Science Lab* contains 180 Science Cards covering key science concepts and vocabulary. Each lab covers 90 different science topics presented at two different reading levels to meet varied student abilities. The *Teacher's Handbook* includes hands-on inquiry activities as well as vocabulary building exercises. The *Classroom Resource CD-ROM* includes Writing Strategies in Science along with tests and vocabulary games.

Science Inquiry
Standard 7-1: The student will demonstrate an understanding of technological design and scientific inquiry, including the processes skills, mathematical thinking, controlled investigative design and analysis, and problem solving.
Indicators: 7-1.1 Use appropriate tools and instruments (including a microscope) safely and accurately when conducting a controlled scientific investigation.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Inquiry
Standard 7-1: The student will demonstrate an understanding of technological design and scientific inquiry, including the processes skills, mathematical thinking, controlled investigative design and analysis, and problem solving.
Indicators: 7-1.2 Generate questions that can be answered through scientific investigation.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99 **Classroom Resource CD-ROM:** Writing Strategy 8, 15

Science Inquiry
Standard 7-1: The student will demonstrate an understanding of technological design and scientific inquiry, including the processes skills, mathematical thinking, controlled investigative design and analysis, and problem solving.
Indicators: 7-1.3 Explain the reasons for testing one independent variable at a time in a controlled scientific investigation.
Life Science Lab Teacher's Handbook: Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83 **Classroom Resource CD-ROM:** Writing Strategy 15, 23

Science Inquiry
Standard 7-1: The student will demonstrate an understanding of technological design and scientific inquiry, including the processes skills, mathematical thinking, controlled investigative design and analysis, and problem solving.
Indicators: 7-1.4 Explain the importance that repeated trials and a well-chosen sample size have with regard to the validity of a controlled scientific investigation.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83

Science Inquiry
Standard 7-1: The student will demonstrate an understanding of technological design and scientific inquiry, including the processes skills, mathematical thinking, controlled investigative design and analysis, and problem solving.
Indicators: 7-1.5 Explain the relationships between independent and dependent variables in a controlled scientific investigation through the use of appropriate graphs, tables, and charts.
Life Science Lab Teacher's Handbook: Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83 **Classroom Resource CD-ROM:** Writing Strategy 15, 23

Science Inquiry
Standard 7-1: The student will demonstrate an understanding of technological design and scientific inquiry, including the processes skills, mathematical thinking, controlled investigative design and analysis, and problem solving.
Indicators: 7-1.6 Critique a conclusion drawn from a scientific investigation.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99 **Classroom Resource CD-ROM:** Writing Strategy 14, 15, 17, 18, 22

Science Inquiry
Standard 7-1: The student will demonstrate an understanding of technological design and scientific inquiry, including the processes skills, mathematical thinking, controlled investigative design and analysis, and problem solving.
Indicators: 7-1.7 Use appropriate safety procedures when conducting investigations.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Cells and Heredity
Standard 7-2: The student will demonstrate an understanding of the structure and function of cells, cellular reproduction, and heredity. (Life Science).
Indicators: 7-2.1 Summarize the structures and functions of the major components of plant and animal cells (including the cell wall, the cell membrane, the nucleus, chloroplasts, mitochondria, and vacuoles).
Life Science Lab, Level A: Cards 5, 6, 7, 8, 9, 10 **Life Science Lab, Level B:** Cards 5, 6, 7, 8, 9, 10 **Life Science Lab Teacher's Handbook:** Hands On Activity 1, *Examining Cells,* pages 77-79

Cells and Heredity
Standard 7-2: The student will demonstrate an understanding of the structure and function of cells, cellular reproduction, and heredity. (Life Science).
Indicators: 7-2.2 Compare the major components of plant and animal cells.
Life Science Lab, Level A: Cards 6, 7, 8, 9, 10 **Life Science Lab, Level B:** Cards 6, 7, 8, 9, 10 **Life Science Lab Teacher's Handbook:** Hands-On Activity 1, *Examining Cells,* pages 77-79

Cells and Heredity
Standard 7-2: The student will demonstrate an understanding of the structure and function of cells, cellular reproduction, and heredity. (Life Science).
Indicators: 7-2.3 Compare the body shapes of bacteria (spiral, coccus, and bacillus) and the body structures that protists (euglena, paramecium, amoeba) use for food gathering and locomotion.
Life Science Lab, Level A: Cards 12, 13, 14 **Life Science Lab, Level B:** Cards 12, 13, 14

Cells and Heredity
Standard 7-2: The student will demonstrate an understanding of the structure and function of cells, cellular reproduction, and heredity. (Life Science).
Indicators: 7-2.4 Explain how cellular processes (including respiration, photosynthesis in plants, mitosis, and waste elimination) are essential to the survival of the organism.
Life Science Lab, Level A: Cards 8, 9, 10, 14 **Life Science Lab, Level B:** Cards 8, 9, 10, 14

Cells and Heredity
Standard 7-2: The student will demonstrate an understanding of the structure and function of cells, cellular reproduction, and heredity. (Life Science).
Indicators: 7-2.5 Summarize how genetic information is passed from parent to offspring by using the terms genes, chromosomes, inherited traits, genotype, phenotype, dominant traits, and recessive traits.
Life Science Lab, Level A: Cards 62, 63, 64 **Life Science Lab, Level B:** Cards 62, 63, 64

Cells and Heredity
Standard 7-2: The student will demonstrate an understanding of the structure and function of cells, cellular reproduction, and heredity. (Life Science).
Indicators: 7-2.6 Use Punnett squares to predict inherited monohybrid traits.
Life Science Lab, Level A: Card 63 **Life Science Lab, Level B:** Card 63

Cells and Heredity
Standard 7-2: The student will demonstrate an understanding of the structure and function of cells, cellular reproduction, and heredity. (Life Science).
Indicators: 7-2.7 Distinguish between inherited traits and those acquired from environmental factors.
Life Science Lab, Level A: Cards 23, 24, 41, 43, 65, 66 **Life Science Lab, Level B:** Cards 23, 24, 41, 43, 65, 66

Human Body Systems and Disease
Standard 7-3: The student will demonstrate an understanding of the functions and interconnections of the major human body systems, including the breakdown in structure or function that disease causes. (Life Science)
Indicators: 7-3.1 Summarize the levels of structural organization within the human body (including cells, tissues, organs, and systems).
Life Science Lab, Level A: Card 44 **Life Science Lab, Level B:** Card 44

Human Body Systems and Disease
Standard 7-3: The student will demonstrate an understanding of the functions and interconnections of the major human body systems, including the breakdown in structure or function that disease causes. (Life Science)
Indicators: 7-3.2 Recall the major organs of the human body and their function within their particular body system.
Life Science Lab, Level A: Cards 44, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58 **Life Science Lab, Level B:** Cards 44, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58 **Life Science Lab Teacher's Handbook:** Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91

Human Body Systems and Disease
Standard 7-3: The student will demonstrate an understanding of the functions and interconnections of the major human body systems, including the breakdown in structure or function that disease causes. (Life Science)
Indicators: 7-3.3 Summarize the relationships of the major body systems (including the circulatory, respiratory, digestive, excretory, nervous, muscular, and skeletal systems).
Life Science Lab, Level A: Cards 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58 **Life Science Lab, Level B:** Cards 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58 **Life Science Lab Teacher's Handbook:** Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91

Human Body Systems and Disease
Standard 7-3: The student will demonstrate an understanding of the functions and interconnections of the major human body systems, including the breakdown in structure or function that disease causes. (Life Science)
Indicators: 7-3.4 Explain the effects of disease on the major organs and body systems (including infectious diseases such as colds and flu, AIDS, and athlete's feet and noninfectious diseases such as diabetes, Parkinson's, and skin cancer).
Life Science Lab, Level A: Cards 45, 46, 47, 49, 57 **Life Science Lab, Level B:** Cards 45, 46, 47, 49, 57

Ecology: The Biotic and Abiotic Environment
Standard 7-4: The student will demonstrate an understanding of how organisms interact with and respond to the biotic and abiotic components of their environment. (Earth Science, Life Science)
Indicators: 7-4.1 Summarize the characteristics of the levels of organization within ecosystems (including populations, communities, habitats, niches, and biomes).
Life Science Lab, Level A: Cards 71, 72, 75, 81, 82 **Life Science Lab, Level B:** Cards 71, 72, 75, 81, 82

Ecology: The Biotic and Abiotic Environment
Standard 7-4: The student will demonstrate an understanding of how organisms interact with and respond to the biotic and abiotic components of their environment. (Earth Science, Life Science)
Indicators: 7-4.2 Illustrate energy flow in food chains, food webs, and energy pyramids.
Life Science Lab, Level A: Cards 76, 77 **Life Science Lab, Level B:** Cards 76, 77 **Life Science Lab Teacher's Handbook:** Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99

Ecology: The Biotic and Abiotic Environment
Standard 7-4: The student will demonstrate an understanding of how organisms interact with and respond to the biotic and abiotic components of their environment. (Earth Science, Life Science)
Indicators: 7-4.3 Explain the interaction among changes in the environment due to natural hazards (including landslides, wildfires, and floods), changes in populations, and limiting factors (including climate and the availability of food and water, space, and shelter).
Life Science Lab, Level A: Cards 70, 71, 72, 80, 84, 86, 87, 88, 89, 90 **Life Science Lab, Level B:** Cards 70, 71, 72, 80, 84, 86, 87, 88, 89, 90 **Life Science Lab Teacher's Handbook:** Hands-On Activity 7, *The Effects of Acid Rain*, pages 101-103

Ecology: The Biotic and Abiotic Environment
Standard 7-4: The student will demonstrate an understanding of how organisms interact with and respond to the biotic and abiotic components of their environment. (Earth Science, Life Science)
Indicators: 7-4.4 Explain the effects of soil quality on the characteristics of an ecosystem.
Life Science Lab, Level A: Cards 70, 87, 88 **Life Science Lab, Level B:** Cards 70, 87, 88 **Earth Science Lab, Level A:** Cards 23, 29 **Earth Science Lab, Level B:** Cards 23, 29

Ecology: The Biotic and Abiotic Environment
Standard 7-4: The student will demonstrate an understanding of how organisms interact with and respond to the biotic and abiotic components of their environment. (Earth Science, Life Science)
Indicators: 7-4.5 Summarize how the location and movement of water on Earth's surface through groundwater zones and surface-water drainage basins, called watersheds, are important to ecosystems and to human activities.
Life Science Lab, Level A: Card 90 **Life Science Lab, Level B:** Card 90 **Earth Science Lab, Level A:** Cards 82, 83, 84, 86 **Earth Science Lab, Level B:** Cards 82, 83, 84, 86

Ecology: The Biotic and Abiotic Environment
Standard 7-4: The student will demonstrate an understanding of how organisms interact with and respond to the biotic and abiotic components of their environment. (Earth Science, Life Science)
Indicators: 7-4.6 Classify resources as renewable or nonrenewable and explain the implications of their depletion and the importance of conservation.
Life Science Lab, Level A: Cards 84, 85, 86, 87, 88, 89, 90 **Life Science Lab, Level B:** Cards 84, 85, 86, 87, 88, 89, 90 **Life Science Lab Teacher's Handbook:** Hands-On Activity 7, *The Effects of Acid Rain*, pages 101-103 **Earth Science Lab, Level A:** Cards 35, 37, 42, 59, 61, 85, 86 **Earth Science Lab, Level B:** Cards 35, 37, 42, 59, 61, 85, 86 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 5, *What is in the Air?*, pages 89-91 **Physical Science Lab, Level A:** Cards 38, 49 **Physical Science Lab, Level B:** Cards 38, 49

The Chemical Nature of Matter
Standard 7-5: The student will demonstrate an understanding of the classifications and properties of matter and the changes that matter undergoes. (Physical Science)
Indicators: 7-5.1 Recognize that matter is composed of extremely small particles called atoms.
Physical Science Lab, Level A: Cards 3, 4 **Physical Science Lab, Level B:** Cards 3, 4

The Chemical Nature of Matter
Standard 7-5: The student will demonstrate an understanding of the classifications and properties of matter and the changes that matter undergoes. (Physical Science)
Indicators: 7-5.2 Classify matter as element, compound, or mixture on the basis of its composition.
Physical Science Lab, Level A: Cards 10, 11, 12, 13 **Physical Science Lab, Level B:** Cards 10, 11, 12, 13

The Chemical Nature of Matter
Standard 7-5: The student will demonstrate an understanding of the classifications and properties of matter and the changes that matter undergoes. (Physical Science)
Indicators: 7-5.3 Compare the physical properties of metals and nonmetals.
Physical Science Lab, Level A: Cards 18, 19, 20 **Physical Science Lab, Level B:** Cards 18, 19, 20

The Chemical Nature of Matter
Standard 7-5: The student will demonstrate an understanding of the classifications and properties of matter and the changes that matter undergoes. (Physical Science)
Indicators: 7-5.4 Use the periodic table to identify the basic organization of elements and groups of elements (including metals, nonmetals, and families).
Physical Science Lab, Level A: Cards 17, 18, 19, 20, 21 **Physical Science Lab, Level B:** Cards 17, 18, 19, 20, 21

The Chemical Nature of Matter
Standard 7-5: The student will demonstrate an understanding of the classifications and properties of matter and the changes that matter undergoes. (Physical Science)
Indicators: 7-5.5 Translate chemical symbols and the chemical formulas of common substances to show the component parts of the substances (including NaC1 [table salt], H2O [water], C6H1206 [simple sugar], O2 [oxygen gas], CO2 [carbon dioxide], and N2 [nitrogen gas]).
Physical Science Lab, Level A: Cards 23, 24, 25, 26, 27, 28, 29, 31, 32 **Physical Science Lab, Level B:** Cards 23, 24, 25, 26, 27, 28, 29, 31, 32

The Chemical Nature of Matter
Standard 7-5: The student will demonstrate an understanding of the classifications and properties of matter and the changes that matter undergoes. (Physical Science)
Indicators: 7-5.6 Distinguish between acids and bases and use indicators (including litmus paper, pH paper, and phenolphthalein) to determine their relative pH.
Physical Science Lab, Level A: Cards 14, 15, 16 **Physical Science Lab, Level B:** Cards 14, 15, 16 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases*, pages 77-79

The Chemical Nature of Matter
Standard 7-5: The student will demonstrate an understanding of the classifications and properties of matter and the changes that matter undergoes. (Physical Science)
Indicators: 7-5.7 Identify the reactants and products in chemical equations.
Physical Science Lab, Level A: Cards 27, 28, 29 **Physical Science Lab, Level B:** Cards 27, 28, 29 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 2, *Chemical Reaction Rates*, pages 81-83

The Chemical Nature of Matter
Standard 7-5: The student will demonstrate an understanding of the classifications and properties of matter and the changes that matter undergoes. (Physical Science)
Indicators: 7-5.8 Explain how a balanced chemical equation supports the law of conservation of matter.
Physical Science Lab, Level A: Cards 9, 27, 28, 29 **Physical Science Lab, Level B:** Cards 9, 27, 28, 29 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83

The Chemical Nature of Matter
Standard 7-5: The student will demonstrate an understanding of the classifications and properties of matter and the changes that matter undergoes. (Physical Science)
Indicators: 7-5.9 Compare physical properties of matter (including melting or boiling point, density, and color) to the chemical property of reactivity with a certain substance (including the ability to burn or to rust).
Physical Science Lab, Level A: Cards 1, 2, 56 **Physical Science Lab, Level B:** Cards 1, 2, 56

The Chemical Nature of Matter
Standard 7-5: The student will demonstrate an understanding of the classifications and properties of matter and the changes that matter undergoes. (Physical Science)
Indicators: 7-5.10 Compare physical changes (including changes in size, shape, and state) to chemical changes that are the result of chemical reactions (including changes in color or temperature and formation of a precipitate of gas).
Physical Science Lab, Level A: Cards 5, 6, 7, 8, 9, 27, 28, 29 **Physical Science Lab, Level B:** Cards 5, 6, 7, 8, 9, 27, 28, 29

SRA Life, Earth, and Physical Science Laboratories
correlation to
South Carolina Science Academic Standards
Grade 8

SRA Life, Earth, and Physical Science Laboratories provide core science content in an alternate reading format. Each *SRA Science Lab* contains 180 Science Cards covering key science concepts and vocabulary. Each lab covers 90 different science topics presented at two different reading levels to meet varied student abilities. The *Teacher's Handbook* includes hands-on inquiry activities as well as vocabulary building exercises. The *Classroom Resource CD-ROM* includes Writing Strategies in Science along with tests and vocabulary games.

Science Inquiry
Standard 8-1: The student will demonstrate an understanding of technological design and scientific inquiry, including the processes skills, mathematical thinking, controlled investigative design and analysis, and problem solving.
Indicators: 8-1.1 Design a controlled scientific investigation.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Inquiry
Standard 8-1: The student will demonstrate an understanding of technological design and scientific inquiry, including the processes skills, mathematical thinking, controlled investigative design and analysis, and problem solving.
Indicators: 8-1.2 Recognize the importance of a systematic process for safety and accurately conducting investigations.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Inquiry
Standard 8-1: The student will demonstrate an understanding of technological design and scientific inquiry, including the processes skills, mathematical thinking, controlled investigative design and analysis, and problem solving.
Indicators: 8-1.3 Construct explanations and conclusions from interpretations of data obtained during a controlled scientific investigation.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99 **Classroom Resource CD-ROM:** Writing Strategy 14, 15, 17, 18, 22

Science Inquiry
Standard 8-1: The student will demonstrate an understanding of technological design and scientific inquiry, including the processes skills, mathematical thinking, controlled investigative design and analysis, and problem solving.
Indicators: 8-1.4 Generate questions for further study on the basis of prior investigations.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99 **Classroom Resource CD-ROM:** Writing Strategy 8, 15

Science Inquiry
Standard 8-1: The student will demonstrate an understanding of technological design and scientific inquiry, including the processes skills, mathematical thinking, controlled investigative design and analysis, and problem solving.
Indicators: 8-1.5 Explain the importance of and requirements for replication of scientific investigations.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Science Inquiry
Standard 8-1: The student will demonstrate an understanding of technological design and scientific inquiry, including the processes skills, mathematical thinking, controlled investigative design and analysis, and problem solving.
Indicators: 8-1.6 Use appropriate tools and instruments (including convex lenses, plane mirrors, color filters, prisms, and slinky springs) safely and accurately when conducting a controlled scientific investigation.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99 **Classroom Resource CD-ROM:** Writing Strategy 15

Science Inquiry
Standard 8-1: The student will demonstrate an understanding of technological design and scientific inquiry, including the processes skills, mathematical thinking, controlled investigative design and analysis, and problem solving.
Indicators: 8-1.7 Use appropriate safety procedures when conducting investigations.
Life Science Lab Teacher's Handbook: Hands-On Activity 1, *Examining Cells,* pages 77-79; Hands-On Activity 2, *Culturing Bacteria,* pages 81-83; Hands-On Activity 3, *Investigating Arthropods,* pages 85-87; Hands-On Activity 4, *Your Cardiovascular System,* pages 89-91; Hands-On Activity 5, *Making Fossils,* pages 93-95; Hands-On Activity 6, *How Much Does Energy Cost?,* pages 97-99; Hands-On Activity 7, *The Effects of Acid Rain,* pages 101-103 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale,* pages 73-75; Hands-On Activity 2, *Plate Boundaries in Action,* pages 77-79; Hands-On Activity 3, *Interpreting a Topographic Map,* pages 81-83; Hands-On Activity 4, *Using Sound Waves,* pages 85-87; Hands-On Activity 5, *What is in the Air?,* pages 89-91; Hands-On Activity 6, *Modeling a Tornado,* pages 93-95; Hands-On Activity 7, *Sizes in the Solar System,* pages 97-99; Hands-On Activity 8, *Temperature, Salinity, and Water Density,* pages 101-103 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 1, *Measuring pH of Acids and Bases,* pages 77-79; Hands-On Activity 2, *Chemical Reaction Rates,* pages 81-83; Hands-On Activity 3, *Energy Conversion,* pages 85-87; Hands-On Activity 4, *Reducing Friction,* pages 89-91; Hands-On Activity 5, *Making a Potato Battery,* pages 93-95; Hands-On Activity 6, *Making Sound,* pages 97-99

Earth's Biological History
Standard 8-2: The student will demonstrate an understanding of Earth's biological diversity over time. (Life Science, Earth Science)
Indicators: 8-2.1 Explain how biological adaptations of populations enhance their survival in a particular environment.
Life Science Lab, Level A: Cards 23, 41, 65, 66, 67, 68 **Life Science Lab, Level B:** Cards 23, 41, 65, 66, 67, 68

Earth's Biological History
Standard 8-2: The student will demonstrate an understanding of Earth's biological diversity over time. (Life Science, Earth Science)
Indicators: 8-2.2 Summarize how scientists study Earth's past environment and diverse life-forms by examining different types of fossils (including molds, casts, petrified fossils, preserved and carbonized remains of plants and animals, and trace fossils).
Life Science Lab, Level A: Card 67 **Life Science Lab, Level B:** Card 67 **Life Science Lab Teacher's Handbook:** Hands-On Activity 5, *Making Fossils,* pages 93-95 **Earth Science Lab, Level A:** Cards 33, 34, 35 **Earth Science Lab, Level B:** Cards 33, 34, 35

Earth's Biological History
Standard 8-2: The student will demonstrate an understanding of Earth's biological diversity over time. (Life Science, Earth Science)
Indicators: 8-2.3 Explain how Earth's history has been influenced by catastrophes (including the impact of an asteroid or comet, climatic changes, and volcanic activity) that have affected the conditions on Earth and the diversity of its life-forms.
Life Science Lab, Level A: Card 67 **Life Science Lab, Level B:** Card 67 **Earth Science Lab, Level A:** Cards 15, 17, 34, 59, 60, 61 **Earth Science Lab, Level B:** Cards 15, 17, 34, 59, 60, 61

Earth's Biological History
Standard 8-2: The student will demonstrate an understanding of Earth's biological diversity over time. (Life Science, Earth Science)
Indicators: 8-2.4 Recognize the relationship among the units—era, epoch, and period—into which the geologic time scale is divided.
Earth Science Lab, Level A: Card 32 **Earth Science Lab, Level B:** Card 32

Earth's Biological History
Standard 8-2: The student will demonstrate an understanding of Earth's biological diversity over time. (Life Science, Earth Science)
Indicators: 8-2.5 Illustrate the vast diversity of life that has been present on Earth over time by using the geologic time scale.
Life Science Lab, Level A: Card 67 **Life Science Lab, Level B:** Card 67 **Earth Science Lab, Level A:** Cards 32, 33, 34, 35 **Earth Science Lab, Level B:** Cards 32, 33, 34, 35

Earth's Biological History
Standard 8-2: The student will demonstrate an understanding of Earth's biological diversity over time. (Life Science, Earth Science)
Indicators: 8-2.6 Infer the relative age of rocks and fossils from index fossils and the ordering of the rock layers.
Earth Science Lab, Level A: Cards 9, 34 **Earth Science Lab, Level B:** Cards 9, 34

Earth's Biological History
Standard 8-2: The student will demonstrate an understanding of Earth's biological diversity over time. (Life Science, Earth Science)
Indicators: 8-2.7 Summarize the factors, both natural and man-made, that can contribute to the extinction of a species.
Life Science Lab, Level A: Cards 67, 86 **Life Science Lab, Level B:** Cards 67, 86 **Earth Science Lab, Level A:** Cards 34, 61 **Earth Science Lab, Level B:** Cards 34, 61

Earth's Structure and Processes
Standard 8-3: The student will demonstrate an understanding of materials that determine the structure of Earth and the processes that have altered this structure. (Earth Science)
Indicators: 8-3.1 Summarize the three layers of Earth—crust, mantle, and core—on the basis of relative position, density, and composition.
Earth Science Lab, Level A: Cards 1, 2 **Earth Science Lab, Level B:** Cards 1, 2

Earth's Structure and Processes
Standard 8-3: The student will demonstrate an understanding of materials that determine the structure of Earth and the processes that have altered this structure. (Earth Science)
Indicators: 8-3.2 Explain how scientists use seismic waves—primary, secondary, and surface waves—and Earth's magnetic field to determine the internal structure of Earth.
Earth Science Lab, Level A: Cards 1, 2, 15, 16, 17, 35 **Earth Science Lab, Level B:** Cards 1, 2, 15, 16, 17, 35 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 4, *Using Sound Waves*, pages 85-87 **Physical Science Lab, Level A:** Cards 75, 81 **Physical Science Lab, Level B:** Cards 75, 81

Earth's Structure and Processes
Standard 8-3: The student will demonstrate an understanding of materials that determine the structure of Earth and the processes that have altered this structure. (Earth Science)
Indicators: 8-3.3 Infer an earthquake's epicenter from seismographic data.
Earth Science Lab, Level A: Cards 15, 16 **Earth Science Lab, Level B:** Cards 15, 16

Earth's Structure and Processes
Standard 8-3: The student will demonstrate an understanding of materials that determine the structure of Earth and the processes that have altered this structure. (Earth Science)
Indicators: 8-3.4 Explain how igneous, metamorphic, and sedimentary rocks are interrelated in the rock cycle.
Earth Science Lab, Level A: Cards 6, 7, 8, 9 **Earth Science Lab, Level B:** Cards 6, 7, 8, 9

Earth's Structure and Processes
Standard 8-3: The student will demonstrate an understanding of materials that determine the structure of Earth and the processes that have altered this structure. (Earth Science)
Indicators: 8-3.5 Summarize the importance of minerals, ores, and fossil fuels as Earth resources on the basis of their physical and chemical properties.
Life Science Lab, Level A: Cards 84, 89 **Life Science Lab, Level B:** Cards 84, 89 **Earth Science Lab, Level A:** Cards 3, 4, 5, 35 **Earth Science Lab, Level B:** Cards 3, 4, 5, 35 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 1, *Identifying Minerals with the Mohs Scale*, pages 73-75; **Physical Science Lab, Level A:** Card 38 **Physical Science Lab, Level B:** Card 38

Earth's Structure and Processes
Standard 8-3: The student will demonstrate an understanding of materials that determine the structure of Earth and the processes that have altered this structure. (Earth Science)
Indicators: 8-3.6 Explain how the theory of plate tectonics accounts for the motion of the lithospheric plates, the geologic activities at the plate boundaries, and the changes in landform areas over geologic time.
Earth Science Lab, Level A: Cards 10, 11, 12, 13, 14, 15, 16, 17 **Earth Science Lab, Level B:** Cards 10, 11, 12, 13, 14, 15, 16, 17 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 2, *Plate Boundaries in Action*, pages 77-79

Earth's Structure and Processes
Standard 8-3: The student will demonstrate an understanding of materials that determine the structure of Earth and the processes that have altered this structure. (Earth Science)
Indicators: 8-3.7 Illustrate the creation and changing of landforms that have occurred through geologic processes (including volcanic eruptions and mountain-building forces).
Earth Science Lab, Level A: Cards 12, 13, 14, 15, 16, 17, 21, 24, 25, 26, 27, 28, 88 **Earth Science Lab, Level B:** Cards 12, 13, 14, 15, 16, 17, 21, 24, 25, 26, 27, 28, 88 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 2, *Plate Boundaries in Action*, pages 77-79

Earth's Structure and Processes
Standard 8-3: The student will demonstrate an understanding of materials that determine the structure of Earth and the processes that have altered this structure. (Earth Science)
Indicators: 8-3.8 Explain how earthquakes result from forces inside Earth.
Earth Science Lab, Level A: Cards 15, 16 **Earth Science Lab, Level B:** Cards 15, 16

Earth's Structure and Processes
Standard 8-3: The student will demonstrate an understanding of materials that determine the structure of Earth and the processes that have altered this structure. (Earth Science)
Indicators: 8-3.9 Identify and illustrate geologic features of South Carolina and other regions of the world through the use of imagery (including aerial photography and satellite imagery) and topographic maps.
Earth Science Lab, Level A: Cards 18, 19, 20, 88 **Earth Science Lab, Level B:** Cards 18, 19, 20, 88 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 3, *Interpreting a Topographic Map*, pages 81-83

Astronomy: Earth and Space Systems
Standard 8-4: The student will demonstrate an understanding of the characteristics, structure, and predictable motions of celestial bodies. (Earth Science)
Indicators: 8-4.1 Summarize the characteristics and movements of objects in the solar system (including planets, moons, asteroids, comets, and meteors).
Earth Science Lab, Level A: Cards 62, 64, 65, 67, 68, 69, 70, 71, 72, 73, 74 **Earth Science Lab, Level B:** Cards 62, 64, 65, 67, 68, 69, 70, 71, 72, 73, 74 **Earth Science Lab Teacher's Handbook:** Hands-On Activity 7, *Sizes in the Solar System*, pages 97-99

Astronomy: Earth and Space Systems
Standard 8-4: The student will demonstrate an understanding of the characteristics, structure, and predictable motions of celestial bodies. (Earth Science)
Indicators: 8-4.2 Summarize the characteristics of the surface features of the Sun: photosphere, corona, sunspots, prominences, and solar flares).
Earth Science Lab, Level A: Card 67 **Earth Science Lab, Level B:** Card 67

Astronomy: Earth and Space Systems
Standard 8-4: The student will demonstrate an understanding of the characteristics, structure, and predictable motions of celestial bodies. (Earth Science)
Indicators: 8-4.3 Explain how the surface features of the Sun may affect Earth.
Earth Science Lab, Level A: Cards 60, 67 **Earth Science Lab, Level B:** Cards 60, 67

Astronomy: Earth and Space Systems
Standard 8-4: The student will demonstrate an understanding of the characteristics, structure, and predictable motions of celestial bodies. (Earth Science)
Indicators: 8-4.4 Explain the motions of Earth and the Moon and the effects of these motions as they orbit the Sun (including day, year, phases of the Moon, eclipses, and tides).
Earth Science Lab, Level A: Cards 62, 64, 65, 66 **Earth Science Lab, Level B:** Cards 62, 64, 65, 66

Astronomy: Earth and Space Systems
Standard 8-4: The student will demonstrate an understanding of the characteristics, structure, and predictable motions of celestial bodies. (Earth Science)
Indicators: 8-4.5 Explain how the tilt of Earth's axis affects the length of the day and the amount of heating on Earth's surface, thus causing the seasons of the year.
Earth Science Lab, Level A: Card 62 **Earth Science Lab, Level B:** Card 62

Astronomy: Earth and Space Systems
Standard 8-4: The student will demonstrate an understanding of the characteristics, structure, and predictable motions of celestial bodies. (Earth Science)
Indicators: 8-4.6 Explain how gravitational forces are influenced by mass and distance.
Physical Science Lab, Level A: Cards 57, 59 **Physical Science Lab, Level B:** Cards 57, 59

Astronomy: Earth and Space Systems
Standard 8-4: The student will demonstrate an understanding of the characteristics, structure, and predictable motions of celestial bodies. (Earth Science)
Indicators: 8-4.7 Explains the effects of gravity on tides and planetary orbits.
Earth Science Lab, Level A: Card 66 **Earth Science Lab, Level B:** Card 66 **Physical Science Lab, Level A:** Cards 57, 59 **Physical Science Lab, Level B:** Cards 57, 59

Astronomy: Earth and Space Systems
Standard 8-4: The student will demonstrate an understanding of the characteristics, structure, and predictable motions of celestial bodies. (Earth Science)
Indicators: 8-4.8 Explain the difference between mass and weight by using the concept of gravitational force.
Physical Science Lab, Level A: Cards 57, 59 **Physical Science Lab, Level B:** Cards 57, 59

Astronomy: Earth and Space Systems
Standard 8-4: The student will demonstrate an understanding of the characteristics, structure, and predictable motions of celestial bodies. (Earth Science)
Indicators: 8-4.9 Recall the Sun's position in the universe, the shapes and compositions of galaxies, and the distance measurement unit (light year) needed to identify star and galaxy locations.
Earth Science Lab, Level A: Cards 67, 68, 74, 75, 77 **Earth Science Lab, Level B:** Cards 67, 68, 74, 75, 77

Astronomy: Earth and Space Systems
Standard 8-4: The student will demonstrate an understanding of the characteristics, structure, and predictable motions of celestial bodies. (Earth Science)
Indicators: 8-4.10 Compare the purposes of the tools and the technology that scientists use to study space (including various types of telescopes, satellites, space probes, and spectroscopes).
Earth Science Lab, Level A: Cards 79, 80, 81 **Earth Science Lab, Level B:** Cards 79, 80, 81

Forces and Motion
Standard 8-5: The student will demonstrate an understanding of the effects of forces on the motion of an object. (Physical Science)
Indicators: 8-5.1 Use measurement and time-distance graphs to represent motion of an object in terms of its position, direction, or speed.
Physical Science Lab, Level A: Cards 50, 51, 52 **Physical Science Lab, Level B:** Cards 50, 51, 52

Forces and Motion
Standard 8-5: The student will demonstrate an understanding of the effects of forces on the motion of an object. (Physical Science)
Indicators: 8-5.2 Use the formula for average speed, v = d/t, to solve real-world problems.
Physical Science Lab, Level A: Card 51 **Physical Science Lab, Level B:** Card 51

Forces and Motion
Standard 8-5: The student will demonstrate an understanding of the effects of forces on the motion of an object. (Physical Science)
Indicators: 8-5.3 Analyze the effects of forces (including gravity and friction) on the speed and direction of an object.
Physical Science Lab, Level A: Cards 51, 52, 53, 54, 55, 56, 58, 59 **Physical Science Lab, Level B:** Cards 51, 52, 53, 54, 55, 56, 58, 59 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 4, *Reducing Friction,* pages 89-91

Forces and Motion
Standard 8-5: The student will demonstrate an understanding of the effects of forces on the motion of an object. (Physical Science)
Indicators: 8-5.4 Predict how varying the amount of force or mass will affect the motion of an object.
Physical Science Lab, Level A: Cards 54, 55, 56, 57 **Physical Science Lab, Level B:** Cards 54, 55, 56, 57 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 4, *Reducing Friction,* pages 89-91

Forces and Motion
Standard 8-5: The student will demonstrate an understanding of the effects of forces on the motion of an object. (Physical Science)
Indicators: 8-5.5 Analyze the resulting effect of balanced and unbalanced forces on an object's motion in terms of magnitude and direction.
Physical Science Lab, Level A: Card 56 **Physical Science Lab, Level B:** Card 56

Forces and Motion
Standard 8-5: The student will demonstrate an understanding of the effects of forces on the motion of an object. (Physical Science)
Indicators: 8-5.6 Summarize and illustrate the concept of inertia.
Physical Science Lab, Level A: Card 53 **Physical Science Lab, Level B:** Card 53

Waves
Standard 8-6: The student will demonstrate an understanding of the properties and behaviors of waves. (Physical Science)
Indicators: 8-6.1 Recall that waves transmit energy but not matter.
Earth Science Lab, Level A: Card 16 **Earth Science Lab, Level B:** Card 16 **Physical Science Lab, Level A:** Cards 77, 78, 79, 80, 81, 82, 83 **Physical Science Lab, Level B:** Cards 77, 78, 79, 80, 81, 82, 83 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 6, *Making Sound*, pages 97-99

Waves
Standard 8-6: The student will demonstrate an understanding of the properties and behaviors of waves. (Physical Science)
Indicators: 8-6.2 Distinguish between mechanical and electromagnetic waves.
Physical Science Lab, Level A: Cards 77, 78, 82, 83 **Physical Science Lab, Level B:** Cards 77, 78, 82, 83

Waves
Standard 8-6: The student will demonstrate an understanding of the properties and behaviors of waves. (Physical Science)
Indicators: 8-6.3 Summarize factors that influence the basic properties of waves (including frequency, amplitude, wavelength, and speed).
Physical Science Lab, Level A: Cards 77, 78, 83 **Physical Science Lab, Level B:** Cards 77, 78, 83

Waves
Standard 8-6: The student will demonstrate an understanding of the properties and behaviors of waves. (Physical Science)
Indicators: 8-6.4 Summarize the behaviors of waves (including refraction, reflection, transmission, and absorption).
Physical Science Lab, Level A: Cards 79, 85, 86, 87 **Physical Science Lab, Level B:** Cards 79, 85, 86, 87

Waves
Standard 8-6: The student will demonstrate an understanding of the properties and behaviors of waves. (Physical Science)
Indicators: 8-6.5 Explain hearing in terms of the relationship between sound waves and the ear.
Physical Science Lab, Level A: Cards 79, 80, 81 **Physical Science Lab, Level B:** Cards 79, 80, 81 **Physical Science Lab Teacher's Handbook:** Hands-On Activity 6, *Making Sound*, pages 97-99

Waves
Standard 8-6: The student will demonstrate an understanding of the properties and behaviors of waves. (Physical Science)
Indicators: 8-6.6 Explain sight in terms of the relationship between the eye and the light waves emitted or reflected by an object.
Physical Science Lab, Level A: Cards 86, 87, 88, 89 **Physical Science Lab, Level B:** Cards 86, 87, 88, 89

Waves
Standard 8-6: The student will demonstrate an understanding of the properties and behaviors of waves. (Physical Science)
Indicators: 8-6.7 Explain how the absorption and reflection of light waves by various materials result in the human perception of color.
Physical Science Lab, Level A: Cards 85, 86, 89 **Physical Science Lab, Level B:** Cards 85, 86, 89

Waves
Standard 8-6: The student will demonstrate an understanding of the properties and behaviors of waves. (Physical Science)
Indicators: 8-6.8 Compare the wavelength and energy of waves in various parts of the electromagnetic spectrum (including visible light, infrared, and ultraviolet radiation).
Physical Science Lab, Level A: Cards 82, 83 **Physical Science Lab, Level B:** Cards 82, 83