A Correlation of

Elevate Science
Course 1, ©2019

To the

Arkansas 5-8 Science Standards
Topic Arrangement

Grade 6

Pearson

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Introduction

This document demonstrates how ***Elevate Science ©2019*** meets the Arkansas 5-8 Science Standards, Topic Arrangement. Correlation page references are to the Student and Teacher's Editions and cited at the page level.

Pearson is proud to introduce ***Elevate Science*** Middle Grades – where exploration is the heart of science! Designed to address the rigors of new science standards, students will experience science up close and personal, using real-world, relevant phenomena to solve project-based problems. Our newest program prepares students for the challenges of tomorrow, building strong reasoning skills and critical thinking strategies as they engage in explorations, formulate claims, and gather and analyze data that promote evidence-based arguments. The blended print and digital curriculum covers all Next Generation Science Standards at every grade level.

Elevate Science helps teachers transform learning, promote innovation, and manage their classroom.

Transform science classrooms by immersing students in active, three-dimensional learning.
Elevate Science engages students with real-world tasks, open-ended Quests, uDemonstrate performance-based labs, and in the engineering/design process with uEngineer It! investigations.

- A new 3-D learning model enhances best practices.
- Engineering-focused features infuse STEM learning.
- Phenomena-based activities put students at the heart of a Quest for knowledge.

Innovate learning by focusing on 21st century skills.
Students are encouraged to think, collaborate, and innovate! With ***Elevate Science***, students explore STEM careers, experience engineering activities, and discover our scientific and technological world. The content, strategies, and resources of Elevate Science equip the science classroom for scientific inquiry and science and engineering practices.

- Problem-based learning Quests put students on a journey of discovery.
- STEM connections help integrate curriculum.
- Coding and innovation engage students and build 21st century skills.

Manage the classroom with confidence.
Teachers will lead their class in asking questions and engaging in argumentation. Evidence-based assessments provide new options for monitoring student understanding.

- Professional development offers practical point-of-use support.
- Embedded standards in the program allow for easy integration.
- ELL and differentiated instruction strategies help instructors reach every learner.
- Interdisciplinary connections relate science to other subjects.

Designed for today's classroom, preparing students for tomorrow's world. ***Elevate Science*** promises to:

- Elevate thinking.
- Elevate learning.
- Elevate teaching.

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GRADE SIX	
Energy	
6-PS3-3 Apply scientific principles to design, construct, and test a device that either minimizes or maximizes thermal energy transfer.* (**AR** Clarification Statement: Examples of devices could include an insulated box, a solar cooker, and a polystyrene foam cup.) (Assessment Boundary: Assessment does not include calculating the total amount of thermal energy transferred.)	**SE/TE:** 107, 117, 136–139, 166–167, 170–173
6-PS3-4 Plan an investigation to determine the relationships among the energy transferred, the type of matter, the mass, and the change in the average kinetic energy of the particles as measured by the temperature of the sample. (Clarification Statement: Examples of experiments could include comparing final water temperatures after different masses of ice have melted in the same volume of water with the same initial temperature, the temperature change of samples of different materials with the same mass as they cool or heat in the environment, or the same material with different masses when a specific amount of energy is added.) (Assessment Boundary: Assessment does not include calculating the total amount of thermal energy transferred.)	**SE/TE:** 136–137, 140–146, 148–154, 156–157, 158–173
6-PS3-5 Construct, use, and present arguments to support the claim that when the kinetic energy of an object changes, energy is transferred to or from the object. (**AR** Clarification Statement: Examples of empirical evidence used in arguments could include a diagram, flowchart, or other representation of the energy before and after the transfer in the form of temperature changes or motion of an object.) (Assessment Boundary: Assessment does not include calculations of energy.)	**SE/TE:** 86–87, 108–116, 118–125, 126–127, 128–137, 148–154, 158–169

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Structure, Function, and Information Processing	
6-LS1-1Conduct an investigation to provide evidence that living things are made of cells; either one cell or many different numbers and types of cells. (Clarification Statement: Emphasis is on gathering evidence that living things are made of cells, distinguishing between living and non-living things, and understanding that living things may be made of one cell or many and varied cells.)	**SE/TE:** 434–435, 438–449, 460–471, 472–483, 484–491
6-LS1-2 Develop and use a model to describe the function of a cell as a whole and ways parts of cells contribute to the function. (Clarification Statement: Emphasis is on the cell functioning as a whole system and the primary role of identified parts of the cell, specifically the nucleus, chloroplasts, mitochondria, cell membrane, and cell wall.) (Assessment Boundary: Assessment of organelle structure/function relationships is limited to the cell wall and cell membrane. Assessment of the function of the other organelles is limited to their relationship to the whole cell. Assessment does not include the biochemical function of cells or cell parts.)	**SE/TE:** 472–483, 484–487
6-LS1-3 Use argument supported by evidence for how the body is a system of interacting subsystems composed of groups of cells. (Clarification Statement: Emphasis is on the conceptual understanding that cells form tissues and tissues form organs specialized for particular body functions. Examples could include the interaction of subsystems within a system and the normal functioning of those systems.) (Assessment Boundary: Assessment is limited to circulatory, excretory, digestive, respiratory, muscular, and nervous systems. Assessment does not include the mechanism of one body system independent of others.)	**SE/TE:** 472–483, 484–487

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6-LS1-8 Gather and synthesize information that sensory receptors respond to stimuli by sending messages to the brain for immediate behavior or storage as memories. (Assessment Boundary: Assessment does not include mechanisms for the transmission of this information.)	This standard is addressed in Elevate Science Course 2, Topic 2: Human Body Systems.
Growth, Development, and Reproduction of Organisms	
6-LS1-4 Use argument based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors and specialized plant structures affect the probability of successful reproduction of animals and plants respectively. (Clarification Statement: Examples of behaviors that affect the probability of animal reproduction could include nest building to protect young from cold, herding of animals to protect young from predators, and vocalization of animals and colorful plumage to attract mates for breeding. Examples of animal behaviors that affect the probability of plant reproduction could include transferring pollen or seeds, and creating conditions for seed germination and growth. Examples of plant structures could include bright flowers attracting butterflies that transfer pollen, flower nectar and odors that attract insects that transfer pollen, and hard shells on nuts that squirrels bury.)	This standard is addressed in Elevate Science Course 2, Topic 3: Reproduction and Growth.

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6-LS1-5 Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms. (Clarification Statement: Examples of local environmental conditions could include availability of food, light, space, and water. Examples of genetic factors could include large breed cattle and species of grass affecting growth of organisms. Examples of evidence could include drought decreasing plant growth, fertilizer increasing plant growth, different varieties of plant seeds growing at different rates in different conditions, and fish growing larger in large ponds than they do in small ponds.) (Assessment Boundary: Assessment does not include genetic mechanisms, gene regulation, or biochemical processes.)	This standard is addressed in Elevate Science Course 2, Topic 3: Reproduction and Growth.
6-LS3-2 Develop and use a model to describe why asexual reproduction results in offspring with identical genetic information and sexual reproduction results in offspring with genetic variation. (Clarification Statement: Emphasis is on using models such as Punnett squares, diagrams, and simulations to describe the cause and effect relationship of gene transmission from parent(s) to offspring and resulting genetic variation.)	This standard is addressed in Elevate Science Course 2, Topic 3: Reproduction and Growth. See also Elevate Science Course 3, Topic 4: Genes and Heredity.
Earth's Systems	
6-ESS2-4 Develop a model to describe the cycling of water through Earth's systems driven by energy from the sun and the force of gravity. (Clarification Statement: Emphasis is on the ways water changes its state as it moves through the multiple pathways of the hydrologic cycle. Examples of models can be conceptual or physical.) (Assessment Boundary: A quantitative understanding of the latent heats of vaporization and fusion is not assessed.)	**SE/TE:** 174–177, 198–209, 210–217, 218–219, 230–238, 268–269, 272–275

SE = Student Edition TE = Teacher's Edition

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Human Impacts	
6-ESS3-3 Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.* (Clarification Statement: Examples of the design process could include examining human environmental impacts, assessing the kinds of solutions that are feasible, and designing and evaluating solutions that could reduce that impact. Examples of human impacts could include water usage (such as the withdrawal of water from streams and aquifers or the construction of dams and levees), land usage (such as urban development, agriculture, or the removal of wetlands), and pollution (such as of the air, water, or land).)	This standard is addressed in Elevate Science Course 2, Topic 3: Reproduction and Growth, Topic 5: Populations, Communities, and Ecosystems, and Topic 7: Human Impacts on the Environment.
6-ESS3-4 Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems. (Clarification Statement: Examples of evidence include grade-appropriate databases on human populations or the rates of consumption of food and natural resources (such as freshwater, minerals, or energy). Examples of impacts could include changes to the appearance, composition, or structure of Earth's systems as well as the rates at which they change. The consequences of increases in human populations and consumption of natural resources are described by science, but science does not make the decisions for the actions society takes.)	This standard is addressed in Elevate Science Course 2, Topic 3: Reproduction and Growth, Topic 5: Populations, Communities, and Ecosystems, and Topic 7: Human Impacts on the Environment.

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Weather and Climate	
6-ESS2-5 Collect data to provide evidence for how the motions and complex interactions of air masses results in changes in weather conditions. (Clarification Statement: Emphasis is on how air masses flow from regions of high pressure to low pressure, causing weather (defined by temperature, pressure, humidity, precipitation, and wind) at a fixed location to change over time, and how sudden changes in weather can result when different air masses collide. Emphasis is on how weather can be predicted within probabilistic ranges. Examples of data can be provided to students (such as weather maps, diagrams, or visualizations) or obtained through laboratory experiments (such as with condensation).) (Assessment Boundary: Assessment does not include recalling the names of cloud types or weather symbols used on weather maps or the reported diagrams from weather stations.)	**SE/TE:** 218–221, 222–229, 240–247, 248–255, 266–271
6-ESS2-6 Develop and use a model to describe how unequal heating and rotation of the Earth cause patterns of atmospheric and oceanic circulation that determine regional climates. (Clarification Statement: Emphasis is on how patterns vary by latitude, altitude, and geographic land distribution. Emphasis of atmospheric circulation is on the sunlight-driven latitudinal banding, the Coriolis effect, and resulting prevailing winds; emphasis of ocean circulation is on the transfer of heat by the global ocean convection cycle, which is constrained by the Coriolis effect and the outlines of continents. Examples of models could be diagrams, maps and globes, or digital representations.) (Assessment Boundary: Assessment does not include the dynamics of the Coriolis effect.)	**SE/TE:** 218–219, 222–229, 248–255, 268–271

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6-ESS3-5 Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century. (Clarification Statement: Examples of factors include human activities (such as fossil fuel combustion, cement production, or agricultural activity) and natural processes (such as changes in incoming solar radiation or volcanic activity). Examples of evidence could include tables, graphs, and maps of global and regional temperatures, atmospheric levels of gases such as carbon dioxide or methane, and the rates of human activities. Emphasis is on the major role that human activities play in causing the rise in global temperatures.)	This standard is addressed in Elevate Science Course 3, Topic 8: Climate.
Engineering, Technology, and Applications of Science	
6-ETS1-1 Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions. (**AR** Clarification Statement: Examples could include designing an insulated coffee mug or lunch box or designing an energy efficient home, etc.)	**SE/TE:** 38–41, 55, 106, 322–325
6-ETS1-2 Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem. (**AR** Clarification: Examples could include evaluating a community's designs for protecting different aspects of an ecosystem.)	**SE/TE:** 55, 106, 125, 165, 322–325
6-ETS1-3 Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success. (**AR** Clarification Statement: Examples could include determining best materials to use for a building's roof or windows, etc.)	**SE/TE:** 33, 116, 165, 170–173, 413, 430–433

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6-ETS1-4 Develop a model to generate data for iterative testing and modification of a proposed object, tool, or process such that an optimal design can be achieved. (AR Clarification Statement: Examples could be using graphs or models to support material choices for a design project.)	**SE/TE:** 33, 82–85, 106, 132–135, 154, 174–175, 378–381, 382–383, 413, 425, 430–433