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A Correlation of

Oklahoma Elevate Science
Grade 8, ©2022

To the

Oklahoma
2020 Academic Standards for Science
Grade 8

Prepared by Savvas Learning Company, formerly Pearson K12 Learning

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Introduction

This document demonstrates how ***Oklahoma Elevate Science ©2022*** meets the Oklahoma 2020 Academic Standards for Science. Correlation page references are to the Student and Teacher Editions, and Savvas Realize™ digital resources.

Savvas Learning Company 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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8.LS4.2.SEP.1: Constructing Explanations: Construct a scientific explanation based on valid and reliable evidence.	**SE/TE:** uConnect Lab: Walking Whales?, 130-131 Many Types of Terrapins, 169 Lesson 1 Check, #2-3, #5-6, 171 Case Study: Could Dinosaurs Roar?, 172-173 Topic 3 Evidence-Based Assessment, 186-187 uDemonstrate Lab: A Bony Puzzle, 188-191
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8.LS4.2.CCC.1: Patterns: Graphs and charts can be used to identify patterns in data.	**SE/TE:** Lesson 4 Check, #5, 171 Case Study: Could Dinosaurs Roar?, 172-173 uDemonstrate Lab: A Bony Puzzle, 188-191 **Realize™ Digital Resources:** Interactivity: Long Necks and Hoofed Feet

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Performance Expectations	
8.LS4.3: Analyze displays of pictorial data to compare patterns of similarities in the embryological development across multiple species to identify relationships not evident in the fully formed anatomy.	**SE/TE:** Embryological Development, 166 Figure 6: Birds and Dinosaurs, 166 **Realize™ Digital Resources:** Interactivity: Tiny Clues
Disciplinary Core Ideas	
8.LS4.3.DCI.1: Comparison of embryological development of different species also reveals similarities that show relationships not evident in the fully-formed anatomy.	**SE/TE:** Embryological Development, 166 Figure 6: Birds and Dinosaurs, 166 Topic 3 Review and Assess, #16, 185
Science and Engineering Practices	
8.LS4.3.SEP.1: Analyze and Interpret Data: Analyze and interpret data to determine similarities and differences in findings.	**SE/TE:** Embryological Development, 166 Figure 6: Birds and Dinosaurs, 166 **Realize™ Digital Resources:** Interactivity: Tiny Clues
Crosscutting Concepts	
8.LS4.3.CCC.1: Patterns: Graphs and charts can be used to identify patterns in data.	**SE/TE:** Embryological Development, 166 Figure 6: Birds and Dinosaurs, 166 **Realize™ Digital Resources:** Interactivity: Tiny Clues

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Performance Expectations	
8.LS4.4: Construct an explanation based on evidence that describes how genetic variations of traits in a population increase some individuals' probability of surviving and reproducing in a specific environment.	**SE/TE:** Case Study: Cephalopods Special Edition, 74-75 uConnect Lab: Walking Whales?, 130-131 Armored Animals, Figure 5, 137 Question It!, 139 Galapagos Finches, Figure 8, 139 Lesson 1 Check, #5, 141 Connect It!, 142 Literacy Connection, 144 Math Toolbox, 146 Model It!: Natural Selection in Action, 147 Lesson 2 Check, #5, 150 Connect It!, 152 Reading Check, 157 Lesson 3 Check, #6, 159 **Realize™ Digital Resources:** Quest: A Migration Puzzle
Disciplinary Core Ideas	
8.LS4.4.DCI.1: Natural selection leads to the predominance of certain traits in a population, and the suppression of others.	**SE/TE:** Evolution by Natural Selection, 143-149 Lesson 2 Check, #4, 150 Connect It!, 152 Processes of Evolution, 153-156 Sexual Selection, 157 Quest Check-In, 159 Lesson 5 Check, #4, 182 Topic 3 Review and Assess, #10, 184
Science and Engineering Practices	
8.LS4.4.SEP.1: Constructing Explanations: Construct an explanation that includes qualitative or quantitative relationships between variables that predict and/or describe phenomena.	**SE/TE:** Question It!, 139 Galapagos Finches, Figure 8, 139 Lesson 1 Check, #5, 141 Connect It!, 142 Math Toolbox, 146 Model It!: Natural Selection in Action, 147 Plant Mutation, Figure 7, 149 Lesson 2 Check, #5, 150 Spellcheck, Please!: Explain Phenomena, 154 Math Toolbox, 167 **Realize™ Digital Resources:** Interactivity: Mystery on the Galápagos Islands

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Crosscutting Concepts	
8.LS4.4.CCC.1: Cause and Effect: Phenomena may have more than one cause, and some cause and effect relationships in systems can only be described using probability.	**SE/TE:** Inherited Traits: CCC Cause and Effect, 148 Lesson 2 Check, #6, 150 Quest Check-In, 159 **Realize™ Digital Resources:** Quest: A Migration Puzzle, Quest Check-in 3 Interactivity: Mice Selection on the Prairie
Performance Expectations	
8.LS4.5: Gather and synthesize information about the practices that have changed the way humans influence the inheritance of desired traits in organisms.	**SE/TE:** Connect It!, 108 Literacy Connection, 109 Plan It!, 110 Controversies of DNA Use, 116 Lesson 5 Check, #5, 117 Topic 2 Review and Assess, #19, 119 Evidence-Based Assessment, 120-121 Write About It, 144 **Realize™ Digital Resources:** Interactivity: Solving Problems with Genetics
Disciplinary Core Ideas	
8.LS4.5.DCI.1: In artificial selections, humans have the capacity to influence certain characteristics of organisms by selective breeding. One can choose desired parental traits by genes, which are then passed on to offspring.	**SE/TE:** Connect It!, 108 Artificial Selection, 109 Lesson 5 Check, #5, 117 Write About It, 144
8.LS4.5.DCI.2: Engineering advances have led to important discoveries in virtually every field of science, and scientific discoveries have led to the development of entire industries and engineered systems.	**SE/TE:** Genetic Engineering, 110-113 Practical Uses for DNA, 114-116 Lesson 5 Check, #2, 117 Topic 2 Review and Assess, #17, 119 Extraordinary Science: DNA, Fossils, and Evolution, 183
Science and Engineering Practices	
8.LS4.5.SEP.1: Obtaining, Evaluating, and Communicating Information: Gather, read, synthesize information from multiple appropriate sources; assess the credibility, accuracy, and possible bias of each publication and methods used; and describe how they are supported or not supported by evidence.	**SE/TE:** Connect It!, 108 Literacy Connection, 109 Using Genetic Information: Evaluate Reasoning, 116 Lesson 5 Check, #5, 117 Evidence-Based Assessment, 120-121 **Realize™ Digital Resources:** Interactivity: Solving Problems with Genetics

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Crosscutting Concepts	
8.LS4.5.CCC.1: Cause and Effect: Phenomena may have more than one cause, and some cause and effect relationships in systems can only be described using probability.	**SE/TE:** Connect It!, 108 Plan It!, 110 Lesson 5 Check, #3, 117 Lesson 2 Check, #6, 150
Performance Expectations	
8.LS4.6: Use mathematical representations to support explanations of how natural selection may lead to increases and decreases of specific traits in populations over time.	**SE/TE:** Math Toolbox, 146 Lesson 2 Check, #6, 150 Math Toolbox, 167 Math Toolbox, 179 Lesson 5 Check, #4, 182 **Realize™ Digital Resources:** Interactivity: Mice Selection on the Prairie
Disciplinary Core Ideas	
8.LS4.6.DCI.1: Adaptation by natural selection acting over generations is one important process by which species change over time in response to changes in environmental conditions.	**SE/TE:** Galápagos Organisms, 138-139 Connect It!, 142 Evolution by Natural Selection, 143-149 Lesson 2 Check, #7, 150 Processes of Evolution, 153-156 Sexual Selection, 157 Quest Check-In, 159 Quest Check-In, 182
8.LS4.6.DCI.2: Traits that support successful survival and reproduction in the new environment become more common; those that do not become less common. Thus, the distribution of traits in a population change.	**SE/TE:** Galápagos Organisms, 138-139 Lesson 1 Check, #3, 141 Connect It!, 142 Natural Selection, 144 How Natural Selection Works, 145 Selection, 146 Model It!: Natural Selection in Action, 147 Lesson 2 Check, #5, 150 Processes of Evolution, 153-156 Sexual Selection, 157

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Science and Engineering Practices	
8.LS4.6.SEP.1: Using Mathematics and Computational Thinking: Use mathematical representation to describe and/or support scientific conclusions and design solutions.	**SE/TE:** Math Toolbox, 146 Lesson 2 Check, #6, 150 Math Toolbox, 167 Math Toolbox, 179 Lesson 5 Check, #4, 182 **Realize™ Digital Resources:** Interactivity: Mice Selection on the Prairie
Crosscutting Concepts	
8.LS4.6.CCC.1: Cause and Effect: Phenomena may have more than one cause, and some cause and effect relationships in systems can only be described using probability.	**SE/TE:** Inherited Traits: CCC Cause and Effect, 148 Lesson 2 Check, #6, 150 Quest Check-In, 159 **Realize™ Digital Resources:** Quest: A Migration Puzzle

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Earth's Place in the Universe (ESS1)	
Performance Expectations	
8.ESS1.1: Develop and use a model of the Earth-sun-moon system to describe the cyclic patterns of lunar phases, eclipses of the sun and moon, and seasons.	**SE/TE:** uConnect Lab: What Is at the Center?, 302-303 Model It!: Models of the Universe, 312 Design It!, 318 Model It!: Solar and Lunar Eclipses, 331 Topic 6 Review and Assess, #19, 337 uDemonstrate Lab: Modeling Lunar Phases, 340-343 **Realize™ Digital Resources:** Quest: It's as Sure as the Tides
Disciplinary Core Ideas	
8.ESS1.1.DCI.1: Patterns of the apparent motion of the sun, the moon, and stars in the sky can be observed, described, predicted, and explained with models.	**SE/TE:** Quest Kickoff: How are tides related to our place in space:, 300-301 uConnect Lab: What Is at the Center?, 302-303 Constellations, 307 Reflect, 307 Movement in the Sky, 308-309 Models of the Solar System, 310-312 Case Study: The Ptolemaic Model: Explaining the Unexplained, 314-315 Model It!: Solar and Lunar Eclipses, 331 Topic 6 Review and Assess, #17, 337 Topic 6 Evidence-Based Assessment, 338-339 uDemonstrate Lab: Modeling Lunar Phases, 340-343
8.ESS1.1.DCI.2: The model of the solar system can explain eclipses of the sun and the moon.	**SE/TE:** Two Types of Eclipses, Figure 4, 330 Model It!: Solar and Lunar Eclipses, 331 Topic 6 Review and Assess, #17, 337 Topic 6 Evidence-Based Assessment, 338-339
8.ESS1.1.DCI.3: Earth's spin axis is fixed in direction over the short term, but tilted relative to its orbit around the sun. The seasons are a result of it's tilt and are caused by the differential intensity of sunlight on different areas of Earth across the year.	**SE/TE:** Seasonal Changes, 308 The Seasons, 319-320 Lesson 2 Check, #2, 324 Topic 6 Review and Assess, #9, 336 Topic 6 Evidence-Based Assessment, 338-339

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Science and Engineering Practices	
8.ESS1.1.SEP.1: Developing and Using Models: Develop and use a model to describe a phenomenon.	**SE/TE:** uConnect Lab: What Is at the Center?, 302-303 Model It!: Models of the Universe, 312 Design It!, 318 Model It!: Solar and Lunar Eclipses, 331 Topic 6 Review and Assess, #19, 337 uDemonstrate Lab: Modeling Lunar Phases, 340-343 **Realize™ Digital Resources:** Quest: It's as Sure as the Tides
Crosscutting Concepts	
8.ESS1.1.CCC.1: Patterns: Patterns can be used to identify cause-and-effect relationships.	**SE/TE:** Reflect, 307 Quest Check-In, 313 How Earth Moves, 317-318 Lesson 2 Check, #2, 324 Connect It!, 326 Math Toolbox, #2, 332 Lesson 3 Check, #1, 334 Quest Check-In, 334 uDemonstrate Lab: Modeling Lunar Phases, 340-343

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Performance Expectations	
8.ESS1.2: Develop and use a model to describe the role of gravity in the motions within galaxies and the solar system.	**SE/TE:** Topic 7 Evidence-Based Assessment, 396-397 **Realize™ Digital Resources:** Interactivity: Solar System Hands-On Lab, uInvestigate: Develop a Model to Describe the Role of Gravity
Disciplinary Core Ideas	
8.ESS1.2.DCI.1: Earth and its solar system are part of the Milky Way Galaxy, which is one of the many galaxies in the universe.	**SE/TE:** uConnect Lab: What Is at the Center?, 302-303 Stars, Planets, and the Moon, 305 Understanding the Solar System, 351 From Stars to Galaxies, 385-387 Extraordinary Science: Traveling Through the Milky Way, 393
8.ESS1.2.DCI.2: The solar system consists of the sun and a collection of objects, including planets, their moons, and asteroids that are held in orbit around the sun by its gravitational pull on them.	**SE/TE:** Stars, Planets, and the Moon, 305 Models of the Solar System, 310-312 Gravity and Orbits, 321-323 Connect It!, 350 Understanding the Solar System, 351-354 Case Study: Comparing Solar System Objects, 362-363 Neutron Stars, Pulsars, and Black Holes, 378 Topic 7 Evidence-Based Assessment, 396-397
8.ESS1.2.DCI.3: The solar system appears to have formed from a disk of dust and gas, drawn together by gravity.	**SE/TE:** Solar System Formation, 360 Lesson 1 Check, #1, 361 Topic 7 Review and Assess, #4, 394
Science and Engineering Practices	
8.ESS1.2.SEP.1: Developing and Using Models: Develop and use a model to describe a phenomenon.	**SE/TE:** Model It!: The Sun's Atmosphere, 356 Lesson 3 Check, #6, 383 Topic 7 Evidence-Based Assessment, 396-397 uDemonstrate Lab: Scaling Down the Solar System, 398-401 **Realize™ Digital Resources:** Hands-On Lab, uInvestigate: Develop a Model to Describe the Role of Gravity

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Crosscutting Concepts	
8.ESS1.2.CCC.1: Systems and System Models: Models can be used to represent systems and their interactions.	**SE/TE:** uConnect Lab: What Is at the Center?, 302-303 Models of the Solar System, 310-312 Topic 6 Review and Assess, #19, 337 Model It!: The Sun's Atmosphere, 356 Topic 7 Evidence-Based Assessment, 396-397 uDemonstrate Lab: Scaling Down the Solar System, #3, 401 **Realize™ Digital Resources:** Interactivity: Solar System
Performance Expectations	
8.ESS1.3: Analyze and interpret data to determine scale properties of objects in the solar system.	**SE/TE:** uConnect Lab: Planetary Measures, 348-349 Math Toolbox, 352 The Solar System, 358-359 uDemonstrate Lab: Scaling Down the Solar System, 398-401
Disciplinary Core Ideas	
8.ESS1.3.DCI.1: The solar system consists of the sun and a collection of objects, including planets, their moons, and asteroids that are held in orbit around the sun by its gravitational pull on them.	**SE/TE:** Stars, Planets, and the Moon, 305 Meteors and Comets, 306 Gravity and Orbits, 321-323 Connect It!, 350 Understanding the Solar System, 351-354 The Solar System, 358-359 Lesson 1 Check, #4, 361 **Realize™ Digital Resources:** Interactivity: Telescopes
8.ESS1.3.DCI.2: Engineering advances have led to important discoveries in virtually every field of science, and scientific discoveries have led to the development of entire industries and engineered systems.	**SE/TE:** uEngineer It!: Power From The Tides, 335 Collecting Space Data, 365-367 History of Space Exploration, 368-371 Quest Check-In, 372 uEngineer It!: Blast Off!, 373
Science and Engineering Practices	
8.ESS1.3.SEP.1: Analyzing and Interpreting Data: Analyze and interpret data to determine similarities and differences in findings.	**SE/TE:** uConnect Lab: Planetary Measures, 348-349 Reading Check, 353 Reading Check, 359 Case Study: Comparing Solar System Objects, 362-363 uDemonstrate Lab: Scaling Down the Solar System, 398-401

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Crosscutting Concepts	
8.ESS1.3.CCC.1: Scale, Proportion, and Quantity: Time, space, and energy phenomena can be observed at various scales using models to study systems that are too large or too small.	**SE/TE:** Math Toolbox, 352 The Solar System, 358-359 Collecting Space Data, 365-367 History of Space Exploration, 368-371 uDemonstrate Lab: Scaling Down the Solar System, 398-401