

A Correlation of
Elevate Science Modules
Grades 6-8 ©2019



To the
Nebraska
College- and Career-Ready Standards
for Science 2017
Grade 8

**A Correlation of Elevate Science Modules 2019
To the
Nebraska College and Career Ready Standards for Science, Grade 8**

Introduction

This document demonstrates how the ***Elevate Science Modules ©2019*** program supports Nebraska College and Career Ready Standards for Science. Correlation page references are to the Student and Teacher's Editions and cited at the page level.

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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SC.8.1 Forces and Interactions	
SC.8.1.1 Gather, analyze, and communicate evidence of forces and interactions.	
SC.8.1.1.A Apply Newton's Third Law to design a solution to a problem involving the motion of two colliding objects.	<u>Forces SE/TE:</u> Quest Kickoff: How can you take the crash out of a collision?, 2-3 Quest Check-In, 32 Quest in Findings, 47
SC.8.1.1.B 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.	<u>Forces SE/TE:</u> Quest Check-In, 21 uDemonstrate Lab: Stopping on a Dime, 48-51
SC.8.1.1.C Plan an investigation to provide evidence that the change in an object's motion depends on the sum of the forces on the object and the mass of the object.	For related content, please see: <u>Forces SE/TE:</u> Math Toolbox: Effects of Net Force, 10 Figure 3: Newton's Second Law, 27 Interactivity, 28 Quest Check-In, 32 uDemonstrate Lab: Stopping on a Dime, 48-51
SC.8.1.1.D Ask questions about data to determine the factors that affect the strength of electrical and magnetic forces.	<u>Forces SE/TE:</u> Question It!, 59 Lesson 1 Check, 64 Interactivity, 79 uEngineer It! Electromagnetism in Action, 81 Hands-On Lab, 85 Question It! Types of Current, 87
SC.8.1.1.E Construct and present arguments using evidence to support the claim that gravitational interactions are attractive and depend on the masses of interacting objects.	<u>Forces SE/TE:</u> Literacy Connection: Write Arguments, 39 Model It! Develop Models, 41 Lesson 4 Check, 42
SC.8.1.1.F Conduct an investigation and evaluate the experimental design to provide evidence that fields exist between objects exerting forces on each other even though the objects are not in contact.	<u>Forces SE/TE:</u> Question It!, 59 Hands-On Lab, 85 uDemonstrate Lab: Planetary Detective, 98-101

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SC.8.2 Waves and Electromagnetic Radiation	
SC.8.2.2 Gather, analyze, and communicate evidence of waves and electromagnetic radiation.	
SC.8.2.2.A Use mathematical representations to describe a simple model for waves that includes how the amplitude of a wave is related to the energy in a wave.	<u>Waves and Information Technologies SE/TE:</u> Interactivity, 9 Math Toolbox: Wave Properties, 10 Lesson 1 Check, 11
SC.8.2.2.B Develop and use a model to describe that waves are reflected, absorbed, or transmitted through various materials.	<u>Waves and Information Technologies SE/TE:</u> Plan It! Develop Models, 16 Question It!, 17 Figure 4: Types of Interference, 18-19 Model It!, 27 Hands-On Lab, 27 Lesson 3 Check, 33 Connect It!, 34 Model It! Polarizing Glasses, 37 Quest Check-In, 42 Model It! Fun with Mirrors, 50 Quest Check-In, 53 Topic 2 Review and Assess, 54-55 Evidence-Based Assessment, 56-57 uDemonstrate Lab: Making Waves, 58-61
SC.8.2.2.C Integrate qualitative scientific and technical information to support the claim that digitized signals are a more reliable way to encode and transmit information than analog signals.	<u>Waves and Information Technologies SE/TE:</u> Case Study: Super Ultra High Definition!, 86-87 Figure 3: Roger That!, 92-93 Model It! Noise? No Problem!, 94 Interactivity, 95 Lesson 3 Check, 96 Quest Check-In, 96 Topic 2 Review and Assess, 98-99 Evidence-Based Assessment, 100-101 uDemonstrate Lab: Over and Out, 102-105

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SC.8.4 Energy	
SC.8.4.3 Gather, analyze, and communicate evidence of energy.	
SC.8.4.3.A Construct and interpret graphical displays of data to describe the relationships of kinetic energy to the mass of an object and to the speed of an object.	<u>Energy Transfer SE/TE:</u> Interactivity, 15 Math Toolbox: Mass, Speed, and Kinetic Energy, 16 Interactivity, 17
SC.8.4.3.B Develop a model to describe that when the arrangement of objects interacting at a distance changes, then different amounts of potential energy are stored in the system.	<u>Energy Transfer SE/TE:</u> Hands-On Lab, 18 Model It! Transformation and Transfer in Demolition, 35 Topic 1 Review and Assess, 44-45 uDemonstrate Lab: 3, 2, 1...Liftoff!, 46-49
SC.8.9 Heredity: Inheritance and Variation of Traits	
SC.8.9.4 Gather, analyze, and communicate evidence of the inheritance and variation of traits.	
SC.8.9.4.A Develop and use a model to describe why structural changes to genes (mutations) may result in harmful, beneficial, or neutral effects to structure and function of organisms.	<u>Diversity of Life SE/TE:</u> Model It! Mutations and Protein Construction, 41 Figure 8: Nondisjunction, 44 Figure 9: Comparing Karyotypes, 45 Lesson 4 Check, 47 Evidence-Based Assessment, 60-61 Figure 3: Variations from Mutations, 93 Model It! Mimicry in Coevolution, 96 Figure 3: Mutations and Proteins, 116
SC.8.9.4.B Gather and synthesize information about technologies that have changed the way humans influence inheritance of desired traits in organisms.	<u>Diversity of Life SE/TE:</u> Connect It!, 48 Artificial Selection, 49 Genetic Engineering, 50-53 Controversies of DNA, 56 Lesson 5 Check, 57 Topic 1 Review and Assess, 59 Evidence-Based Assessment, 60-61

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SC.8.10 Natural Selection and Adaptations	
SC.8.10.5 Gather, analyze, and communicate evidence of natural selection and adaptations.	
SC.8.10.5.A Analyze and interpret data for patterns in the fossil record that document the existence, diversity, extinction, and change of life forms throughout the history of life on Earth under the assumption that natural laws operate today as in the past.	<p><u>Diversity of Life SE/TE:</u> Reading Check, 74 Lesson 1 Check, 79 Connect It!, 98 The Fossil Record, 99-101 Fossil Evidence of Evolution, 102-103 Comparisons of Anatomy, 104-105 Beginning and End of a Species, 106-108 Lesson 4 Check, 109 Case Study: Could Dinosaurs Roar?, 110-111</p> <p><u>Relationships Within Ecosystems SE/TE:</u> Lesson 3 Check, 107 Evidence-Based Assessment, 122-123</p>
SC.8.10.5.B Apply scientific ideas to construct an explanation for the anatomical similarities and differences among and between modern and fossil organisms to infer evolutionary relationships.	<p><u>Diversity of Life SE/TE:</u> Figure 5: Armored Animals, 75 Lesson 1 Check, 79 Connect It!, 98 Question It!, 103 Comparisons of Anatomy, 104 Lesson 4 Check, 109 Case Study: Could Dinosaurs Roar?, 110-111 Extraordinary Science: DNA, Fossils, and Evolution, 121 Topic 2 Review and Assess, 122-123 uDemonstrate Lab: A Bony Puzzle, 126-129</p> <p><u>Systems, Reproduction, and Growth SE/TE:</u> Figure 6: Evolution of the Dolphin, 22</p>

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SC.8.10.5.C 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.	<p><u>Diversity of Life SE/TE:</u> Connect It!, 70 Question It! We Got the Beak!, 77 Lesson 1 Check, 79 Connect It!, 80 Model It! Natural Selection in Action, 85 Lesson 2 Check, 88 Connect It!, 90 Lesson 3 Check, 97</p> <p><u>Systems, Reproduction, and Growth SE/TE:</u> Figure 7: Acquired Traits, 189 Case Study: Warmer Waters, Fewer Fish, 222-223</p>
C.8.10.5.D Use mathematical representations to support explanations of how natural selection may lead to increases and decreases of specific traits in populations over time.	<p><u>Diversity of Life SE/TE:</u> Figure 3: Overproduction, 83 Math Toolbox: Hatching for Success, 84</p>
SC.8.11 Space Systems	
SC.8.11.6 Gather, analyze, and communicate evidence of the interactions among bodies in space.	
SC.8.11.6.A 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.	<p><u>Earth's Place in the Universe SE/TE:</u> Figure 3: Seasons, 19 Connect It!, 26 Figure 3: Moon Phases, 29 Figure 4: Two Types of Eclipses, 30 Model It! Solar and Lunar Eclipses, 31 Topic 1 Review and Assess, 37 Evidence-Based Assessment, 38-39 uDemonstrate Lab: Modeling Lunar Phases, 40-43</p>
SC.8.11.6.B Develop and use a model to describe the role of gravity in the motions within the galaxy and the solar system.	<p><u>Earth's Place in the Universe SE/TE:</u> Figure 6: Orbital Motion, 23 Evidence-Based Assessment, 94-95</p>
SC.8.11.6.C Analyze and interpret data to determine scale properties of objects in the solar system.	<p><u>Earth's Place in the Universe SE/TE:</u> Case Study: Comparing Solar System Objects, 60-61</p>

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SC.8.14 History of Earth	
SC.8.14.7 Gather, analyze, and communicate evidence to explain Earth's history.	
SC.8.14.7.A Construct a scientific explanation based on evidence from rock strata for how the geologic time scale is used to organize Earth's 4.6-billion-year-old history.	<p><u>Earth's Systems SE/TE:</u></p> <p>Determining Relative Ages of Rocks, 156-157 Model It! Using Fossils to Match Rock Layers, 157 Changes in Rocks, 158 Case Study: Rewriting the History of Your Food, 162-163 Connect It!, 164 Geologic Time Scale, 165-167 Dividing Geologic Time, 168-169 Lesson 2 Check, 170 Lesson 3 Check, 180 Topic 4 Review and Assess, 182 Evidence-Based Assessment, 184-185 uDemonstrate Lab: Core Sampling Through Time, 186-189</p>

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