

A Correlation of

Elevate Science Course 3, ©2019



To the

Arizona Standards for Science (2018) Grade 8

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Introduction

This document demonstrates how **Elevate Science ©2019** meets the Arizona Science Standards (2018) for Grade 8. 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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| Arizona Science Standards (2018) Grade 8 | Elevate Science, Course 3 © 2019 |
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| Grade 8 | |
| Eighth Grade: Focus on Cause and Effect; Energy and Matter; Stability and Change | |
| Physical Sciences: Students apply stability and change to explore chemical properties of matter and chemical reactions to further understand energy and matter. | |
| Physical Science Standards | |
| 8.P1U1.1 Develop and use a model to demonstrate that atoms and molecules can be combined or rearranged in chemical reactions to form new compounds with the total number of each type of atom conserved. | SE/TE: Chemical Equations, 91-93 Law of Conservation of Mass, 94-95 Interactivity: When Wood Burns, 91 Model It! Formation of Ammonia, 92 Interactivity: Conservation of Matter, 92 Interactivity: Model a Chemical Reaction, 93 Hands-On Lab: Is Matter Conserved? 93 Interactivity: Reactants and Products, 94 Math Toolbox: Balanced Equations, 95 Interactivity: Model the Conservation of Mass, 95 |
| 8.P1U1.2 Obtain and evaluate information regarding how scientists identify substances based on unique physical and chemical properties. | This standard is addressed in Elevate Science, Course 1, Topic 1 Lesson 1: Describing and Classifying Matter. |
| 8.P4U1.3 Construct an explanation on how energy can be transferred from one energy store to another. | This standard is addressed in Elevate Science, Course 1, Topic 3 Lesson 4: Energy Change and Conservation. |
| 8.P4U1.4 Develop and use mathematical models to explain wave characteristics and interactions. | This standard is addressed in Elevate Science, Course 2, Topic 8 Lesson 1: Wave Properties and Lesson 2: Wave Interactions. |
| 8.P4U2.5 Develop a solution to increase efficiency when transferring energy from one source to another. | SE/TE: This standard is addressed in Elevate Science, Course 2, Topic 8, uDemonstrate Lab: Making Waves. |

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| Earth and Space Sciences: Students explore natural and human-induced cause-and-effect changes in Earth systems over time. | |
| Earth and Space Standards | |
| 8.E1U1.6 Analyze and interpret data about the Earth’s geological column to communicate relative ages of rock layers and fossils. | SE/TE: The Fossil Record, 267-270 Determining Relative Ages of Rocks, 304-306 Interactivity: Oldest to Youngest, 304 Model It! Using Fossils to Match Rock Layers, 305 Interactivity: Know Your Index Fossils, 305 |
| 8.E1U3.7 Obtain, evaluate, and communicate information about data and historical patterns to predict natural hazards and other geological events. | This standard is addressed in Elevate Science, Course 1, Topic 6, Lesson 5: Severe Weather and Floods. This standard is also addressed in Elevate Science, Course 1, Topic 8, Lesson 3: Earthquakes and Tsunami Hazards and Lesson 4: Volcanoes and Earth’s Surface. See also Elevate Science, Course 1, Topic 9, uEngineer It! Ground Shifting Advances: Maps Help Predict, Lesson 2: Erosion and Deposition, and Case Study: Buyer Beware. |
| 8.E1U3.8 Construct and support an argument about how human consumption of limited resources impacts the biosphere. | This standard is addressed in Elevate Science, Course 2, Topic 7 Lesson 1: Population Growth and Resource Consumption. |

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| Life Sciences: Students develop an understanding of patterns and how genetic information is passed from generation to generation. They also develop the understanding of how traits within populations change over time. | |
| Life Science Standards | |
| 8.L3U1.9 Construct an explanation of how genetic variations occur in offspring through the inheritance of traits or through mutations. | SE/TE: Alleles Affect Inheritance, 175-176 Probability and Heredity, 177-179 Genotype, 180 Interactivity: An Apple Lesson, 181 Chromosomes and Genes, 185-188 Hands-On Lab: Chromosomes and Inheritance, 185 Figure 5: Swapping Genetic Material, 189 Forming Sex Cells, 189-191 Interactivity: Describe That Dog, 205 Chromosomes and Variation, 206-207 Types of Mutations, 208-209 Environmental Factors, 210-211 Mutations in Reproduction, 212-214 Mutations, 260-262 |
| 8.L3U3.10 Communicate how advancements in technology have furthered the field of genetic research and use evidence to support an argument about the positive and negative effects of genetic research on human lives. | SE/TE: Genetic Engineering, 218-219 Gene Therapy in Humans, 220-221 Practical Uses for DNA, 222-224 Write About It, 224 TE only: Differentiated Instruction, Advanced Students, 219 Differentiated Instruction, Advanced Students, 223 |
| 8.L4U1.11 Develop and use a model to explain how natural selection may lead to increases and decreases of specific traits in populations over time. | SE/TE: How Natural Selection Works, 251 Selection, 252-253 Model It! Natural Selection in Action, 253 Genes and Natural Selection, 254-255 Interactivity: Mice Selection from the Prairie, 254 |

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| 8.L4U1.12 Gather and communicate evidence on how the process of natural selection provides an explanation of how new species can evolve. | SE/TE: Hands-On Lab: How do Species Change Over Time?, 245 Quest Check-In, 247 Process of Evolution, 259-262 Sexual Selection, 263-264 Beginning and End of a Species, 274-276 Reading Check, 276 |