

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



To the

Arkansas

2015 Science Standards

Grade 7

**A Correlation of Elevate Science Modules, Grades 6-8 ©2019
To the
Arkansas 2015 Science Standards for Grade 7**

Introduction

The following document demonstrates how the ***Elevate Science Modules* ©2019** program supports Arkansas 2015 Science Standards for Grades 6-8. Correlation references include the Student Edition, Teacher Edition, and online Realize™ digital resources.

Savvas Learning Company is proud to introduce ***Elevate Science Modules*** for 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 phenomena, open-ended Quests, uDemonstrate performance-based tasks, 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.

**A Correlation of Elevate Science Modules, Grades 6-8 ©2019
To the
Arkansas 2015 Science Standards for Grade 7**

Table of Contents

Structure and Properties of Matter.....	4
Chemical Reactions	10
Interdependent Relationships in Ecosystems	15
Matter and Energy in Organisms and Ecosystems	19
Earth’s Systems	27
History of Earth	31
Human Impacts	36
Engineering, Technology, and the Application of Science	40

**A Correlation of Elevate Science Modules, Grades 6-8 ©2019
To the
Arkansas 2015 Science Standards for Grade 7**

Arkansas 2015 Science Standards Grade 7	Elevate Science ©2019 Grades 6-8 Modules
Structure and Properties of Matter	
<p>Performance Expectation 7-PS1-1: Develop models to describe the atomic composition of simple molecules and extended structures.</p>	<p>Structure and Properties of Matter SE/TE: Components of Matter, 8-10 Model It!, 9 Topic 1 Evidence-Based Assessment, 36-37</p> <p>Atoms and Chemical Reactions SE/TE: A Modern Model of the Atom, 10-12 Lesson 1 Check, #5, 13 Forming Ionic Bonds, 41 Covalent Bonding, 42-44 Topic 1 Review and Assess, #5, 56-57</p> <p>Realize™ Digital Resources: Structure and Properties of Matter: Introduction to Matter >Lesson 1: Describing and Classifying Matter>uInvestigate Lab: Modeling Atoms and Molecules;>Interactivity: Molecules and Extended Structures Atoms and Chemical Reactions: Atoms and the Periodic Table >Topic Launch: Atoms and the Periodic Table>uConnect Lab: Modeling Matter >Lesson 1: Atomic Theory>uInvestigate Lab: How Far Away is the Electron?</p>
Disciplinary Core Ideas	
PS1.A: Structure and Properties of Matter	
<ul style="list-style-type: none"> • Substances are made from different types of atoms, which combine with one another in various ways. Atoms form molecules that range in size from two to thousands of atoms. 	<p>Structure and Properties of Matter SE/TE: Components of Matter, 8-10</p> <p>Realize™ Digital Resources: Structure and Properties of Matter: Introduction to Matter >Lesson 1: Describing and Classifying Matter>Interactivity: Molecules and Extended Structures</p>
<ul style="list-style-type: none"> • Solids may be formed from molecules, or they may be extended structures with repeating subunits (e.g., crystals). 	<p>Structure and Properties of Matter SE/TE: Types of Solids, 50</p>

**A Correlation of Elevate Science Modules, Grades 6-8 ©2019
To the
Arkansas 2015 Science Standards for Grade 7**

Arkansas 2015 Science Standards Grade 7	Elevate Science ©2019 Grades 6-8 Modules
Science and Engineering Practices	
<ul style="list-style-type: none"> Develop a model to predict and/or describe phenomena. 	<p>Structure and Properties of Matter SE/TE: Model It!, 9</p> <p>Atoms and Chemical Reactions SE/TE: Lesson 1 Check, #5, 13 Topic 1 Review and Assess, #5, 56-57</p> <p>Realize™ Digital Resources: Structure and Properties of Matter: Introduction to Matter >Lesson 1: Describing and Classifying Matter>uInvestigate Lab: Modeling Atoms and Molecules;>Interactivity: Molecules and Extended Structures Atoms and Chemical Reactions: Atoms and the Periodic Table >Topic Launch: Atoms and the Periodic Table>uConnect Lab: Modeling Matter >Lesson 1: Atomic Theory>uInvestigate Lab: How Far Away is the Electron?</p>
Crosscutting Concepts	
Scale, Proportion, and Quantity	
<ul style="list-style-type: none"> Time, space, and energy phenomena can be observed at various scales using models to study systems that are too large or too small. 	<p>Structure and Properties of Matter SE/TE: Model It!, 9 Topic 1 Evidence-Based Assessment, 36-37</p> <p>Atoms and Chemical Reactions SE/TE: The First Theories on Atoms, 6 Lesson 1 Check, #5, 13</p> <p>Realize™ Digital Resources: Structure and Properties of Matter: Introduction to Matter >Lesson 1: Describing and Classifying Matter>uInvestigate Lab: Modeling Atoms and Molecules;>Interactivity: Molecules and Extended Structures Atoms and Chemical Reactions: Atoms and the Periodic Table >Topic Launch: Atoms and the Periodic Table>uConnect Lab: Modeling Matter >Lesson 1: Atomic Theory>uInvestigate Lab: How Far Away is the Electron?</p>

**A Correlation of Elevate Science Modules, Grades 6-8 ©2019
To the
Arkansas 2015 Science Standards for Grade 7**

Arkansas 2015 Science Standards Grade 7	Elevate Science ©2019 Grades 6-8 Modules
<p>Performance Expectation 7-PS1-3: Gather and make sense of information to describe that synthetic materials come from natural resources and impact society.</p>	<p>Atoms and Chemical Reactions SE/TE: Synthetic Materials, 99-102 Impact of Synthetic Materials, 103-104 Case Study: Is Plastic Really So Fantastic?, 106-107 Topic 2 Review and Assess, #17, 108-109</p> <p>Realize™ Digital Resources: Atoms and Chemical Reactions: Chemical Reactions >Lesson 4: Producing Useful Materials>Interactivity: Describe the Impact of Synthetics;>Investigate Lab: Making Plastic From Starch;>Interactivity: The Impact of Synthetics</p>
Disciplinary Core Ideas	
PS1.A: Structure and Properties of Matter	
<ul style="list-style-type: none"> Each pure substance has characteristic physical and chemical properties (for any bulk quantity under given conditions) that can be used to identify it. 	<p>Atoms and Chemical Reactions SE/TE: Properties of Pure Substances, 101</p>
PS1.B: Chemical Reactions	
<ul style="list-style-type: none"> Substances react chemically in characteristic ways. In a chemical process, the atoms that make up the original substances are regrouped into different molecules, and these new substances have different properties from those of the reactants. 	<p>Atoms and Chemical Reactions SE/TE: Building and Breaking Chemical Bonds, 81 Evidence of Chemical Reactions, 82-83 Types of Chemical Reactions, 96 Synthetic Materials, 99-102</p>
Science and Engineering Practices	
Obtaining, Evaluating, and Communicating Information	
<ul style="list-style-type: none"> Gather, read, and synthesize information from multiple appropriate sources and assess the credibility, accuracy, and possible bias of each publication and methods used, and describe how they are supported or now supported by evidence. 	<p>Atoms and Chemical Reactions SE/TE: Accidental Synthetics, 101 Literacy Connection, 103 Reading Check, 104</p> <p>Realize™ Digital Resources: Atoms and Chemical Reactions: Chemical Reactions >Lesson 4: Producing Useful Materials>Investigate Lab: Making Plastic From Starch;>Interactivity: The Impact of Synthetics</p>

**A Correlation of Elevate Science Modules, Grades 6-8 ©2019
To the
Arkansas 2015 Science Standards for Grade 7**

Arkansas 2015 Science Standards Grade 7	Elevate Science ©2019 Grades 6-8 Modules
Crosscutting Concepts	
Structure and Function	
<ul style="list-style-type: none"> Structures can be designed to serve particular functions by taking into account properties of different materials, and how materials can be shaped and used. 	<p>Atoms and Chemical Reactions SE/TE: Lesson 4 Check, #4, 105</p> <p>Realize™ Digital Resources: Atoms and Chemical Reactions: Chemical Reactions >Lesson 4: Producing Useful Materials>uInvestigate Lab: Making Plastic From Starch</p>
Connections to Engineering, Technology, and Applications of Science	
Interdependence of Science, Engineering, and Technology	
<ul style="list-style-type: none"> 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. 	<p>Atoms and Chemical Reactions SE/TE: Synthetic Materials, 99-102 Impact of Synthetic Materials, 103-104</p>
Influence of Science, Engineering and Technology on Society and the Natural World	
<ul style="list-style-type: none"> The uses of technologies and any limitation on their use are driven by individual or societal needs, desires, and values; by the findings of scientific research; and by differences in such factors as climate, natural resources, and economic conditions. Thus technology use varies from region to region and over time. 	<p>Atoms and Chemical Reactions SE/TE: Natural Resources as Building Blocks, 100 Impact of Synthetic Materials, 103-104</p>
<p>Performance Expectation 7-PS1-4: Develop a model that predicts and describes changes in particle motion, temperature, and state of a pure substance when thermal energy is added or removed.</p>	<p>Structure and Properties of Matter SE/TE: Thermal Energy and Temperature, 57 Changes of State Between Solid and Liquid, 58-59 Changes of State Between Liquid and Gas, 60-62 Changing State from Solid to Gas, 63 Model It!, 63 Connect It!, 66 Pressure and Temperature of a Gas, 67-68 Temperature and Volume, 69-70 How Pistons Work, 74 Topic 2 Review and Assess, #11, 78-79 Topic 2 Evidence-Based Assessment, 80-81 uDemonstrate Lab, 82-85</p> <p>Realize™ Digital Resources: Structure and Properties of Matter: Solids, Liquids, and Gases >Lesson 2: Changes of State>Interactivity: States of Matter;>Worksheet: States of Matter;>Interactivity: Thermal Energy and Changes of State</p>

**A Correlation of Elevate Science Modules, Grades 6-8 ©2019
To the
Arkansas 2015 Science Standards for Grade 7**

Arkansas 2015 Science Standards Grade 7	Elevate Science ©2019 Grades 6-8 Modules
Disciplinary Core Ideas	
PS1.A: Structure and Properties of Matter	
<ul style="list-style-type: none"> Gases and liquids are made of molecules or inert atoms that are moving about relative to each other. 	Structure and Properties of Matter SE/TE: Particles of a Liquid, 51 Particles of a Gas, 53
<ul style="list-style-type: none"> In a liquid, the molecules are constantly in contact with others; in a gas, they are widely spaced except when they happen to collide. In a solid, atoms are closely spaced and may vibrate in position but do not change relative locations. 	Structure and Properties of Matter SE/TE: Particles of a Solid, 48 Particles of a Liquid, 51 Particles of a Gas, 53 Topic 2 Review and Assess, #5, 78-79 Realize™ Digital Resources: Structure and Properties of Matter: Solids, Liquids, and Gases >Lesson 1: States of Matter>Investigate Lab: Properties of Matter
<ul style="list-style-type: none"> The changes of state that occur with variations in temperature or pressure can be described and predicted using these models of matter. 	Structure and Properties of Matter SE/TE: Changes of State Between Solid and Liquid, 58-59 Changes of State Between Liquid and Gas, 60-62 Changing State from Solid to Gas, 63 Model It!, 63 Topic 2 Review and Assess, #11, 78-79 Topic 2 Evidence-Based Assessment, 80-81 Realize™ Digital Resources: Structure and Properties of Matter: Solids, Liquids, and Gases >Lesson 2: Changes of State>Interactivity: States of Matter;>Worksheet: States of Matter
PS3.A: Definitions of Energy	
<ul style="list-style-type: none"> The term “heat” as used in everyday language refers both to thermal energy (the motion of atoms or molecules within a substance) and the transfer of that thermal energy from one object to another. In science, heat is used only for this second meaning; it refers to the energy transferred due to the temperature difference between two objects. (secondary) 	Structure and Properties of Matter SE/TE: Thermal Energy, 57

**A Correlation of Elevate Science Modules, Grades 6-8 ©2019
To the
Arkansas 2015 Science Standards for Grade 7**

Arkansas 2015 Science Standards Grade 7	Elevate Science ©2019 Grades 6-8 Modules
<ul style="list-style-type: none"> The temperature of a system is proportional to the average internal kinetic energy and potential energy per atom or molecule (whichever is the appropriate building block for the system's material). The details of that relationship depend on the type of atom or molecule and the interactions among the atoms in the material. Temperature is not a direct measure of a system's total thermal energy. The total thermal energy (sometimes called the total internal energy) of a system depends jointly on the temperature, the total number of atoms in the system, and the state of the material. (secondary) 	<p>Structure and Properties of Matter SE/TE: Temperature and Thermal Energy, 30 Thermal Energy and Temperature, 57</p>
Science and Engineering Practices	
Developing and Using Models	
<ul style="list-style-type: none"> Develop a model to predict and/or describe phenomena. 	<p>Structure and Properties of Matter SE/TE: Model It!, 63 Topic 2 Evidence-Based Assessment, #3, 80-81 uDemonstrate Lab, 82-85</p> <p>Realize™ Digital Resources: Structure and Properties of Matter: Solids, Liquids, and Gases >Lesson 2: Changes of State>Interactivity: States of Matter;>Worksheet: States of Matter</p>
Crosscutting Concepts	
Cause and Effect	
<ul style="list-style-type: none"> Cause and effect relationships may be used to predict phenomena in natural or designed systems. 	<p>Structure and Properties of Matter SE/TE: Write About It, 58 Lesson 2 Check, #1, 64</p>

**A Correlation of Elevate Science Modules, Grades 6-8 ©2019
To the
Arkansas 2015 Science Standards for Grade 7**

Arkansas 2015 Science Standards Grade 7	Elevate Science ©2019 Grades 6-8 Modules
Chemical Reactions	
<p>Performance Expectation 7-PS1-2: Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred.</p>	<p>Structure and Properties of Matter SE/TE: Physical Changes in Matter, 25-26 Chemical Changes in Matter, 27-28</p> <p>Atoms and Chemical Reactions SE/TE: Changing Matter, 79-80 Evidence of Chemical Reactions, 82-83 Lesson 2 Check, #2, 88 Topic 2 Evidence-Based Assessment, 110-111 uDemonstrate Lab, 112-115</p> <p>Realize™ Digital Resources: Structure and Properties of Matter: Introduction to Matter >Lesson 3: Changes in Matter>Inquiry Warm-Up Lab: Is a New Substance Formed?;>uInvestigate Lab: Physical and Chemical Changes;>Quest Check-In Lab: Cinematic Science</p> <p>Atoms and Chemical Reactions: Chemical Reactions >Topic Launch: Chemical Reactions>uConnect Lab: What Happens When Chemicals React? >Lesson 2: Chemical Change>Inquiry Warm-Up Lab: Presto Change-O!;>uInvestigate Lab: Changes in a Burning Candle</p>
Disciplinary Core Ideas	
PS1.A: Structure and Properties of Matter	
<ul style="list-style-type: none"> Each pure substance has characteristic physical and chemical properties (for any bulk quantity under given conditions) that can be used to identify it. 	<p>Structure and Properties of Matter SE/TE: Matter, 5-7 Using Density, 20 Math Toolbox, 20</p> <p>Atoms and Chemical Reactions SE/TE: Properties of Pure Substances, 101</p> <p>Realize™ Digital Resources: Structure and Properties of Matter: Introduction to Matter >Lesson 2: Measuring Matter>uInvestigate Lab: Observing Physical Properties</p>

**A Correlation of Elevate Science Modules, Grades 6-8 ©2019
To the
Arkansas 2015 Science Standards for Grade 7**

Arkansas 2015 Science Standards Grade 7	Elevate Science ©2019 Grades 6-8 Modules
PS1.B: Chemical Reactions	
<ul style="list-style-type: none"> Substances react chemically in characteristic ways. In a chemical process, the atoms that make up the original substances are regrouped into different molecules, and these new substances have different properties from those of the reactants. 	<p>Structure and Properties of Matter SE/TE: Chemical Changes in Matter, 27-28 Math Toolbox, 29</p> <p>Atoms and Chemical Reactions SE/TE: Chemical Change, 80 Building and Breaking Chemical Bonds, 81 Evidence of Chemical Reactions, 82-83 Types of Chemical Reactions, 96</p>
Science and Engineering Practices	
Analyzing and Interpreting Data	
<ul style="list-style-type: none"> Analyze and interpret data to determine similarities and differences in findings. 	<p>Atoms and Chemical Reactions SE/TE: Lesson 2 Check, #2, 88 Topic 2 Evidence-Based Assessment, #4, 110-111</p> <p>Realize™ Digital Resources: Structure and Properties of Matter: Introduction to Matter >Lesson 3: Changes in Matter>uInvestigate Lab: Physical and Chemical Changes;>Quest Check-In Lab: Cinematic Science Atoms and Chemical Reactions: Chemical Reactions >Topic Launch: Chemical Reactions>uConnect Lab: What Happens When Chemicals React? >Lesson 2: Chemical Change>Inquiry Warm-Up Lab: Presto Change-O!</p>
Connections to Nature of Science	
Scientific Knowledge is Based on Empirical Evidence	
<ul style="list-style-type: none"> Science knowledge is based upon logical and conceptual connections between evidence and explanations. 	<p>Structure and Properties of Matter SE/TE: Math Toolbox, 29 Lesson 3 Check, #2, 32</p> <p>Atoms and Chemical Reactions SE/TE: Literacy Connection, 80 Topic 2 Evidence-Based Assessment, #4, 110-111</p> <p>Realize™ Digital Resources: Structure and Properties of Matter: Introduction to Matter >Lesson 3: Changes in Matter>uInvestigate Lab: Physical and Chemical Changes;>Quest Check-In Lab: Cinematic Science</p>

**A Correlation of Elevate Science Modules, Grades 6-8 ©2019
To the
Arkansas 2015 Science Standards for Grade 7**

Arkansas 2015 Science Standards Grade 7	Elevate Science ©2019 Grades 6-8 Modules
Continued:	Realize™ continued: Atoms and Chemical Reactions: Chemical Reactions >Topic Launch: Chemical Reactions>uConnect Lab: What Happens When Chemicals React? >Lesson 2: Chemical Change>Inquiry Warm-Up Lab: Presto Change-O!;>uInvestigate Lab: Changes in a Burning Candle
Performance Expectation MS-PS1-5: Develop and use a model to describe how the total number of atoms does not change in a chemical reaction and thus mass is conserved.	Atoms and Chemical Reactions SE/TE: Chemical Equations, 91-93 Model It!, 92 Law of Conservation of Mass, 94-95 Topic 2 Evidence-Based Assessment, 110-111 Realize™ Digital Resources: Atoms and Chemical Reactions: Chemical Reactions >Lesson 3: Modeling Chemical Reactions>uInvestigate Lab: Is Matter Conserved?;>Interactivity: Model the Conservation of Mass
Disciplinary Core Ideas	
PS1.B: Chemical Reactions	
<ul style="list-style-type: none"> Substances react chemically in characteristic ways. In a chemical process, the atoms that make up the original substances are regrouped into different molecules, and these new substances have different properties from those of the reactants. 	Atoms and Chemical Reactions SE/TE: Building and Breaking Chemical Bonds, 81 Types of Chemical Reactions, 96
<ul style="list-style-type: none"> The total number of each type of atom is conserved, and thus the mass does not change. 	Atoms and Chemical Reactions SE/TE: Model It!, 92 Law of Conservation of Mass, 94-95 Realize™ Digital Resources: Atoms and Chemical Reactions: Chemical Reactions >Lesson 3: Modeling Chemical Reactions>uInvestigate Lab: Is Matter Conserved?

**A Correlation of Elevate Science Modules, Grades 6-8 ©2019
To the
Arkansas 2015 Science Standards for Grade 7**

Arkansas 2015 Science Standards Grade 7	Elevate Science ©2019 Grades 6-8 Modules
Science and Engineering Practices	
Developing and Using Models	
<ul style="list-style-type: none"> Develop a model to describe unobservable mechanisms. 	<p>Atoms and Chemical Reactions SE/TE: Model It!, 92 Topic 2 Evidence-Based Assessment, #3, 110-111</p> <p>Realize™ Digital Resources: Atoms and Chemical Reactions: Chemical Reactions >Lesson 3: Modeling Chemical Reactions>Investigate Lab: Is Matter Conserved?>Interactivity: Model the Conservation of Mass</p>
Connections to Nature of Science	
Science Models, Laws, Mechanisms, and Theories Explain Natural Phenomena	
<ul style="list-style-type: none"> Laws are regularities or mathematical descriptions of natural phenomena. 	<p>Atoms and Chemical Reactions SE/TE: Law of Conservation of Mass, 94-95</p>
Crosscutting Concepts	
Energy and Matter	
<ul style="list-style-type: none"> Matter is conserved because atoms are conserved in physical and chemical processes. 	<p>Atoms and Chemical Reactions SE/TE: Model It!, 92 Law of Conservation of Mass, 94-95</p> <p>Realize™ Digital Resources: Atoms and Chemical Reactions: Chemical Reactions >Lesson 3: Modeling Chemical Reactions>Interactivity: Model the Conservation of Mass</p>
<p>Performance Expectation MS-PS1-6: Undertake a design project to construct, test, and modify a device that either releases or absorbs thermal energy by chemical processes.</p>	<p>Atoms and Chemical Reactions SE/TE: Quest Kickoff, 66-67 Changes in Energy, 84</p> <p>Realize™ Digital Resources: Atoms and Chemical Reactions: Chemical Reactions >Topic Launch: Chemical Reactions>Quest Kickoff: Hot and Cool Chemistry >Lesson 1: Mixtures and Solutions>Quest Check-In Lab: Energy Salts >Lesson 2: Chemical Change>Quest Check-In Interactivity: Design Your Pack >Lesson 3: Modeling Chemical Reactions>Quest Check-In Lab: Pack Building >Lesson 4: Producing Useful Materials>Quest Check-In Lab: Heat It Up or Ice It Down</p>

**A Correlation of Elevate Science Modules, Grades 6-8 ©2019
To the
Arkansas 2015 Science Standards for Grade 7**

Arkansas 2015 Science Standards Grade 7	Elevate Science ©2019 Grades 6-8 Modules
Disciplinary Core Ideas	
PS1.B: Chemical Reactions	
<ul style="list-style-type: none"> Some chemical reactions release energy, others store energy. 	<p>Atoms and Chemical Reactions SE/TE: Changes in Energy, 84 Energy Graphs for Chemical Reactions, 85</p> <p>Realize™ Digital Resources: Atoms and Chemical Reactions: Chemical Reactions >Lesson 2: Chemical Change>Interactivity: Analyze Exothermic and Endothermic Graphs</p>
ETS1.B: Developing Possible Solutions	
<ul style="list-style-type: none"> A solution needs to be tested, and then modified on the basis of the test results, in order to improve it. (secondary) 	<p>Atoms and Chemical Reactions SE/TE: Test and Evaluate a Solution, 126</p> <p>Realize™ Digital Resources: Atoms and Chemical Reactions: Chemical Reactions >Lesson 3: Modeling Chemical Reactions>Quest Check-In Lab: Pack Building >Lesson 4: Producing Useful Materials>Quest Check-In Lab: Heat It Up or Ice It Down</p>
ETS1.C: Optimizing the Design Solution	
<ul style="list-style-type: none"> Although one design may not perform the best across all tests, identifying the characteristics of the design that performed the best in each test can provide useful information for the redesign process - that is, some of the characteristics may be incorporated into the new design. (secondary) 	<p>Atoms and Chemical Reactions SE/TE: Redesign and Retest the Solution, 127</p> <p>Realize™ Digital Resources: Atoms and Chemical Reactions: Chemical Reactions >Lesson 3: Modeling Chemical Reactions>Quest Check-In Lab: Pack Building >Lesson 4: Producing Useful Materials>Quest Check-In Lab: Heat It Up or Ice It Down</p>
<ul style="list-style-type: none"> The iterative process of testing the most promising solutions and modifying what is proposed on the basis of the test results leads to greater refinement and ultimately to an optimal solution. (secondary) 	<p>Atoms and Chemical Reactions SE/TE: Test and Evaluate a Solution, 126 Redesign and Retest the Solution, 127</p> <p>Realize™ Digital Resources: Atoms and Chemical Reactions: Chemical Reactions >Lesson 3: Modeling Chemical Reactions>Quest Check-In Lab: Pack Building >Lesson 4: Producing Useful Materials>Quest Check-In Lab: Heat It Up or Ice It Down</p>

**A Correlation of Elevate Science Modules, Grades 6-8 ©2019
To the
Arkansas 2015 Science Standards for Grade 7**

Arkansas 2015 Science Standards Grade 7	Elevate Science ©2019 Grades 6-8 Modules
Science and Engineering Practices	
Constructing Explanations and Designing Solutions	
<ul style="list-style-type: none"> Undertake a design project, engaging in the design cycle, to construct and/or implement a solution that meets specific design criteria and constraints. 	<p>Atoms and Chemical Reactions SE/TE: Quest Kickoff, 66-67</p> <p>Realize™ Digital Resources: Atoms and Chemical Reactions: Chemical Reactions >Topic Launch: Chemical Reactions>Quest Kickoff: Hot and Cool Chemistry >Lesson 1: Mixtures and Solutions>Quest Check-In Lab: Energy Salts >Lesson 2: Chemical Change>Quest Check-In Interactivity: Design Your Pack >Lesson 3: Modeling Chemical Reactions>Quest Check-In Lab: Pack Building >Lesson 4: Producing Useful Materials>Quest Check-In Lab: Heat It Up or Ice It Down</p>
Crosscutting Concepts	
Energy and Matter	
<ul style="list-style-type: none"> The transfer of energy can be tracked as energy flows through a designed or natural system. 	<p>Atoms and Chemical Reactions SE/TE: Changes in Energy, 84 Energy Graphs for Chemical Reactions, 85</p> <p>Realize™ Digital Resources: Atoms and Chemical Reactions: Chemical Reactions >Lesson 1: Mixtures and Solutions>Quest Check-In Lab: Energy Salts</p>
Crosscutting Concepts	
Patterns	
<ul style="list-style-type: none"> Macroscopic patterns are related to the nature of microscopic and atomic-level structure. 	<p>Atoms and Chemical Reactions SE/TE: Building and Breaking Chemical Bonds, 81 uDemonstrate Lab, 112-115</p>
Interdependent Relationships in Ecosystems	
<p>Performance Expectation 7-LS2-2: Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.</p>	<p>Relationships Within Ecosystems SE/TE: Competition and Predation, 81-83 Symbiotic Relationships, 84-86 Lesson 1 Check, #4, 87 Topic 3 Review and Assess, #5, 120-121</p> <p>Realize™ Digital Resources: Relationships Within Ecosystems: Populations, Communities, and Ecosystems >Lesson 1: Interactions in Ecosystems>Interactivity: Symbiotic Relationships;>uInvestigate Lab: Competition and Predation;>Interactivity: Shared Interactions</p>

**A Correlation of Elevate Science Modules, Grades 6-8 ©2019
To the
Arkansas 2015 Science Standards for Grade 7**

Arkansas 2015 Science Standards Grade 7	Elevate Science ©2019 Grades 6-8 Modules
Disciplinary Core Ideas	
LS2.A: Interdependent Relationships in Ecosystems	
<ul style="list-style-type: none"> Similarly, predatory interactions may reduce the number of organisms or eliminate whole populations of organisms. Mutually beneficial interactions, in contrast, may become so interdependent that each organism requires the other for survival. Although the species involved in these competitive, predatory, and mutually beneficial interactions vary across ecosystems, the patterns of interactions of organisms with their environments, both living and nonliving, are shared. 	<p>Relationships Within Ecosystems SE/TE: Competition and Predation, 81-83 Mutualism, 84 Ecosystem Disruptions and Population Survival, 92-93 Case Study: The Dependable Elephant, 108-109</p> <p>Realize™ Digital Resources: Relationships Within Ecosystems: Populations, Communities, and Ecosystems >Lesson 1: Interactions in Ecosystems>Interactivity: Shared Interactions</p>
Science and Engineering Practices	
Constructing Explanations and Designing Solutions	
<ul style="list-style-type: none"> Construct an explanation that includes qualitative or quantitative relationships between variables that predict phenomena. 	<p>Relationships Within Ecosystems SE/TE: Lesson 1 Check, #4, 87 Topic 3 Review and Assess, #5, 120-121</p> <p>Realize™ Digital Resources: Relationships Within Ecosystems: Populations, Communities, and Ecosystems >Lesson 1: Interactions in Ecosystems>Interactivity: Symbiotic Relationships;>uInvestigate Lab: Competition and Predation;>Interactivity: Shared Interactions</p>
Crosscutting Concepts	
Patterns	
<ul style="list-style-type: none"> Patterns can be used to identify cause and effect relationships. 	<p>Realize™ Digital Resources: Relationships Within Ecosystems: Populations, Communities, and Ecosystems >Lesson 1: Interactions in Ecosystems>Interactivity: Symbiotic Relationships;>uInvestigate Lab: Competition and Predation;>Interactivity: Shared Interactions</p>

**A Correlation of Elevate Science Modules, Grades 6-8 ©2019
To the
Arkansas 2015 Science Standards for Grade 7**

Arkansas 2015 Science Standards Grade 7	Elevate Science ©2019 Grades 6-8 Modules
Performance Expectation 7-LS2-5: Evaluate competing design solutions for maintaining biodiversity and ecosystem services.	<p>Relationships Within Ecosystems SE/TE: Quest Kickoff, 76-77 Biodiversity in Ecosystems, 115 Design It!, 117 uEngineer It!, 119</p> <p>Realize™ Digital Resources: Relationships Within Ecosystems: Populations, Communities, and Ecosystems >Topic Launch: Populations, Communities, and Ecosystems>Quest Kickoff: To Cross or Not to Cross >Lesson 3: Biodiversity>Quest Check-In Lab: Design and Model a Crossing >Lesson 4: Ecosystem Services>uInvestigate Lab: Ecosystem Impacts;>uEngineer It! Interactivity: Maintaining Marine Ecosystems;>Interactivity: Walk This Way or That Way</p>
Disciplinary Core Ideas	
LS2.C: Ecosystem Dynamics, Functioning, and Resilience	
<ul style="list-style-type: none"> Biodiversity describes the variety of species found in Earth's terrestrial and oceanic ecosystems. The completeness or integrity of an ecosystem's biodiversity is often used as a measure of its health. 	<p>Relationships Within Ecosystems SE/TE: The Value of Biodiversity, 97-99 Lesson 3 Check, #2, 107</p>
LS4.D: Biodiversity and Humans	
<ul style="list-style-type: none"> Changes in biodiversity can influence humans' resources, such as food, energy, and medicines, as well as ecosystem services that humans rely on—for example, water purification and recycling.(secondary) 	<p>Relationships Within Ecosystems SE/TE: Economic Value, 98 Damaging Biodiversity, 104 Ecosystem Services, 111-113 Factors Impacting Ecosystem Diversity, 115-116</p>
ETS1.B: Developing Possible Solutions	
<ul style="list-style-type: none"> There are systematic processes for evaluating solutions with respect to how well they meet the criteria and constraints of a problem. (secondary) 	<p>Relationships Within Ecosystems SE/TE: Biodiversity in Ecosystems, 115 Design It!, 117</p> <p>Realize™ Digital Resources: Relationships Within Ecosystems: Populations, Communities, and Ecosystems >Lesson 3: Biodiversity>Quest Check-In Lab: Design and Model a Crossing >Lesson 4: Ecosystem Services>uInvestigate Lab: Ecosystem Impacts</p>

**A Correlation of Elevate Science Modules, Grades 6-8 ©2019
To the
Arkansas 2015 Science Standards for Grade 7**

Arkansas 2015 Science Standards Grade 7	Elevate Science ©2019 Grades 6-8 Modules
Science and Engineering Practices	
<ul style="list-style-type: none"> Evaluate competing design solutions based on jointly developed and agreed- upon design criteria. 	<p>Relationships Within Ecosystems SE/TE: Design It!, 117</p> <p>Realize™ Digital Resources: Relationships Within Ecosystems: Populations, Communities, and Ecosystems >Lesson 3: Biodiversity>Quest Check-In Lab: Design and Model a Crossing >Lesson 4: Ecosystem Services>Investigate Lab: Ecosystem Impacts</p>
Crosscutting Concepts	
Stability and Change	
<ul style="list-style-type: none"> Small changes in one part of a system might cause large changes in another part. 	<p>Relationships Within Ecosystems SE/TE: Quest Check-In, 107</p> <p>Realize™ Digital Resources: Relationships Within Ecosystems: Populations, Communities, and Ecosystems >Lesson 3: Biodiversity>Quest Check-In Lab: Design and Model a Crossing</p>
Connections to Engineering, Technology, and Applications of Science	
Influence of Science, Engineering, and Technology on Society and the Natural World	
<ul style="list-style-type: none"> The use of technologies and any limitations on their use are driven by individual or societal needs, desires, and values; by the findings of scientific research; and by differences in such factors as climate, natural resources, and economic conditions. Thus technology use varies from region to region and over time. 	<p>Relationships Within Ecosystems SE/TE: Quest Kickoff, 76-77</p> <p>Realize™ Digital Resources: Relationships Within Ecosystems: Populations, Communities, and Ecosystems >Topic Launch: Populations, Communities, and Ecosystems>Quest Kickoff: To Cross or Not to Cross >Lesson 3: Biodiversity>Quest Check-In Lab: Design and Model a Crossing</p>
Connections to Nature of Science	
Science Addresses Questions About the Natural and Material World	
<ul style="list-style-type: none"> Scientific knowledge can describe the consequences of actions but does not necessarily prescribe the decisions that society takes. 	<p>Relationships Within Ecosystems SE/TE: Human Activities, 116 Conservation, 117</p> <p>Realize™ Digital Resources: Relationships Within Ecosystems: Populations, Communities, and Ecosystems >Lesson 4: Ecosystem Services>Interactivity: Walk This Way or That Way</p>

**A Correlation of Elevate Science Modules, Grades 6-8 ©2019
To the
Arkansas 2015 Science Standards for Grade 7**

Arkansas 2015 Science Standards Grade 7	Elevate Science ©2019 Grades 6-8 Modules
Matter and Energy in Organisms and Ecosystems	
<p>Performance Expectation 7-LS1-6: Construct a scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms.</p>	<p>Relationships Within Ecosystems SE/TE: Living Things and Energy, 5-7 Photosynthesis, 8-9 Expressing Photosynthesis, 10-11 Lesson 1 Check, #4, #5, 12 Topic 1 Evidence-Based Assessment, 26-27 Quest Findings, 27 uDemonstrate Lab, 28-31</p> <p>Realize™ Digital Resources: Relationships Within Ecosystems: Cell Processes >Lesson 1: Photosynthesis>Interactivity: Making Food for Cells</p>
Disciplinary Core Ideas	
LS1.C: Organization for Matter and Energy Flow in Organisms	
<ul style="list-style-type: none"> Plants, algae (including phytoplankton), and many microorganisms use the energy from light to make sugars (food) from carbon dioxide from the atmosphere and water through the process of photosynthesis, which also releases oxygen. These sugars can be used immediately or stored for growth or later use. 	<p>Relationships Within Ecosystems SE/TE: Living Things and Energy, 5-7 Photosynthesis, 8-9 Expressing Photosynthesis, 10 uDemonstrate Lab, 28-31</p> <p>Realize™ Digital Resources: Relationships Within Ecosystems: Cell Processes >Lesson 1: Photosynthesis>Interactivity: Making Food for Cells</p>
PS3.D: Energy in Chemical Processes and Everyday Life	
<ul style="list-style-type: none"> The chemical reaction by which plants produce complex food molecules (sugars) requires an energy input (i.e., from sunlight) to occur. In this reaction, carbon dioxide and water combine to form carbon-based organic molecules and release oxygen. (secondary) 	<p>Relationships Within Ecosystems SE/TE: Photosynthesis, 8-9 Expressing Photosynthesis, 10</p> <p>Realize™ Digital Resources: Relationships Within Ecosystems: Cell Processes >Lesson 1: Photosynthesis>Interactivity: Making Food for Cells</p>
Science and Engineering Practices	
Constructing Explanations and Designing Solutions	
<ul style="list-style-type: none"> Construct a scientific explanation based on valid and reliable evidence obtained from sources (including the students' own experiments) and the assumption that theories and laws that describe the natural world operate today as they did in the past and will continue to do so in the future. 	<p>Relationships Within Ecosystems SE/TE: Lesson 1 Check, #4, 12</p> <p>Realize™ Digital Resources: Relationships Within Ecosystems: Cell Processes >Lesson 1: Photosynthesis>Interactivity: Making Food for Cells</p>

**A Correlation of Elevate Science Modules, Grades 6-8 ©2019
To the
Arkansas 2015 Science Standards for Grade 7**

Arkansas 2015 Science Standards Grade 7	Elevate Science ©2019 Grades 6-8 Modules
Connections to Nature of Science	
Scientific Knowledge is Based on Empirical Evidence	
<ul style="list-style-type: none"> Science knowledge is based upon logical connections between evidence and explanations. 	<p>Relationships Within Ecosystems SE/TE: Topic 1 Evidence-Based Assessment, 26-27</p> <p>Realize™ Digital Resources: Relationships Within Ecosystems: Cell Processes >Lesson 1: Photosynthesis>Interactivity: Making Food for Cells</p>
Crosscutting Concepts	
Energy and Matter	
<ul style="list-style-type: none"> Within a natural system, the transfer of energy drives the motion and/or cycling of matter. 	<p>Relationships Within Ecosystems SE/TE: Stage 1: Trapping the Sun’s Energy, 8 Quest Findings, 27 uDemonstrate Lab, 28-31</p> <p>Realize™ Digital Resources: Relationships Within Ecosystems: Cell Processes >Lesson 1: Photosynthesis>Interactivity: Making Food for Cells</p>
<p>Performance Expectation 7-LS1-7: Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.</p>	<p>Relationships Within Ecosystems SE/TE: Energy and Cellular Respiration, 17-20 Model It!, 19 Lesson 2 Check, #2, 22 Topic 1 Review and Assess, #16, 24-25 uDemonstrate Lab, 28-31</p> <p>Realize™ Digital Resources: Relationships Within Ecosystems: Cell Processes >Lesson 2: Cellular Respiration>Interactivity: Making Energy for Cells;>uInvestigate Lab: Exhaling Carbon Dioxide;>Interactivity: Energy to Food and Food to Energy</p>
Disciplinary Core Ideas	
LS1.C: Organization for Matter and Energy Flow in Organisms	
<ul style="list-style-type: none"> Within individual organisms, food moves through a series of chemical reactions in which it is broken down and rearranged to form new molecules, to support growth, or to release energy. 	<p>Relationships Within Ecosystems SE/TE: Energy and Cellular Respiration, 17-20 Lesson 2 Check, #4, 22</p> <p>Realize™ Digital Resources: Relationships Within Ecosystems: Cell Processes >Lesson 2: Cellular Respiration>Interactivity: Making Energy for Cells</p>

**A Correlation of Elevate Science Modules, Grades 6-8 ©2019
To the
Arkansas 2015 Science Standards for Grade 7**

Arkansas 2015 Science Standards Grade 7	Elevate Science ©2019 Grades 6-8 Modules
PS3.D: Energy in Chemical Processes and Everyday Life	
<ul style="list-style-type: none"> Cellular respiration in plants and animals involve chemical reactions with oxygen that release stored energy. In these processes, complex molecules containing carbon react with oxygen to produce carbon dioxide and other materials. 	<p>Relationships Within Ecosystems SE/TE: The Big Picture of Photosynthesis, 8 Energy and Cellular Respiration, 17-20 Lesson 2 Check, #1, 22</p> <p>Realize™ Digital Resources: Relationships Within Ecosystems: Cell Processes >Lesson 2: Cellular Respiration>Interactivity: Making Energy for Cells</p>
Science and Engineering Practices	
Developing and Using Models	
<ul style="list-style-type: none"> Develop a model to describe unobservable mechanisms. 	<p>Relationships Within Ecosystems SE/TE: Model It!, 19 Lesson 2 Check, #2, 22 Topic 1 Review and Assess, #16, 24-25 uDemonstrate Lab, 28-31</p> <p>Realize™ Digital Resources: Relationships Within Ecosystems: Cell Processes >Lesson 2: Cellular Respiration>uInvestigate Lab: Exhaling Carbon Dioxide</p>
Crosscutting Concepts	
Energy and Matter	
<ul style="list-style-type: none"> Matter is conserved because atoms are conserved in physical and chemical processes. 	<p>Relationships Within Ecosystems SE/TE: Math Toolbox, 20</p>
<p>Performance Expectation 7-LS2-1: Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.</p>	<p>Relationships Within Ecosystems SE/TE: Levels of Organization, 39 Math Toolbox, 40 Factors That Limit Population Growth, 42 Case Study: The Case of the Disappearing Cerulean Warbler, 44-45 Topic 2 Review and Assess, #5, 66-67 uDemonstrate Lab, 70-73 Math Toolbox, 83 Ecosystem Disruptions and Population Survival, 92-93 Topic 3 Evidence-Based Assessment, 122-123 uDemonstrate Lab, 124-127</p> <p>Realize™ Digital Resources: Relationships Within Ecosystems: Ecosystems >Lesson 1: Living Things and the Environment>Interactivity: An Ecological Mystery;>uInvestigate Lab: Elbow Room Relationships Within Ecosystems: Populations, Communities, and Ecosystems >Lesson 2: Dynamic and Resilient Ecosystems>Interactivity: A Butterfly Mystery</p>

**A Correlation of Elevate Science Modules, Grades 6-8 ©2019
To the
Arkansas 2015 Science Standards for Grade 7**

Arkansas 2015 Science Standards Grade 7	Elevate Science ©2019 Grades 6-8 Modules
Disciplinary Core Ideas	
LS2.A: Interdependent Relationships in Ecosystems	
<ul style="list-style-type: none"> Organisms, and populations of organisms, are dependent on their environmental interactions both with other living things and with nonliving factors. 	<p>Relationships Within Ecosystems SE/TE: Connect It!, 36 Organisms and Habitats, 37-38 Mutualism and Commensalism, 85 Ecosystem Disruptions and Population Survival, 92-93 Case Study: The Dependable Elephant, 108-109</p> <p>Realize™ Digital Resources: Relationships Within Ecosystems: Ecosystems >Lesson 1: Living Things and the Environment>Interactivity: An Ecological Mystery</p>
<ul style="list-style-type: none"> In any ecosystem, organisms and populations with similar requirements for food, water, oxygen, or other resources may compete with each other for limited resources, access to which consequently constrains their growth and reproduction. 	<p>Relationships Within Ecosystems SE/TE: Space and Shelter, 42 Competition and Predation, 81-83</p> <p>Realize™ Digital Resources: Relationships Within Ecosystems: Populations, Communities, and Ecosystems >Lesson 1: Interactions in Ecosystems>Investigate Lab: Competition and Predation</p>
<ul style="list-style-type: none"> Growth of organisms and population increases are limited by access to resources. 	<p>Relationships Within Ecosystems SE/TE: Factors That Limit Population Growth, 42</p> <p>Realize™ Digital Resources: Relationships Within Ecosystems: Ecosystems >Lesson 1: Living Things and the Environment>Investigate Lab: Elbow Room</p>
Science and Engineering Practices	
<ul style="list-style-type: none"> Analyze and interpret data to provide evidence for phenomena. 	<p>Relationships Within Ecosystems SE/TE: Math Toolbox, 40</p> <p>Realize™ Digital Resources: Relationships Within Ecosystems: Ecosystems >Lesson 1: Living Things and the Environment>Interactivity: An Ecological Mystery;>Investigate Lab: Elbow Room</p> <p>Relationships Within Ecosystems: Populations, Communities, and Ecosystems >Lesson 2: Dynamic and Resilient Ecosystems>Interactivity: A Butterfly Mystery</p>

**A Correlation of Elevate Science Modules, Grades 6-8 ©2019
To the
Arkansas 2015 Science Standards for Grade 7**

Arkansas 2015 Science Standards Grade 7	Elevate Science ©2019 Grades 6-8 Modules
Crosscutting Concepts	
<ul style="list-style-type: none"> • Cause and effect relationships may be used to predict phenomena in natural or designed systems. 	<p>Relationships Within Ecosystems SE/TE: Limited Space, 42 Quest Check-In, 43</p> <p>Realize™ Digital Resources: Relationships Within Ecosystems: Ecosystems >Lesson 1: Living Things and the Environment>Interactivity: An Ecological Mystery</p> <p>Relationships Within Ecosystems: Populations, Communities, and Ecosystems >Lesson 2: Dynamic and Resilient Ecosystems>Interactivity: A Butterfly Mystery</p>
<p>Performance Expectation 7-LS2-3: Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.</p>	<p>Relationships Within Ecosystems SE/TE: Energy Roles in an Ecosystem, 47-49 Energy and Matter Transfer, 50-53 Model It!, 51 Model It!, 58 Water Cycle, 58-59 Carbon and Oxygen Cycles, 60-61 Nitrogen Cycles in Ecosystems, 62-63 Lesson 3 Check, #3, 64 Topic 2 Review and Assess, #9, 66-67 Topic 2 Evidence-Based Assessment, 68-69 uDemonstrate Lab, 70-73 Interactions Between Cycles of an Ecosystem, 114</p> <p>Realize™ Digital Resources: Relationships Within Ecosystems: Ecosystems >Lesson 2: Energy Flows in Ecosystems>Interactivity: Energy Roles and Flows;>Enrichment: Building an Ocean Food Web >Lesson 3: Cycles of Matter>uInvestigate Lab: Following Water;>Interactivity: Earth’s Recyclables</p>

**A Correlation of Elevate Science Modules, Grades 6-8 ©2019
To the
Arkansas 2015 Science Standards for Grade 7**

Arkansas 2015 Science Standards Grade 7	Elevate Science ©2019 Grades 6-8 Modules
Disciplinary Core Ideas	
LS2.B: Cycle of Matter and Energy Transfer in Ecosystems	
<ul style="list-style-type: none"> • Food webs are models that demonstrate how matter and energy is transferred between producers, consumers, and decomposers as the three groups interact within an ecosystem. Transfers of matter into and out of the physical environment occur at every level. Decomposers recycle nutrients from dead plant or animal matter back to the soil in terrestrial environments or to the water in aquatic environments. The atoms that make up the organisms in an ecosystem are cycled repeatedly between the living and nonliving parts of the ecosystem. 	<p>Relationships Within Ecosystems SE/TE: Energy Roles in an Ecosystem, 47-49 Food Webs, 50 Model It!, 51 Energy Pyramids, 52 Conservation of Matter and Energy, 57 Water Cycle, 58-59 Carbon and Oxygen Cycles, 60-61 Nitrogen Cycles in Ecosystems, 62-63 Topic 2 Review and Assess, #9, #16, #17, 66-67 Topic 2 Evidence-Based Assessment, 68-69 uDemonstrate Lab, 70-73</p> <p>Realize™ Digital Resources: Relationships Within Ecosystems: Ecosystems >Lesson 2: Energy Flows in Ecosystems>uInvestigate Lab: Observing Decomposition;>Enrichment: Building an Ocean Food Web >Lesson 3: Cycles of Matter>Interactivity: Cycles of Matter</p>
Science and Engineering Practices	
Developing and Using Models	
<ul style="list-style-type: none"> • Develop a model to describe phenomena. 	<p>Relationships Within Ecosystems SE/TE: Model It!, 51 Model It!, 58 Lesson 3 Check, #3, 64 Topic 2 Review and Assess, #9, 66-67 uDemonstrate Lab, 70-73</p> <p>Realize™ Digital Resources: Relationships Within Ecosystems: Ecosystems >Lesson 2: Energy Flows in Ecosystems>Enrichment: Building an Ocean Food Web >Lesson 3: Cycles of Matter>uInvestigate Lab: Following Water;>Interactivity: Earth’s Recyclables</p>

**A Correlation of Elevate Science Modules, Grades 6-8 ©2019
To the
Arkansas 2015 Science Standards for Grade 7**

Arkansas 2015 Science Standards Grade 7	Elevate Science ©2019 Grades 6-8 Modules
Crosscutting Concepts	
Energy and Matter	
<ul style="list-style-type: none"> The transfer of energy can be tracked as energy flows through a natural system. 	<p>Relationships Within Ecosystems SE/TE: Energy Pyramids, 52 Energy Availability, 53 Math Toolbox, 53</p> <p>Realize™ Digital Resources: Relationships Within Ecosystems: Ecosystems >Lesson 2: Energy Flows in Ecosystems>Interactivity: Energy Roles and Flows;>Enrichment: Building an Ocean Food Web</p>
Connections to Nature of Science	
Scientific Knowledge Assumes an Order and Consistency in Natural Systems	
<ul style="list-style-type: none"> Science assumes that objects and events in natural systems occur in consistent patterns that are understandable through measurement and observation. 	<p>Relationships Within Ecosystems SE/TE: Energy Pyramids, 52 Energy Availability, 53 Math Toolbox, 53 Lesson 2 Check, #4, 54 Conservation of Matter and Energy, 57</p>
<p>Performance Expectation 7-LS2-4: Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.</p>	<p>Relationships Within Ecosystems SE/TE: Succession, 89-91 Ecosystem Disruptions and Population Survival, 92-93 Lesson 2 Check, #2, 94 Case Study: The Dependable Elephant, 108-109 Connect It!, 110 Topic 3 Evidence-Based Assessment, 122-123 uDemonstrate Lab, 124-127</p> <p>Realize™ Digital Resources: Relationships Within Ecosystems: Populations, Communities, and Ecosystems >Topic Launch: Populations, Communities, and Ecosystems>uConnect Lab: How Communities Change >Lesson 2: Dynamic and Resilient Ecosystems>Interactivity: Succession in an Ecosystem;>Interactivity: A Butterfly Mystery</p>

**A Correlation of Elevate Science Modules, Grades 6-8 ©2019
To the
Arkansas 2015 Science Standards for Grade 7**

Arkansas 2015 Science Standards Grade 7	Elevate Science ©2019 Grades 6-8 Modules
Disciplinary Core Ideas	
LS2.C: Ecosystem Dynamics, Functioning, and Resilience	
<ul style="list-style-type: none"> Ecosystems are dynamic in nature; their characteristics can vary over time. Disruptions to any physical or biological component of an ecosystem can lead to shifts in all its populations. 	<p>Relationships Within Ecosystems SE/TE: Case Study: The Case of the Disappearing Cerulean Warbler, 44-45 Succession, 89-91 Ecosystem Disruptions and Population Survival, 92-93 Damaging Biodiversity, 104</p> <p>Realize™ Digital Resources: Relationships Within Ecosystems: Populations, Communities, and Ecosystems >Lesson 2: Dynamic and Resilient Ecosystems>Interactivity: Succession in an Ecosystem;>Interactivity: A Butterfly Mystery</p>
Science and Engineering Practices	
<ul style="list-style-type: none"> Construct an oral and written argument supported by empirical evidence and scientific reasoning to support or refute an explanation or a model for a phenomenon or a solution to a problem. 	<p>Relationships Within Ecosystems SE/TE: Secondary Succession, 91 Lesson 2 Check, #2, 94</p> <p>Realize™ Digital Resources: Relationships Within Ecosystems: Populations, Communities, and Ecosystems >Lesson 2: Dynamic and Resilient Ecosystems>Interactivity: A Butterfly Mystery</p>
Connections to Nature of Science	
Scientific Knowledge is Based on Empirical Evidence	
<ul style="list-style-type: none"> Science disciplines share common rules of obtaining and evaluating empirical evidence. 	<p>Realize™ Digital Resources: Relationships Within Ecosystems: Populations, Communities, and Ecosystems >Lesson 2: Dynamic and Resilient Ecosystems>Interactivity: A Butterfly Mystery</p>
Crosscutting Concepts	
Stability and Change	
<ul style="list-style-type: none"> Small changes in one part of a system might cause large changes in another part. 	<p>Relationships Within Ecosystems SE/TE: Secondary Succession, 91 Changes to Populations, 92</p> <p>Realize™ Digital Resources: Relationships Within Ecosystems: Populations, Communities, and Ecosystems >Lesson 2: Dynamic and Resilient Ecosystems>Interactivity: Succession in an Ecosystem;>Interactivity: A Butterfly Mystery</p>

**A Correlation of Elevate Science Modules, Grades 6-8 ©2019
To the
Arkansas 2015 Science Standards for Grade 7**

Arkansas 2015 Science Standards Grade 7	Elevate Science ©2019 Grades 6-8 Modules
Earth's Systems	
<p>Performance Expectation 7-ESS2-1: Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process.</p>	<p>Earth Systems SE/TE: The Earth System, 5-7 Movement in Earth's Mantle, 56-57 Mineral Formation, 64-66 Model It!, 66 Lesson 2 Check, #5, 68 How Rocks Form, 73-76 The Cycling of Earth's Materials, 79-82 Model It!, 82 Topic 2 Review and Assess, #5, 86-87 uDemonstrate Lab, 90-93</p> <p>Realize™ Digital Resources: Earth Systems: Introduction to Earth's Systems >Topic Launch: Introduction to Earth's Systems>uConnect Lab: What Interactions Occur Within the Earth System? >Lesson 1: Matter and Energy in Earth's Systems>uInvestigate Lab: Where Heat Flows Earth Systems: Minerals and Rocks in the Geosphere >Lesson 2: Minerals>uInvestigate Lab: Mineral Mash-Up >Lesson 3: Rocks>uInvestigate Lab: A Sequined Rock >Lesson 4: Cycling of Rocks>Interactivity: Rocks on the Move</p>
Disciplinary Core Ideas	
ESS2.A: Earth's Materials and Systems	
<p>• All Earth processes are the result of energy flowing and matter cycling within and among the planet's systems. This energy is derived from the sun and Earth's hot interior. The energy that flows and matter that cycles produce chemical and physical changes in Earth's materials and living organisms.</p>	<p>Earth Systems SE/TE: Water and Rock Cycles, 5 Energy Flow, 7 Lesson 1 Check, #3, 10 Movement in Earth's Mantle, 56-57 Mineral Formation, 64-66 How Rocks Form, 73-76 The Cycling of Earth's Materials, 79-82</p> <p>Realize™ Digital Resources: Earth Systems: Introduction to Earth's Systems >Lesson 1: Matter and Energy in Earth's Systems>uInvestigate Lab: Where Heat Flows Earth Systems: Minerals and Rocks in the Geosphere >Lesson 4: Cycling of Rocks>Interactivity: Rocks on the Move</p>

**A Correlation of Elevate Science Modules, Grades 6-8 ©2019
To the
Arkansas 2015 Science Standards for Grade 7**

Arkansas 2015 Science Standards Grade 7	Elevate Science ©2019 Grades 6-8 Modules
Science and Engineering Practices	
Developing and Using Models	
<ul style="list-style-type: none"> Develop and use a model to describe phenomena. 	<p>Earth Systems SE/TE: Mantle Convection, 57 Model It!, 66 Lesson 2 Check, #5, 68 Model It!, 82 uDemonstrate Lab, 90-93</p> <p>Realize™ Digital Resources: Earth Systems: Introduction to Earth's Systems >Topic Launch: Introduction to Earth's Systems>uConnect Lab: What Interactions Occur Within the Earth System? >Lesson 1: Matter and Energy in Earth's Systems>uInvestigate Lab: Where Heat Flows</p> <p>Earth Systems: Minerals and Rocks in the Geosphere >Lesson 2: Minerals>uInvestigate Lab: Mineral Mash-Up >Lesson 3: Rocks>uInvestigate Lab: A Sequined Rock >Lesson 4: Cycling of Rocks>Interactivity: Rocks on the Move</p>
Crosscutting Concepts	
Stability and Change	
<ul style="list-style-type: none"> Explanations of stability and change in natural or designed systems can be constructed by examining the changes over time and processes at different scales, including the atomic scale. 	<p>Earth Systems SE/TE: Eruption!, 76 Lesson 3 Check, #5, 77 uDemonstrate Lab, 90-93</p> <p>Realize™ Digital Resources: Earth Systems: Minerals and Rocks in the Geosphere >Lesson 2: Minerals>uInvestigate Lab: Mineral Mash-Up >Lesson 4: Cycling of Rocks>Interactivity: Rocks on the Move</p>

**A Correlation of Elevate Science Modules, Grades 6-8 ©2019
To the
Arkansas 2015 Science Standards for Grade 7**

Arkansas 2015 Science Standards Grade 7	Elevate Science ©2019 Grades 6-8 Modules
<p>Performance Expectation 7-ESS3-1: Construct a scientific explanation based on evidence for how the uneven distributions of Earth's mineral, energy, and groundwater resources are the result of past and current geoscience processes.</p>	<p>Changing Earth and Human Activity SE/TE: The Essential Question, 53 Fossil Fuels, 58-62 Nuclear Energy, 63 Lesson 1 Check, #5, 65 Minerals and Ores, 75-79 Lesson 3 Check, #3, 81 Water on Earth, 85-87 Lesson 4 Check, #2, 90 Topic 2 Review and Assess, #13, 92-93 Topic 2 Evidence-Based Assessment, 94-95 uDemonstrate Lab, 96-99</p> <p>Realize™ Digital Resources: Changing Earth and Human Activity: Distribution of Natural Resources >Lesson 1: Nonrenewable Energy Resources>Interactivity: Distribution of Fossil Fuels >Lesson 3: Mineral Resources>Interactivity: Distribution of Minerals</p>
<p>Disciplinary Core Ideas</p>	
<p>ESS3.A: Natural Resources</p>	
<p>• Humans depend on Earth's land, ocean, atmosphere, and biosphere for many different resources. Minerals, fresh water, and biosphere resources are limited, and many are not renewable or replaceable over human lifetimes. These resources are distributed unevenly around the planet as a result of past geologic processes.</p>	<p>Changing Earth and Human Activity SE/TE: Natural Resources, 57 Coal Formation and Distribution, 59 Petroleum Formation and Distribution, 61 Distribution of Uranium, 63 Using Energy Resources, 64 Distribution of Minerals, 78-79 Humans and Minerals, 80 Case Study: Phosphorus Fiasco, 82-83 Water on Earth, 85 Human Impacts, 88-89 Human Activity, 108</p> <p>Realize™ Digital Resources: Changing Earth and Human Activity: Distribution of Natural Resources >Lesson 1: Nonrenewable Energy Resources>Inquiry Warm-Up Lab: Using Resources</p>

**A Correlation of Elevate Science Modules, Grades 6-8 ©2019
To the
Arkansas 2015 Science Standards for Grade 7**

Arkansas 2015 Science Standards Grade 7	Elevate Science ©2019 Grades 6-8 Modules
Science and Engineering Practices	
Constructing Explanations and Designing Solutions	
<ul style="list-style-type: none"> Construct a scientific explanation based on valid and reliable evidence obtained from sources (including the students' own experiments) and the assumption that theories and laws that describe the natural world operate today as they did in the past and will continue to do so in the future. 	<p>Changing Earth and Human Activity SE/TE: Coal Formation and Distribution, 59 Lesson 1 Check, #5, 65 Lesson 4 Check, #2, 90 Topic 2 Review and Assess, #13, 92-93 Topic 2 Evidence-Based Assessment, #4, 94-95 uDemonstrate Lab, 96-99</p> <p>Realize™ Digital Resources: Changing Earth and Human Activity: Distribution of Natural Resources >Lesson 1: Nonrenewable Energy Resources>Interactivity: Distribution of Fossil Fuels >Lesson 3: Mineral Resources>Interactivity: Distribution of Minerals</p>
Crosscutting Concepts	
Cause and Effect	
<ul style="list-style-type: none"> Cause and effect relationships may be used to predict phenomena in natural or designed systems. 	<p>Changing Earth and Human Activity SE/TE: Lesson 1 Check, #2, 65 Minerals from Magma, 77 Lesson 3 Check, #3, 81 uDemonstrate Lab, 96-99</p> <p>Realize™ Digital Resources: Changing Earth and Human Activity: Distribution of Natural Resources >Lesson 1: Nonrenewable Energy Resources>uInvestigate Lab: Fossil Fuels</p>
Connections to Engineering, Technology, and Applications of Science	
Influence of Science, Engineering, and Technology on Society and the Natural World	
<ul style="list-style-type: none"> All human activity draws on natural resources and has both short and long-term consequences, positive as well as negative, for the health of people and the natural environment. 	<p>Changing Earth and Human Activity SE/TE: Natural Resources, 56 Using Energy Resources, 64 Humans and Minerals, 80 Human Impacts, 88-89</p>

**A Correlation of Elevate Science Modules, Grades 6-8 ©2019
To the
Arkansas 2015 Science Standards for Grade 7**

Arkansas 2015 Science Standards Grade 7	Elevate Science ©2019 Grades 6-8 Modules
History of Earth	
<p>Performance Expectation 7-ESS2-2: Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales.</p>	<p>Earth Systems SE/TE: The Essential Question, 95 The Theory of Plate Tectonics, 109-112 Plate Boundaries, 113-116 Case Study: Australia on the Move, 118-119 Stress and Earth's Crust, 121-122 New Landforms From Plate Movement, 123-124 Volcanoes and Plate Boundaries, 134-135 Volcano Landforms, 136 uDemonstrate Lab, 146-149</p> <p>Changing Earth and Human Activity SE/TE: Connect It!, 4 Breaking Down Earth's Surface, 5 Weathering Earth's Surface, 6-8 Lesson 1 Check, #2, 12 Changing Earth's Surface, 15 Mass Movement, 16 Lesson 2 Check, #2, 20 Connect It!, 22 Water Erosion and Deposition Change Earth's Surface, 25-27 Modeling How a River Changes Earth's Surface, 28 Groundwater Changes Earth's Surface, 29-30 Glaciers Change Earth's Surface, 35-39 Lesson 4 Check, #2, 43 Topic 1 Evidence-Based Assessment, 46-47 uDemonstrate Lab, 48-51</p> <p>Realize™ Digital Resources: Earth Systems: Plate Tectonics >Lesson 2: Plate Tectonics and Earth's Surface>Inquiry Warm-Up Lab: Stressing Out!>uInvestigate Lab: Plate Interactions >Lesson 4: Volcanoes and Earth's Surface>Interactivity: Volcanoes Changing Earth's Surface Changing Earth and Human Activity: Earth's Surface Systems >Lesson 1: Weathering and Soil>uInvestigate Lab: Freezing and Thawing >Lesson 3: Water Erosion>Interactivity: Mammoth Caves</p>

**A Correlation of Elevate Science Modules, Grades 6-8 ©2019
To the
Arkansas 2015 Science Standards for Grade 7**

Arkansas 2015 Science Standards Grade 7	Elevate Science ©2019 Grades 6-8 Modules
Disciplinary Core Ideas	
ESS2.A: Earth's Materials and Systems	
<ul style="list-style-type: none"> The planet's systems interact over scales that range from microscopic to global in size, and they operate over fractions of a second to billions of years. These interactions have shaped Earth's history and will determine its future. 	<p>Earth Systems SE/TE: Plate Motions Over Time, 111 Case Study: Australia on the Move, 118-119 Earthquakes, 125 Hot Spot Volcanism, 135 Explosive Eruptions, 139</p> <p>Changing Earth and Human Activity SE/TE: Connect It!, 4 Breaking Down Earth's Surface, 5 Soil Formation, 10 Changing Earth's Surface, 15 How Water Causes Erosion, 23 Karst Topography, 30 Landforms Formed by Wave Erosion, 41</p> <p>Realize™ Digital Resources: Earth Systems: Plate Tectonics >Lesson 2: Plate Tectonics and Earth's Surface> uInvestigate Lab: Plate Interactions;>Interactivity: Stressed to a Fault</p>
ESS2.C: The Roles of Water in Earth's Surface Processes	
<ul style="list-style-type: none"> Water's movements—both on the land and underground—cause weathering and erosion, which change the land's surface features and create underground formations. 	<p>Changing Earth and Human Activity SE/TE: Breaking Down Earth's Surface, 5 Mechanical Weathering, 6 Lesson 1 Check, #2, 12 How Water Causes Erosion, 23-24 Water Erosion and Deposition Change Earth's Surface, 25-27 Modeling How a River Changes Earth's Surface, 28 Groundwater Changes Earth's Surface, 29-30 Glaciers Change Earth's Surface, 35-39 Waves Change Earth's Surface, 40-42 Lesson 4 Check, #2, 43</p> <p>Realize™ Digital Resources: Changing Earth and Human Activity: Earth's Surface Systems >Lesson 3: Water Erosion>Interactivity: Karst Topography >Lesson 4: Glacial and Wave Erosion>Interactivity: Effects of Glaciers</p>

**A Correlation of Elevate Science Modules, Grades 6-8 ©2019
To the
Arkansas 2015 Science Standards for Grade 7**

Arkansas 2015 Science Standards Grade 7	Elevate Science ©2019 Grades 6-8 Modules
Science and Engineering Practices	
Constructing Explanations and Designing Solutions	
<ul style="list-style-type: none"> Construct a scientific explanation based on valid and reliable evidence obtained from sources (including the students' own experiments) and the assumption that theories and laws that describe nature operate today as they did in the past and will continue to do so in the future. 	<p>Earth Systems SE/TE: Case Study: Australia on the Move, 118-119 uDemonstrate Lab, 146-148</p> <p>Changing Earth and Human Activity SE/TE: Connect It!, 4 Connect It!, 22 Reading Check, 28 Groundwater Erosion and Deposition, 29 Glacial Erosion, 37 Lesson 4 Check, #2, 43</p> <p>Realize™ Digital Resources: Earth Systems: Plate Tectonics >Lesson 2: Plate Tectonics and Earth's Surface>Inquiry Warm-Up Lab: Stressing Out!;>uInvestigate Lab: Plate Interactions >Lesson 4: Volcanoes and Earth's Surface>Interactivity: Volcanoes Changing Earth's Surface Changing Earth and Human Activity: Earth's Surface Systems >Lesson 1: Weathering and Soil>uInvestigate Lab: Freezing and Thawing >Lesson 3: Water Erosion>Interactivity: Mammoth Caves</p>
Crosscutting Concepts	
Scale Proportion and Quantity	
<ul style="list-style-type: none"> Time, space, and energy phenomena can be observed at various scales using models to study systems that are too large or too small. 	<p>Earth Systems SE/TE: 200 Million Years of Plate Motions, 111 Plate Map, 113 Lesson 2 Check, #2, 117 Valleys and Mountains, 123 P and S Waves, 125 Model It!, 135</p> <p>Changing Earth and Human Activity SE/TE: Model It!, 11 Wind Erosion and Deflation, 18 Modeling How a River Changes Earth's Surface, 28 Headland Erosion, 40</p>

**A Correlation of Elevate Science Modules, Grades 6-8 ©2019
To the
Arkansas 2015 Science Standards for Grade 7**

Arkansas 2015 Science Standards Grade 7	Elevate Science ©2019 Grades 6-8 Modules
Continued:	Continued: Realize™ Digital Resources: Earth Systems: Plate Tectonics >Lesson 2: Plate Tectonics and Earth's Surface>Inquiry Warm-Up Lab: Stressing Out!;>Investigate Lab: Plate Interactions Changing Earth and Human Activity: Earth's Surface Systems >Lesson 2: Erosion and Deposition>Investigate Lab: Small, Medium, and Large
Performance Expectation 7-ESS2-3: Analyze and interpret data on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of the past plate motions.	Earth Systems SE/TE: Hypothesis of Continental Drift, 99-101 Mid-Ocean Ridges, 102 Sea-Floor Spreading, 103 Ocean Trenches, 104-105 Lesson 1 Check, #2, #3, 106 Realize™ Digital Resources: Earth Systems: Plate Tectonics >Topic Launch: Plate Tectonics>Connect Lab: How Are Earth's Continents Linked Together? >Lesson 1: Evidence of Plate Motions>Investigate Lab: Piecing Together a Supercontinent;>Interactivity: Slow and Steady
Disciplinary Core Ideas	
ESS1.C: The History of Planet Earth	
• Tectonic processes continually generate new ocean sea floor at ridges and destroy old sea floor at trenches.	Earth Systems SE/TE: Mid-Ocean Ridges, 102 Ocean Trenches, 104-105 Case Study: Australia on the Move, 118-119
ESS2.B: Plate Tectonics and Large- Scale System Interactions	
• Maps of ancient land and water patterns, based on investigations of rocks and fossils, make clear how Earth's plates have moved great distances, collided, and spread apart.	Earth Systems SE/TE: 200 Million Years of Plate Motions, 111 Realize™ Digital Resources: Earth Systems: Plate Tectonics >Lesson 1: Evidence of Plate Motions>Investigate Lab: Piecing Together a Supercontinent

**A Correlation of Elevate Science Modules, Grades 6-8 ©2019
To the
Arkansas 2015 Science Standards for Grade 7**

Arkansas 2015 Science Standards Grade 7	Elevate Science ©2019 Grades 6-8 Modules
Science and Engineering Practices	
Analyzing and Interpreting Data	
<ul style="list-style-type: none"> Analyze and interpret data to provide evidence for phenomena. 	<p>Earth Systems SE/TE: Evidence for Continental Drift, 100</p> <p>Realize™ Digital Resources: Earth Systems: Plate Tectonics >Lesson 1: Evidence of Plate Motions>uInvestigate Lab: Piecing Together a Supercontinent</p>
Connections to Nature of Science	
Scientific Knowledge is Open to Revision in Light of New Evidence	
<ul style="list-style-type: none"> Science findings are frequently revised and/or reinterpreted based on new evidence. 	<p>Earth Systems SE/TE: Hypothesis of Continental Drift, 99-101 Mid-Ocean Ridges, 102 It's All Connected, 107</p> <p>Realize™ Digital Resources: Earth Systems: Plate Tectonics >Lesson 1: Evidence of Plate Motions>uInvestigate Lab: Piecing Together a Supercontinent</p>
Crosscutting Concepts	
Patterns	
<ul style="list-style-type: none"> Patterns in rates of change and other numerical relationships can provide information about natural systems. 	<p>Earth Systems SE/TE: Connect It!, 98 Reading Check, 101 Plate Motions Over Time, 111</p> <p>Realize™ Digital Resources: Earth Systems: Plate Tectonics >Topic Launch: Plate Tectonics>uConnect Lab: How Are Earth's Continents Linked Together?</p>

**A Correlation of Elevate Science Modules, Grades 6-8 ©2019
To the
Arkansas 2015 Science Standards for Grade 7**

Arkansas 2015 Science Standards Grade 7	Elevate Science ©2019 Grades 6-8 Modules
Human Impacts	
<p>Performance Expectation 7-ESS3-2: Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects.</p>	<p>Cycles Influencing Weather and Climate SE/TE: Types of Severe Storms, 39-44</p> <p>Earth Systems SE/TE: Earthquakes, 125-127 uEngineer It!, 131 Predicting Volcano Hazards, 140 Topic 3 Evidence-Based Assessment, 144-145</p> <p>Changing Earth and Human Activity SE/TE: uEngineer It!, 13 Mass Movement, 16 Math Toolbox, 17 Lesson 2 Check, #4, 20 uDemonstrate Lab, 48-51</p> <p>Realize™ Digital Resources: Cycles Influencing Weather and Climate: Weather in the Atmosphere >Lesson 5: Severe Weather and Floods>uInvestigate Lab: Predicting Hurricanes;>Quest Check-In Lab: A History of Hazardous Weather Earth Systems: Plate Tectonics >Lesson 3: Earthquakes and Tsunami Hazards>uInvestigate Lab: Analyze Earthquake Data to Identify Patterns;>Quest Check-In Interactivity: Monitoring a Volcano;>Quest Worksheet: Monitoring a Volcano >Lesson 4: Volcanoes and Earth's Surface>Quest Check-In Lab: Signs of Eruption? Changing Earth and Human Activity: Earth's Surface Systems >Lesson 1: Weathering and Soil>uEngineer It! Interactivity: Landslide Prevention >Lesson 2: Erosion and Deposition>Interactivity: Predicting Disasters</p>

**A Correlation of Elevate Science Modules, Grades 6-8 ©2019
To the
Arkansas 2015 Science Standards for Grade 7**

Arkansas 2015 Science Standards Grade 7	Elevate Science ©2019 Grades 6-8 Modules
Disciplinary Core Ideas	
ESS3.B: Natural Hazards	
<ul style="list-style-type: none"> Mapping the history of natural hazards in a region, combined with an understanding of related geologic forces can help forecast the locations and likelihoods of future events. 	<p>Cycles Influencing Weather and Climate SE/TE: Lake-Effect Snow, 40 The Path of Hurricane Sandy, 43</p> <p>Earth Systems SE/TE: Stress and Earth’s Crust, 121-122 Earthquakes, 125-127 Earthquake Risks and Tsunamis, 128-129 Volcanoes and Plate Boundaries, 134-135 Predicting Volcano Hazards, 140</p> <p>Changing Earth and Human Activity SE/TE: uEngineer It!, 13 Mass Movement, 16 Lesson 2 Check, #4, 20</p> <p>Realize™ Digital Resources: Cycles Influencing Weather and Climate: Weather in the Atmosphere >Lesson 5: Severe Weather and Floods>uInvestigate Lab: Predicting Hurricanes;>Quest Check-In Lab: A History of Hazardous Weather Earth Systems: Plate Tectonics >Lesson 3: Earthquakes and Tsunami Hazards>uInvestigate Lab: Analyze Earthquake Data to Identify Patterns >Lesson 4: Volcanoes and Earth’s Surface>Quest Check-In Lab: Signs of Eruption? Changing Earth and Human Activity: Earth’s Surface Systems >Lesson 1: Weathering and Soil>uEngineer It! Interactivity: Landslide Prevention</p>

**A Correlation of Elevate Science Modules, Grades 6-8 ©2019
To the
Arkansas 2015 Science Standards for Grade 7**

Arkansas 2015 Science Standards Grade 7	Elevate Science ©2019 Grades 6-8 Modules
Science and Engineering Practices	
<ul style="list-style-type: none"> Analyze and interpret data to determine similarities and differences in findings. 	<p>Changing Earth and Human Activity SE/TE: Lesson 2 Check, #5, 20</p> <p>Realize™ Digital Resources: Cycles Influencing Weather and Climate: Weather in the Atmosphere >Lesson 5: Severe Weather and Floods>Investigate Lab: Predicting Hurricanes;>Quest Check-In Lab: A History of Hazardous Weather Earth Systems: Plate Tectonics >Lesson 4: Volcanoes and Earth’s Surface>Quest Check-In Lab: Signs of Eruption? Changing Earth and Human Activity: Earth’s Surface Systems >Lesson 2: Erosion and Deposition>Interactivity: Predicting Disasters</p>
Crosscutting Concepts	
Patterns	
<ul style="list-style-type: none"> Graphs, charts, and images can be used to identify patterns in data. 	<p>Changing Earth and Human Activity SE/TE: Mass Movement, 16</p> <p>Realize™ Digital Resources: Cycles Influencing Weather and Climate: Weather in the Atmosphere >Lesson 5: Severe Weather and Floods>Quest Check-In Lab: A History of Hazardous Weather Earth Systems: Plate Tectonics >Lesson 3: Earthquakes and Tsunami Hazards>Investigate Lab: Analyze Earthquake Data to Identify Patterns;>Quest Check-In Interactivity: Monitoring a Volcano;>Quest Worksheet: Monitoring a Volcano >Lesson 4: Volcanoes and Earth’s Surface>Quest Check-In Lab: Signs of Eruption?</p>

**A Correlation of Elevate Science Modules, Grades 6-8 ©2019
To the
Arkansas 2015 Science Standards for Grade 7**

Arkansas 2015 Science Standards Grade 7	Elevate Science ©2019 Grades 6-8 Modules
Connections to Engineering, Technology, and Applications of Science	
Influence of Science, Engineering, and Technology on Society and the Natural World	
<ul style="list-style-type: none"> • The uses of technologies and any limitations on their use are driven by individual or societal needs, desires, and values; by the findings of scientific research; and by differences in such factors as climate, natural resources, and economic conditions. Thus technology use varies from region to region and over time. 	<p>Earth Systems SE/TE: Seismographs, 126 Predicting Volcano Hazards, 140</p> <p>Changing Earth and Human Activity SE/TE: uEngineer It!, 13 Mass Movement, 16</p> <p>Realize™ Digital Resources: Cycles Influencing Weather and Climate: Weather in the Atmosphere >Lesson 5: Severe Weather and Floods>uInvestigate Lab: Predicting Hurricanes;>Interactivity: Tinkering with Technology;>Quest Check-In Lab: A History of Hazardous Weather</p> <p>Earth Systems: Plate Tectonics >Lesson 3: Earthquakes and Tsunami Hazards>Interactivity: Earthquake Engineering;>Quest Check-In Interactivity: Monitoring a Volcano;>Quest Worksheet: Monitoring a Volcano</p> <p>Changing Earth and Human Activity: Earth's Surface Systems >Lesson 1: Weathering and Soil>uEngineer It! Interactivity: Landslide Prevention</p>

**A Correlation of Elevate Science Modules, Grades 6-8 ©2019
To the
Arkansas 2015 Science Standards for Grade 7**

Arkansas 2015 Science Standards Grade 7	Elevate Science ©2019 Grades 6-8 Modules
Engineering, Technology, and the Application of Science	
<p>Performance Expectation 7-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.</p>	<p>Structure and Properties of Matter SE/TE: uEngineer It!, 55</p> <p>Earth Systems SE/TE: uEngineer It!, 59</p> <p>Diversity of Life SE/TE: uEngineer It!, 89</p> <p>Realize™ Digital Resources: Forces: Forces and Motion >Lesson 1: Describing Motion and Force>Quest Check-In Interactivity: Define Criteria and Constraints Changing Earth and Human Activity: Earth's Surface Systems >Lesson 2: Erosion and Deposition>Quest Check-In Lab: Ingenious Island Part I Systems, Reproduction, and Growth: Reproduction and Growth >Lesson 4: Factors Influencing Growth>Quest Check-In Interactivity: Make Your Construction Case</p>
Disciplinary Core Ideas	
ETS1.A: Defining and Delimiting Engineering Problems	
<ul style="list-style-type: none"> The more precisely a design task's criteria and constraints can be defined, the more likely it is that the designed solution will be successful. Specification of constraints includes consideration of scientific principles and other relevant knowledge that are likely to limit possible solutions. 	<p>Structure and Properties of Matter SE/TE: Define the Problem, 94-95</p>

**A Correlation of Elevate Science Modules, Grades 6-8 ©2019
To the
Arkansas 2015 Science Standards for Grade 7**

Arkansas 2015 Science Standards Grade 7	Elevate Science ©2019 Grades 6-8 Modules
Science and Engineering Practices	
Asking Questions and Defining Problems	
<ul style="list-style-type: none"> Define a design problem that can be solved through the development of an object, tool, process or system and includes multiple criteria and constraints, including scientific knowledge that may limit possible solutions. 	<p>Structure and Properties of Matter SE/TE: uEngineer It!, 55</p> <p>Earth Systems SE/TE: uEngineer It!, 59</p> <p>Diversity of Life SE/TE: uEngineer It!, 89</p> <p>Realize™ Digital Resources: Forces: Forces and Motion >Lesson 1: Describing Motion and Force>Quest Check-In Interactivity: Define Criteria and Constraints Changing Earth and Human Activity: Earth's Surface Systems >Lesson 2: Erosion and Deposition>Quest Check-In Lab: Ingenious Island Part I Systems, Reproduction, and Growth: Reproduction and Growth >Lesson 4: Factors Influencing Growth>Quest Check-In Interactivity: Make Your Construction Case</p>
Crosscutting Concepts	
Influence of Science, Engineering, and Technology on Society and the Natural World	
<ul style="list-style-type: none"> All human activity draws on natural resources and has both short and long-term consequences, positive as well as negative, for the health of people and the natural environment. 	<p>Cycles Influencing Weather and Climate SE/TE: uEngineer It!, 135</p> <p>Changing Earth and Human Activity SE/TE: Using Energy Resources, 64 uEngineer It!, 73 Humans and Minerals, 80 Human Impacts, 88-89 Using Natural Resources, 108-109 Wetlands, 129 Human Activities, 140-141</p>

**A Correlation of Elevate Science Modules, Grades 6-8 ©2019
To the
Arkansas 2015 Science Standards for Grade 7**

Arkansas 2015 Science Standards Grade 7	Elevate Science ©2019 Grades 6-8 Modules
<ul style="list-style-type: none"> The uses of technologies and limitations on their use are driven by individual or societal needs, desires, and values; by the findings of scientific research; and by differences in such factors as climate, natural resources, and economic conditions. 	<p>Atoms and Chemical Reactions SE/TE: uEngineer It!, 77 Impact of Synthetic Materials, 103-104</p> <p>Cycles Influencing Weather and Climate SE/TE: uEngineer It!, 21 uEngineer It!, 135</p> <p>Earth Systems SE/TE: uEngineer It!, 59 uEngineer It!, 131</p> <p>Realize™ Digital Resources: Earth Systems: Plate Tectonics >Lesson 3: Earthquakes and Tsunami Hazards>Interactivity: Earthquake Engineering</p>
<p>Performance Expectation 7-ETS1-2: Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.</p>	<p>Energy Transfer SE/TE: uEngineer It!, 21</p> <p>Cycles Influencing Weather and Climate SE/TE: uEngineer It!, 21</p> <p>Systems, Reproduction, and Growth SE/TE: uEngineer It!, 37 uEngineer It!, 123</p> <p>Relationships Within Ecosystems SE/TE: uEngineer It!, 13</p> <p>Realize™ Digital Resources: Energy Transfer: Thermal Energy >Lesson 3: Heat and Materials>Quest Check-In Lab: Keep the Heat In</p>
Disciplinary Core Ideas	
ETS1.B: Developing Possible Solutions	
<ul style="list-style-type: none"> There are systematic processes for evaluating solutions with respect to how well they meet the criteria and constraints of a problem. 	<p>Energy Transfer SE/TE: Test and Evaluate a Solution, 98</p>

**A Correlation of Elevate Science Modules, Grades 6-8 ©2019
To the
Arkansas 2015 Science Standards for Grade 7**

Arkansas 2015 Science Standards Grade 7	Elevate Science ©2019 Grades 6-8 Modules
Science and Engineering Practices	
<ul style="list-style-type: none"> Evaluate competing design solutions based on jointly developed and agreed-upon design criteria. 	<p>Energy Transfer SE/TE: uEngineer It!, 21</p> <p>Cycles Influencing Weather and Climate SE/TE: uEngineer It!, 21</p> <p>Systems, Reproduction, and Growth SE/TE: uEngineer It!, 37 uEngineer It!, 123</p> <p>Relationships Within Ecosystems SE/TE: uEngineer It!, 13</p> <p>Realize™ Digital Resources: Energy Transfer: Thermal Energy >Lesson 3: Heat and Materials>Quest Check-In Lab: Keep the Heat In</p>
<p>Performance Expectation 7-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.</p>	<p>Forces SE/TE: uEngineer It!, 33</p> <p>Cycles Influencing Weather and Climate SE/TE: uEngineer It!, 81</p> <p>Realize™ Digital Resources: Changing Earth and Human Activity: Earth's Surface Systems >Lesson 3: Water Erosion>Quest Check-In Lab: Ingenious Island Part II</p>
Disciplinary Core Ideas	
ETS1.B: Developing Possible Solutions	
<ul style="list-style-type: none"> There are systematic processes for evaluating solutions with respect to how well they meet the criteria and constraints of a problem. 	<p>Forces SE/TE: Test and Evaluate a Solution, 112</p>
<ul style="list-style-type: none"> Sometimes parts of different solutions can be combined to create a solution that is better than any of its predecessors. 	<p>Forces SE/TE: Test and Evaluate a Solution, 112 Redesign and Retest the Solution, 113</p>
ETS1.C: Optimizing the Design Solution	
<ul style="list-style-type: none"> Although one design may not perform the best across all tests, identifying the characteristics of the design that performed the best in each test can provide useful information for the redesign process - that is, some of the characteristics may be incorporated into the new design. 	<p>Forces SE/TE: Test and Evaluate a Solution, 112 Redesign and Retest the Solution, 113</p>

**A Correlation of Elevate Science Modules, Grades 6-8 ©2019
To the
Arkansas 2015 Science Standards for Grade 7**

Arkansas 2015 Science Standards Grade 7	Elevate Science ©2019 Grades 6-8 Modules
Science and Engineering Practices	
Developing and Using Models	
<ul style="list-style-type: none"> Develop a model to generate data to test ideas about designed systems, including those representing inputs and outputs. 	<p>Forces SE/TE: uEngineer It!, 33</p> <p>Cycles Influencing Weather and Climate SE/TE: uEngineer It!, 81</p> <p>Realize™ Digital Resources: Changing Earth and Human Activity: Earth's Surface Systems >Lesson 3: Water Erosion>Quest Check-In Lab: Ingenious Island Part II</p>
<p>Performance Expectation 7-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.</p>	<p>Structure and Properties of Matter SE/TE: uEngineer It!, 33</p> <p>Changing Earth and Human Activity SE/TE: uEngineer It!, 145</p> <p>Realize™ Digital Resources: Energy Transfer: Thermal Energy >Lesson 2: Heat Transfer>Interactivity: Solar Oven Design;>Worksheet: Solar Oven Design</p>
Disciplinary Core Ideas	
ETS1.B: Developing Possible Solutions	
<ul style="list-style-type: none"> A solution needs to be tested, and then modified on the basis of the test results, in order to improve it. 	<p>Structure and Properties of Matter SE/TE: Test and Evaluate a Solution, 96 Redesign and Retest the Solution, 97</p>
<ul style="list-style-type: none"> Models of all kinds are important for testing solutions. 	<p>Structure and Properties of Matter SE/TE: Scientific Models, 88 Design a Solution, 96</p>
ETS1.C: Optimizing the Design Solution	
<ul style="list-style-type: none"> The iterative process of testing the most promising solutions and modifying what is proposed on the basis of the test results leads to greater refinement and ultimately to an optimal solution. 	<p>Structure and Properties of Matter SE/TE: Test and Evaluate a Solution, 96 Redesign and Retest the Solution, 97</p>

**A Correlation of Elevate Science Modules, Grades 6-8 ©2019
To the
Arkansas 2015 Science Standards for Grade 7**

Arkansas 2015 Science Standards Grade 7	Elevate Science ©2019 Grades 6-8 Modules
Science and Engineering Practices	
Developing and Using Models	
<ul style="list-style-type: none"> • Develop a model to generate data to test ideas about designed systems, including those representing inputs and outputs. 	<p>Structure and Properties of Matter SE/TE: uEngineer It!, 33</p> <p>Changing Earth and Human Activity SE/TE: uEngineer It!, 145</p> <p>Realize™ Digital Resources: Energy Transfer: Thermal Energy >Lesson 2: Heat Transfer>Interactivity: Solar Oven Design;>Worksheet: Solar Oven Design</p>

©2020 Savvas Learning Company LLC