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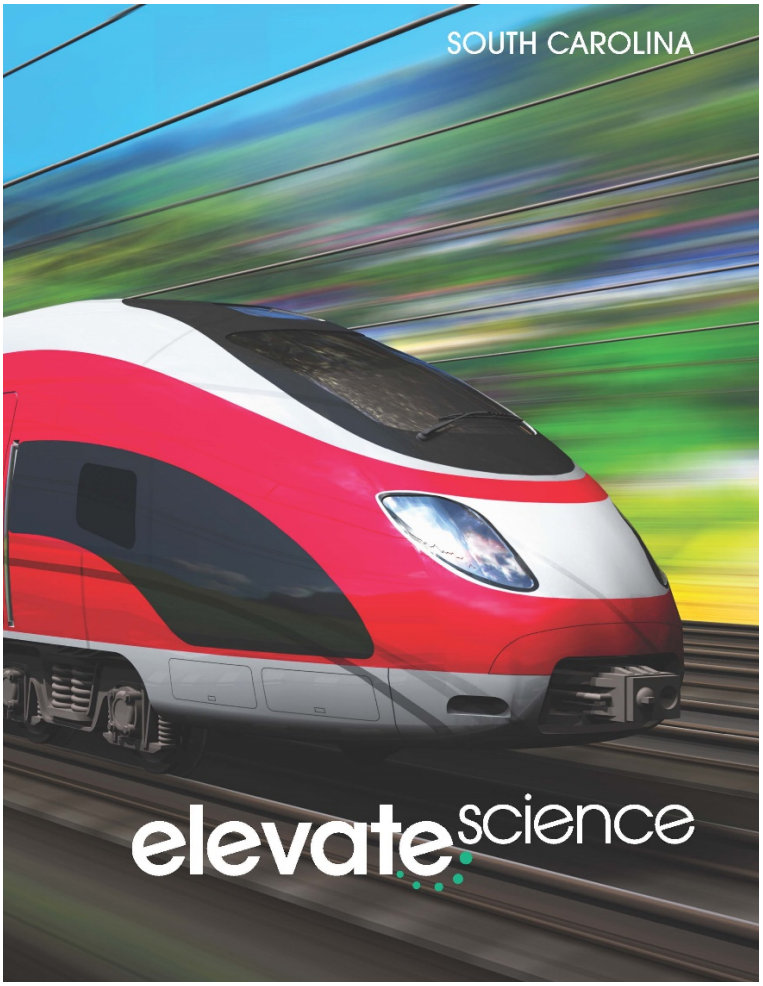

To the

South Carolina College- and Career-Ready Science Standards 2021 Grade 4

Prepared by Savvas Learning Company, formerly Pearson K12 Learning

A Correlation of South Carolina Elevate Science, Grade 4, ©2023 to the South Carolina College- and Career-Ready Science Standards 2021
Grade 4

Introduction

The following document demonstrates how the ***South Carolina Elevate Sciencec©2023*** program supports the South Carolina College- and Career-Ready Science Standards 2021. Correlation references include the Student Edition, Teacher Edition, and online Realize™ digital resources.

South Carolina Elevate Science is a comprehensive K-5 science program that focuses on active, student-centered learning. It builds students' critical thinking, questioning, and collaboration skills, and fuels interest in STEM and creative problem solving while supporting literacy development for elementary-age learners. Developed to support Next Generation Science Standards (NGSS), ***South Carolina Elevate Science*** integrates three-dimensional learning of the Scientific and Engineering Practices, Crosscutting Concepts (CCC), and Disciplinary Core Ideas (DCIs).

The ***South Carolina Elevate Science*** blended **print** and **digital** curriculum engages students in phenomena-based inquiry and hands-on investigations.

- Problem–based learning Quests put students on a journey of discovery
- Engineering-focused features infuse STEM learning
- Coding and innovation engage students and build 21st century skills

The Teacher's Edition of ***South Carolina Elevate Science*** helps elementary educators teach science with confidence: Scaffolding, ELD, differentiated instruction, and an instructional organization based upon the 5E learning model, (Engage, Explore, Explain, Extend/Elaborate, Evaluate), provide all the support needed for successful teaching practices. Professional development offers point-of-use support. A full-view approach to inquiry and testing provides new options for a variety of hands-on labs and assessments for three-dimensional learning.

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

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

SE = Student Edition **TE = Teacher Edition**

Digital Resources: The symbol > indicates a click to reach each digital asset on the Realize platform.

Table of Contents

SE = Student Edition **TE = Teacher Edition**

Digital Resources: The symbol > indicates a click to reach each digital asset on the Realize platform.

South Carolina College- and Career-Ready Science Standards 2021, Grade 4	South Carolina Elevate Science, ©2023 Grade 4
Energy (PS3)	
Performance Expectation	
4-PS3-1. Use evidence to construct an explanation relating the speed of an object to the energy of that object.	**SE/TE:** Quest Kickoff: Energy Changes in Collisions, 2-3 uConnect Lab: How can you compare the energy of objects?, 4 uInvestigate Lab: How does starting height affect and object's energy?, 7 uBe a Scientist: Force and Speed, 12 Quest Check-In: Energy, Speed, and Motion, 13 Quest Findings: Energy Changes in Collisions, 42 **Realize™ Digital Resources:** **Energy and Motion** >Topic Launch>Quest Kickoff>Video: Energy Changes in Collisions >Topic Close>Quest Findings>Interactivity: Energy Changes in Collisions
Disciplinary Core Ideas	
PS3.A: Definitions of Energy	
The faster a given object is moving, the more energy it possesses.	**SE/TE:** Quest Kickoff: Energy Changes in Collisions, 2-3 uConnect Lab: How can you compare the energy of objects?, 4 uInvestigate Lab: How does starting height affect and object's energy?, 7 Energy, 8 Visual Literacy: How does energy affect particles of matter?, 10-11 Motion and Energy, 12 uBe a Scientist: Force and Speed, 12 Quest Check-In: Energy, Speed, and Motion, 13 Quest Findings: Energy Changes in Collisions, 42 **Realize™ Digital Resources:** **Energy and Motion** >Topic Launch>Quest Kickoff>Video: Energy Changes in Collisions >Lesson 1, Energy, Speed, and Moving Objects>Video: Energy, Speed, and Moving Objects;>Interactivity: Skateboarding Energy;>Virtual Lab: Propeller Speed and Thrust >Topic Close>Quest Findings>Interactivity: Energy Changes in Collisions

South Carolina College- and Career-Ready Science Standards 2021, Grade 4	South Carolina Elevate Science, ©2023 Grade 4
Science and Engineering Practices	
Constructing Explanations and Designing Solutions Use evidence (e.g., measurements, observations, patterns) to construct an explanation.	**SE/TE:** uConnect Lab: How can you compare the energy of objects?, 4 uInvestigate Lab: How does starting height affect and object's energy?, 7 **Realize™ Digital Resources:** **Energy and Motion** >Lesson 1, Energy, Speed, and Moving Objects>Interactivity: Skateboarding Energy;>Virtual Lab: Propeller Speed and Thrust
Crosscutting Concepts	
Energy and Matter Energy can be transferred in various ways and between objects.	**SE/TE:** Visual Literacy: How does energy affect particles of matter?, 10-11
Performance Expectation	
4-PS3-2. Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.	**SE/TE:** uInvestigate Lab: How does energy transfer between objects?, 17 STEM Quest Check-In: How does modeling help you understand a collision?, 22-23 uInvestigate Lab: How does heat move?, 25 uInvestigate Lab: How does electric energy flow in circuits?, 35 STEM Quest Check-In: How can an electric circuit help prevent collisions?, 40-41 uDemonstrate Lab: What affects energy transfer?, 48-49

SE = Student Edition **TE = Teacher Edition**

Digital Resources: The symbol > indicates a click to reach each digital asset on the Realize platform.

South Carolina College- and Career-Ready Science Standards 2021, Grade 4	South Carolina Elevate Science, ©2023 Grade 4
Disciplinary Core Ideas	
PS3.A: Definitions of Energy	
Energy can be moved [transferred] from place to place by moving objects or through sound, light, or electric currents.	**SE/TE:** Sports Connection, 16 uInvestigate Lab: How does energy transfer between objects?, 17 STEM Quest Check-In: How does modeling help you understand a collision?, 22-23 uInvestigate Lab: How does heat move?, 25 Visual Literacy: How is energy transferred?, 26-27 Energy and Particle Motion, 28 Light Energy, 29 Sound Energy, 30 Sound Waves, 31 Curriculum Connection, 34 uInvestigate Lab: How does electric energy flow in circuits?, 35 Electric Charge, 36 Moving Electric Charges, 37 Electric Circuits, 38 Resistance, 39 STEM Quest Check-In: How can an electric circuit help prevent collisions?, 40-41 uDemonstrate Lab: What affects energy transfer?, 48-49 **Realize™ Digital Resources:** **Energy and Motion** >Lesson 2, Collisions>Video: Collisions;>Interactivity: The Transfer of Kinetic Energy >Lesson 3, Energy Transfer>Video: Energy Transfer;>Interactivity: How Does Thermal Energy Move? >Lesson 4, Electric Circuits>Video: Electric Circuits;>Interactivity: Making an Electric Circuit

South Carolina College- and Career-Ready Science Standards 2021, Grade 4	South Carolina Elevate Science, ©2023 Grade 4
PS3.B: Conservation of Energy and Energy Transfer	
Energy is present whenever there are moving objects, sound, light, or heat. When objects collide, energy can be transferred from one object to another, thereby changing their motion. In such collisions, some energy is typically also transferred to the surrounding air; as a result, the air gets heated and sound is produced. Light also transfers energy from place to place. Energy can also be transferred from place to place by electric currents, which can then be used locally to produce motion, sound, heat, or light.	**SE/TE:** Sports Connection, 16 uInvestigate Lab: How does energy transfer between objects?, 17 STEM Quest Check-In: How does modeling help you understand a collision?, 22-23 uInvestigate Lab: How does heat move?, 25 Visual Literacy: How is energy transferred?, 26-27 Energy and Particle Motion, 28 Light Energy, 29 Sound Energy, 30 Sound Waves, 31 Curriculum Connection, 34 uInvestigate Lab: How does electric energy flow in circuits?, 35 Electric Charge, 36 Moving Electric Charges, 37 Electric Circuits, 38 Resistance, 39 STEM Quest Check-In: How can an electric circuit help prevent collisions?, 40-41 uDemonstrate Lab: What affects energy transfer?, 48-49 **Realize™ Digital Resources:** **Energy and Motion** >Lesson 2, Collisions>Video: Collisions;>Interactivity: The Transfer of Kinetic Energy >Lesson 3, Energy Transfer>Video: Energy Transfer;>Interactivity: How Does Thermal Energy Move? >Lesson 4, Electric Circuits>Video: Electric Circuits;>Interactivity: Making an Electric Circuit

South Carolina College- and Career-Ready Science Standards 2021, Grade 4	South Carolina Elevate Science, ©2023 Grade 4
Science and Engineering Practices	
Planning and Carrying Out Investigations Make observations to produce data to serve as the basis for evidence for an explanation of a phenomenon or test a design solution.	**SE/TE:** uInvestigate Lab: How does energy transfer between objects?, 17 STEM Quest Check-In: How does modeling help you understand a collision?, 22-23 uInvestigate Lab: How does heat move?, 25 uInvestigate Lab: How does electric energy flow in circuits?, 35 STEM Quest Check-In: How can an electric circuit help prevent collisions?, 40-41 uDemonstrate Lab: What affects energy transfer?, 48-49
Crosscutting Concepts	
Energy and Matter Energy can be transferred in various ways and between objects.	**SE/TE:** STEM Quest Check-In: How does modeling help you understand a collision?, 22-23 uInvestigate Lab: How does heat move?, 25 Visual Literacy: How is energy transferred?, 26-27 uInvestigate Lab: How does electric energy flow in circuits?, 35
Performance Expectation	
4-PS3-3. Ask questions and predict outcomes about the changes in energy that occur when objects collide.	**SE/TE:** uInvestigate Lab: How does energy transfer between objects?, 17 Visual Literacy Connection: Energy Changes in a Collision, 18-19 Engineering Practices Toolbox: Design a Solution, 20 Quest Connection, 20 uBe a Scientist: Construct a Cradle, 21 Reading Check, 21 Question It!, 29 Quest Check-In: Crash It!, 32 **Realize™ Digital Resources:** **Energy and Motion** >Lesson 2, Collisions>Interactivity: The Transfer of Kinetic Energy

South Carolina College- and Career-Ready Science Standards 2021, Grade 4	South Carolina Elevate Science, ©2023 Grade 4
Disciplinary Core Ideas	
PS3.A: Definitions of Energy	
Energy can be moved from place to place by moving objects or through sound, light, or electric currents,	**SE/TE:** Sports Connection, 16 uInvestigate Lab: How does energy transfer between objects?, 17 Visual Literacy Connection: Energy Changes in a Collision, 18-19 Engineering Practices Toolbox: Design a Solution, 20 uBe a Scientist: Construct a Cradle, 21 Other Energy Changes, 20-21 Reading Check, 21 Visual Literacy: How is energy transferred?, 26-27 Energy and Particle Motion, 28 Light Energy, 29 Question It!, 29 Sound Energy, 30 Sound Waves, 31 Quest Check-In: Crash It!, 32 uInvestigate Lab: How does electric energy flow in circuits?, 35 Moving Electric Charges, 37 **Realize™ Digital Resources:** **Energy and Motion** >Lesson 1, Energy, Speed and Moving Objects>Video: Energy, Speed and Moving Objects;>Interactivity: Climb, Slide, Spin and Swing;>Interactivity: Skateboarding Energy;>Quiz: Energy, Speed, and Moving Objects >Lesson 3, Energy Transfer>Video: Energy Transfer;>Interactivity: How Does Thermal Energy Move?;>Quiz: Energy Transfer >Lesson 4, Electric Circuits>Video: Electric Circuits;>Quiz: Electric Circuits

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South Carolina College- and Career-Ready Science Standards 2021, Grade 4	South Carolina Elevate Science, ©2023 Grade 4
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Energy is present whenever there are moving objects, sound, light, or heat. When objects collide, energy can be transferred from one object to another, thereby changing their motion. In such collisions, some energy is typically also transferred to the surrounding air; as a result, the air gets heated and sound is produced.	**SE/TE:** uConnect Lab: How can you compare the energy of objects?, 4 uInvestigate Lab: How does starting height affect an object's energy?, 7 Energy, 8 Motion and Energy, 12 uBe a Scientist: Force and Speed, 12 Quest Check-In: Energy, Speed, and Motion, 13 uInvestigate Lab: How does energy transfer between objects?, 17 Visual Literacy Connection: Energy Changes in a Collision, 18-19 Other Energy Changes, 20 Quest Connection, 20 Other Energy Changes, 20-21 uInvestigate Lab: How does heat move?, 25 Visual Literacy Connection: How is energy transferred?, 26-27 Energy and Particle Motion, 28 Light Energy, 29 Sound Energy, 30 Sound Waves, 31 Topic Assessment, 44-45 Evidence-Based Assessment, 46-47 uDemonstrate Lab: What affects energy transfer?, 48-49 **Realize™ Digital Resources:** **Energy and Motion** >Lesson 1, Energy, Speed and Moving Objects>Video: Energy, Speed and Moving Objects;>Interactivity: Climb, Slide, Spin and Swing;>Interactivity: Skateboarding Energy;>Quiz: Energy, Speed, and Moving Objects >Lesson 2, Collisions>Video: Collisions;>Interactivity: The Transfer of Kinetic Energy;>Quiz: Collisions >Lesson 3, Energy Transfer>Video: Energy Transfer;>Interactivity: How Does Thermal Energy Move? >Quiz: Energy Transfer

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South Carolina College- and Career-Ready Science Standards 2021, Grade 4	South Carolina Elevate Science, ©2023 Grade 4
PS3.C: Relationship Between Energy and Forces	
When objects collide, the contact forces transfer energy so as to change the objects' motions.	**SE/TE:** Sports Connection, 16 uInvestigate Lab: How does energy transfer between objects?, 17 Visual Literacy Connection: Energy Changes in a Collision, 18-19 Other Energy Changes, 20-21 Model It!, 20 STEM Quest Check-In Lab: How does modeling help you understand a collision?, 22-23 Quest Check-In: Crash It!, 32 Quest Findings: Energy Changes in Collisions, 42 **Realize™ Digital Resources**: **Energy and Motion** >Lesson 2, Collisions>Video: Collisions;>Interactivity: The Transfer of Kinetic Energy;>Quiz: Collisions
Science and Engineering Practices	
Asking Questions and Defining Problems Ask questions that can be investigated and Predict reasonable outcomes based on patterns such as cause-and-effect relationships.	**SE/TE:** uConnect Lab: How can you compare the energy of objects?, 4 uInvestigate Lab: How does starting height affect an object's energy?, 7 uBe a Scientist: Force and Speed, 12 uInvestigate Lab: How does energy transfer between objects?, 17 uDemonstrate Lab: What affects energy transfer?, 48-49 Science Practices: Ask Questions, 384 **Realize™ Digital Resources:** **Energy and Motion** >Lesson 2, Collisions>Interactivity: The Transfer of Kinetic Energy

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Digital Resources: The symbol > indicates a click to reach each digital asset on the Realize platform.

South Carolina College- and Career-Ready Science Standards 2021, Grade 4	South Carolina Elevate Science, ©2023 Grade 4
Crosscutting Concepts	
Energy and Matter: Energy can be transferred in various ways and between objects.	**SE/TE:** Energy, 8 Energy at Rest/Energy in Motion, 9 uInvestigate Lab: How does energy transfer between objects?, 17 Visual Literacy Connection: Energy Changes in a Collision, 18-19 Other Energy Changes, 20-21 uInvestigate Lab: How does heat move?, 25 Visual Literacy Connection: How is energy transferred?, 26-27 Energy and Particle Motion, 28 uDemonstrate Lab: What affects energy transfer?, 48-49 **Realize™ Digital Resources:** **Energy and Motion** >Lesson 1, Energy, Speed and Moving Objects>Video: Energy, Speed and Moving Objects;>Interactivity: Climb, Slide, Spin and Swing >Lesson 2, Collisions>Video: Collisions;>Interactivity: The Transfer of Kinetic Energy >Lesson 3, Energy Transfer>Video: Energy Transfer;>Interactivity: How Does Thermal Energy Move?;>Quiz: Energy Transfer

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South Carolina College- and Career-Ready Science Standards 2021, Grade 4	South Carolina Elevate Science, ©2023 Grade 4
Performance Expectation	
4-PS3-4. Apply scientific ideas to design, test, and refine a device that converts energy from one form to another.	**SE/TE:** STEM Quest Kickoff: Power from the People, 52-53 uInvestigate Lab: How can a potato provide energy to a light bulb?, 57 Quest Check-In: Human Power, 63 STEM uInvestigate Lab: How do we find oil?, 65 Design It!, 70 uInvestigate Lab: How does a windmill capture wind energy?, 75 STEM Quest Check-In Lab: How can the sun make a motor work?, 80 uEngineer It!: Hold that Phone, 82-83 STEM Quest Findings: Power to the People, 92 **Realize™ Digital Resources:** **Human Uses of Energy** >Topic Launch>Quest Kickoff>Video: Power to the People >Topic Close>Quest Findings>Interactivity: Power to the People
Disciplinary Core Ideas	
PS3.B: Conservation of Energy and Energy Transfer	
Energy can also be transferred from place to place by electric currents, which can then be used locally to produce motion, sound, heat, or light. The currents may have been produced to begin with by transforming the energy of motion into electrical energy.	**SE/TE:** STEM Quest Kickoff: Power from the People, 52-53 uInvestigate Lab: How can a potato provide energy to a light bulb?, 57 Using Energy, 58 Plan It!. 59 Visual Literacy Connection: How is electric power generated from chemical energy?, 60-61 Storing Chemical Energy, 62 Quest Connection, 62 Quest Check-In: Human Power, 63 STEM Quest Check-In Lab: How can you use a battery to produce motion?, 72-73 STEM Quest Findings: Power to the People, 92 **Realize™ Digital Resources:** **Human Uses of Energy** >Lesson 1, Energy Conversion>Interactivity: Electrical Energy Changes Forms >Topic Close>Quest Findings>Interactivity: Power to the People

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South Carolina College- and Career-Ready Science Standards 2021, Grade 4	South Carolina Elevate Science, ©2023 Grade 4
PS3.D: Energy and Chemical Processes and Everyday Life	
The expression "produce energy" typically refers to the conversion of stored energy into a desired form for practical use.	**SE/TE:** STEM Quest Kickoff: Power from the People, 52-53 Storing Chemical Energy, 62 Quest Connection, 62 STEM Quest Check-In Lab: How can you use a battery to produce motion?, 72-73 uEngineer It!: Hold that Phone, 82-83 STEM Quest Findings: Power to the People, 92 **Realize™ Digital Resources:** **Human Uses of Energy** >Topic Launch>Quest Kickoff>Video: Power to the People >Topic Close>Quest Findings>Interactivity: Power to the People
ETS1.A: Defining and Delimiting an Engineering Problem	
Possible solutions to a problem are limited by available materials and resources (constraints). The success of a designed solution is determined by considering the desired features of a solution (criteria). Different proposals for solutions can be compared on the basis of how well each one meets the specified criteria for success or how well each takes the constraints into account.	**SE/TE:** STEM Quest Kickoff: Power from the People, 52-53 Quest Check-In: Human Power, 63 STEM Quest Check-In Lab: How can you use a battery to produce motion?, 72-73 STEM Quest Check-In Lab: How can the sun make a motor work?, 80 uEngineer It!: Hold that Phone, 82-83 STEM Quest Findings: Power to the People, 92 Science and Engineering Practices Handbook: Engineering Practices: Defining Problems, EM10 Science and Engineering Practices Handbook: Engineering Practices: Designing Solutions, EM11 **Realize™ Digital Resources:** **Human Uses of Energy** >Topic Launch>Quest Kickoff>Video: Power to the People >Topic Close>Quest Findings>Interactivity: Power to the People

South Carolina College- and Career-Ready Science Standards 2021, Grade 4	South Carolina Elevate Science, ©2023 Grade 4
ETS1.B: Developing Possible Solution	
At whatever stage, communicating with peers about proposed solutions is an important part of the design process, and shared ideas can lead to improved designs.	**SE/TE:** STEM Quest Kickoff: Power from the People, 52-53 Quest Check-In: Human Power, 63 STEM Quest Check-In Lab: How can you use a battery to produce motion?, 72-73 STEM Quest Check-In Lab: How can the sun make a motor work?, 80 uEngineer It!: Hold that Phone, 82-83 STEM Quest Findings: Power to the People, 92
ETS2.B: Influence of Engineering, Technology, and Science on Society and the Natural World	
Engineers improve existing technologies or develop new ones. (secondary)	**SE/TE:** STEM Quest Kickoff: Power from the People, 52-53 Quest Check-In: Human Power, 63 STEM Quest Check-In Lab: How can you use a battery to produce motion?, 72-73 STEM Quest Check-In Lab: How can the sun make a motor work?, 80 uEngineer It!: Hold that Phone, 82-83 STEM Quest Findings: Power to the People, 92 **Realize™ Digital Resources:** **Human Uses of Energy** >Topic Launch>Quest Kickoff>Video: Power to the People >Topic Close>Quest Findings>Interactivity: Power to the People
Science and Engineering Practices	
Constructing Explanations and Designing Solutions Apply scientific ideas to solve design problems.	**SE/TE:** Visual Literacy Connection: How is electrical energy generated from chemical energy?, 60-61 Quest Check-In: Human Power, 63 STEM uInvestigate Lab: How do we find oil?, 65 Visual Literacy Connection: Where do fossil fuels come from?, 68-69 **Realize™ Digital Resources:** **Human Uses of Energy** >Lesson 1, Energy Conversion>Interactivity: Electrical Energy Changes Forms

South Carolina College- and Career-Ready Science Standards 2021, Grade 4	South Carolina Elevate Science, ©2023 Grade 4
Crosscutting Concepts	
Energy and Matter Energy can be transferred in various ways and between objects.	**SE/TE:** STEM Quest Check-In Lab: How can you use a battery to produce motion?, 72-73 STEM Quest Check-In Lab: How can the sun make a motor work?, 80
Waves and their Applications in Technologies for Information Transfer (PS4)	
Performance Expectation	
4-PS4-1. Develop a model of waves to describe patterns in terms of amplitude and wavelength and that waves can cause objects to move.	**SE/TE:** uConnect Lab: How do we describe waves?, 104 uInvestigate Lab: How does a wave carry energy?, 107 uInvestigate Lab: What patterns can waves make?, 117 uBe a Scientist: Ripples, 118 Visual Literacy Connection: How do wave patterns move?, 120-121 uDemonstrate Lab: How can you model a light or sound wave?, 148-149
Disciplinary Core Ideas	
PS4.A: Wave Properties	
Waves, which are regular patterns of motion, can be made in water by disturbing the surface. When waves move across the surface of deep water, the water goes up and down in place; there is no net motion in the direction of the wave except when the water meets a beach. Waves of the same type can differ in amplitude (height of the wave) and wavelength (spacing between wave peaks). Waves of the same type can differ in amplitude (height of the wave) and wavelength (spacing between wave peaks).	**SE/TE:** Wave Characteristics, 109 Visual Literacy Connection: How does a wave move?, 110-111 Wave Energy, 112 uInvestigate Lab: What patterns can waves make?, 117 Patterns in Wave Characteristics, 118 uBe a Scientist: Ripples, 118 Wave Patterns, 119 Crosscutting Concepts Toolbox: Patterns, 119 Visual Literacy Connection: How do wave patterns move?, 120-121 **Realize™ Digital Resources**: **Waves and Information** >Lesson 1, Properties of Waves>Video: Properties of Waves;>Quiz: Properties of Waves >Lesson 2, Patterns of Waves>Video: Patterns of Waves

South Carolina College- and Career-Ready Science Standards 2021, Grade 4	South Carolina Elevate Science, ©2023 Grade 4
Science and Engineering Practices	
Developing and Using Models Develop a model using an analogy, example, or abstract representation to describe a scientific principle.	**SE/TE:** uConnect Lab: How do we describe waves?, 104 uInvestigate Lab: How does a wave carry energy?, 107 Visual Literacy Connection: How does a wave move?, 111 uDemonstrate Lab: How can you model a light or soundwave?, 148-149 Science Practices: Developing and Using Models, EM6
Crosscutting Concepts	
Patterns Similarities and differences in patterns can be used to sort and classify natural phenomena.	**SE/TE:** Visual Literacy Connection: How does a wave move?, 110-111 Patterns and Wave Characteristics, 118 Wave Patterns, 119 Crosscutting Concepts Toolbox: Patterns, 119 Visual Literacy Connection: How do wave patterns move?, 120-121 **TE only:** Focus on Mastery!: Patterns, 108 **Realize™ Digital Resources:** **Waves and Information** >Lesson 2, Patterns of Waves>Video: Patterns of Waves;>Interactivity: The Doppler Effect

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South Carolina College- and Career-Ready Science Standards 2021, Grade 4	South Carolina Elevate Science, ©2023 Grade 4
Performance Expectation	
4-PS4-2. Develop a model to describe that light reflecting from objects and entering the eye allows objects to be seen.	**SE/TE:** uInvestigate Lab: How is light reflected?, 125 uBe a Scientist: Light Reflection, 126 Design It!, 127 Topic Assessment, 145 uEngineer It! Model STEM: Eye See You!, 324 **Realize™ Digital Resources**: **Human Body Systems** >Lesson 3, Nervous System>Virtual Lab: Building a System
Disciplinary Core Ideas	
PS4.B: Electromagnetic Radiation	
An object can be seen when light reflected from its surface enters the eyes.	**SE/TE:** Seeing Objects, 127 Lesson 3 Check, 131 Topic Assessment, 144-145 uConnect Lab: How do your eyes respond to differences in lighting?, 280 uEngineer It! Model STEM: Eye See You!, 324 Visual Literacy Connection: What are sensory organs?, 360 **Realize™ Digital Resources**: **Waves and Information** >Lesson 3, Waves and the Electromagnetic Spectrum>Interactivity: Light Energy and Vision;>Quiz: Waves and the Electromagnetic Spectrum **Human Body Systems** >Lesson 3, Nervous System> Virtual Lab: Building a System
Science and Engineering Practices	
Developing and Using Models Develop a model to describe phenomena.	**SE/TE:** uInvestigate Lab: How is light reflected?, 125 uBe a Scientist: Light Reflection, 126 uDemonstrate Lab: How can you model a light or sound wave?, 148-149 uEngineer It! Model STEM: Eye See You!, 324 Science Practices: Developing and Using Models, EM6 **Realize™ Digital Resources**: **Human Body Systems** >Lesson 3, Nervous System> Virtual Lab: Building a System

South Carolina College- and Career-Ready Science Standards 2021, Grade 4	South Carolina Elevate Science, ©2023 Grade 4
Crosscutting Concepts	
Cause and Effect Cause-and-effect relationships are routinely identified.	**SE/TE:** uInvestigate Lab: How is light reflected?, 125 Properties of Light Waves, 126 Seeing Objects, 127 **Realize™ Digital Resources:** **Waves and Information** >Lesson 3, Waves and the Electromagnetic Spectrum> Interactivity: Light Energy and Vision;>Quiz: Waves and the Electromagnetic Spectrum
Performance Expectation	
4-PS4-3. Generate and compare multiple solutions that use patterns to transmit information.	**SE/TE:** STEM Quest Kickoff: Be a Message Master, 102-103 Stem Quest Check-In Lab: How can you send a message with sound?, 123 STEM Quest Check-In Lab: How can you send a message with light?, 132-133 uInvestigate Lab: How can information from waves be translated?, 135 Engineering Practices Toolbox: Design Solutions, 139 Quest Check-In: Compare Codes, 140 **Realize™ Digital Resources:** **Waves and Information** >Topic Launch>Quest Kickoff>Video: Be a Message Master >Topic Close>Quest Findings>Interactivity: Be a Message Master

South Carolina College- and Career-Ready Science Standards 2021, Grade 4	South Carolina Elevate Science, ©2023 Grade 4
Disciplinary Core Ideas	
PS4.C: Information Technologies and Instrumentation:	
Digitized information can be transmitted over long distances without significant degradation. High-tech devices, such as computers or cell phones, can receive and decode information—convert it from digitized form to voice—and vice versa. When in digitized form, information can be recorded, stored for future recovery, and transmitted over long distances without significant degradation of the wave.	**SE/TE:** Curriculum Connection, 134 uInvestigate Lab: How can information from waves be translated?, 135 Waves Outside the Visible Spectrum, 136-137 Digital and Analog Signals, 138 Technology Mimics Life, 139 Engineering Practices Toolbox: Design Solutions, 139 **Realize™ Digital Resources:** **Waves and Information** >Lesson 4, Waves and Information>Video: Waves and Information;>Virtual Lab: Call the Galactic Neighbors;>Interactivity: Sending and Receiving Information
ETS1.C: Optimizing the Designed Solution	
Different solutions need to be tested in order to determine which of the best solves the problem, given the criteria and the constraints.	**SE/TE:** STEM Quest Kickoff: Be a Message Master, 102-103 uInvestigate Lab: How can information from waves be translated?, 135 Engineering Practices Toolbox: Design Solutions, 139 Quest Check-In: Compare Codes, 140 Quest Findings: Be a Message Master, 142 **Realize™ Digital Resources:** **Waves and Information** >Topic Launch>Quest Kickoff>Video: Be a Message Master >Topic Close>Quest Findings>Interactivity: Be a Message Master
ETS2.A: Interdependence of Science, Engineering, and Technology	
Knowledge of relevant scientific concepts and research findings is important in engineering.	**SE/TE:** Engineering Practices Toolbox: Design Solutions, 139 uInvestigate Lab: How can information from waves be translated?, 135 Engineering Practices Toolbox: Design Solutions, 139

South Carolina College- and Career-Ready Science Standards 2021, Grade 4	South Carolina Elevate Science, ©2023 Grade 4
Science and Engineering Practices	
Constructing Explanations and Designing Solutions Generate and compare multiple solutions to a problem based on how well they meet the criteria and constraints of the design solution.	**SE/TE:** STEM Quest Kickoff: Be a Message Master, 102-103 Stem Quest Check-In Lab: How can you send a message with sound?, 123 STEM Quest Check-In Lab: How can you send a message with light?, 132-133 uInvestigate Lab: How can information from waves be translated?, 135 Engineering Practices Toolbox: Design Solutions, 139 Quest Check-In: Compare Codes, 140 Science and Engineering Practices Handbook: Engineering Practices: Designing Solutions, EM11 Science and Engineering Practices Handbook: Engineering Practices: Optimizing Solutions, EM13 **Realize™ Digital Resources:** **Waves and Information** >Topic Launch>Quest Kickoff>Video: Be a Message Master >Topic Close>Quest Findings>Interactivity: Be a Message Master
Crosscutting Concepts	
Patterns Similarities and differences in patterns can be used to sort and classify designed products.	**SE/TE:** Digital and Analog Signals, 138 **Realize™ Digital Resources:** **Waves and Information** >Lesson 4, Waves and Information>Video: Waves and Information;>Virtual Lab: Call the Galactic Neighbors;>Interactivity: Sending and Receiving Information

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South Carolina College- and Career-Ready Science Standards 2021, Grade 4	South Carolina Elevate Science, ©2023 Grade 4
From Molecules to Organisms: Structures and Processes (LS1)	
Performance Expectation	
4-LS1-1. Construct an argument that plants and animals have internal and external structures that function together in a system to support survival, growth, behavior, and reproduction.	**SE/TE:** STEM Quest Kickoff: Let Plants and Animals Inspire You!, 278-279 uConnect Lab: How do your eyes respond in differences in lighting?, 280 uInvestigate Lab: What parts are inside a flower?, 283 Quest Check-In Lab: How can you observe a plant's vascular system in action?, 290-291 uInvestigate Lab: How are leaf coverings different?, 293 Visual Literacy Connection: What are the life cycles of plants?, 296-297 uInvestigate Lab: How can you compare the stomachs of cows and dogs?, 301 uInvestigate Lab: How can you design a protective insect shell?, 309 STEM Quest Findings: Let Plants and Animals Inspire You!, 326 Quest Kickoff: Make a Human Body Road Map, 336-337 uConnect Lab: Which body parts work together to do a task?, 328 uInvestigate Lab: How can you model how you breathe?, 341 uInvestigate Lab: How can you test the strength of a bone?, 351 uInvestigate Lab: How are intestines arranged inside your body?, 367 Quest Findings: Make a Human Body Road Map, 377 uDemonstrate Lab: How do your sensory organs gather information?, 382-383 **Realize™ Digital Resources:** **Structures and Functions** >Topic Launch>Quest Kickoff>Video: Let Plants and Animals Inspire You! >Topic Close>Quest Findings>Interactivity: Let Plants and Animals Inspire You!

South Carolina College- and Career-Ready Science Standards 2021, Grade 4	South Carolina Elevate Science, ©2023 Grade 4
Disciplinary Core Ideas	
LS1.A: Structure and Function	
Plants and animals have both internal and external structures that serve various functions in growth, survival, behavior, and reproduction.	**SE/TE:** uInvestigate Lab: What parts are inside a flower?, 283 Visual Literacy Connection What are some functions of internal leaf structures?, 286-287 Quest Check-In Lab: How can you observe a plant's vascular system in action?, 290-291 Visual Literacy Connection: What are the life cycles of plants?, 296-297 uInvestigate Lab: How can you compare the stomachs of cows and dogs?, 301 Visual Literacy Connection: How do lungs and gills compare?, 304-305 Solve it with Science: Why do animals shed their exoskeletons?, 315 Topic Assessment, 328-329 Evidence-Based Assessment, 330-331 **Realize™ Digital Resources:** **Structures and Functions** >Lesson 1, Internal Structures and Functions of Plants> Interactivity: The Structure of Flowers >Lesson 2, External Structures and Functions of Plants> Virtual Lab: Partners in Pollination >Lesson 3, Internal Structures and Functions of Animals> Interactivity: Eating Food and Making Food;>Quiz: Internal Structures and Functions of Animals >Lesson 4, External Structures and Functions of Animals> Interactivity: External Structures of Plants and Animals

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Digital Resources: The symbol > indicates a click to reach each digital asset on the Realize platform.

South Carolina College- and Career-Ready Science Standards 2021, Grade 4	South Carolina Elevate Science, ©2023 Grade 4
Science and Engineering Practices	
Engaging in Argument from Evidence Construct an argument with evidence, data, and/or a model.	**SE/TE:** uInvestigate Lab: What parts are inside a flower?, 283 Quest Check-In Lab: How can you observe a plant's vascular system in action?, 290-291 uInvestigate Lab: How are leaf coverings different?, 293 uInvestigate Lab: How can you compare the stomachs of cows and dogs?, 301 uConnect Lab: Which body parts work together to do a task?, 338 uInvestigate Lab: How can you model how you breathe?, 341 uInvestigate Lab: How can you test the strength of a bone?, 351 uInvestigate Lab: How are intestines arranged inside your body?, 367 uDemonstrate Lab: How do your sensory organs gather information?, 382-383
Crosscutting Concepts	
Systems and System Models A system can be described in terms of its components and their interactions.	**SE/TE:** Model It!, 295 How can you model how you breathe?, 341 Tissues, Organs, and Organ Systems, 342 Respiratory System, 343 Circulatory System, 344-345 Skeletal System, 352 Muscular System, 353 Digestive System, 368 Excretory System, 370 Reproductive System, 371 Immune System, 372-373 **Realize™ Digital Resources:** **Human Body Systems** >Lesson 1>Circulatory and Respiratory Systems>Video: Circulatory and Respiratory Systems; Interactivity: Follow the Flow >Lesson 2>Skeleton, Muscles, and Skin>Video: Skeleton, Muscles, and Skin;>Interactivity: Systems that Help You Move >Lesson 3, Nervous System>Video: Nervous System >Lesson 4, Digestive, Reproductive, and Other Systems>Video: Digestive, Reproductive, and Other Systems

South Carolina College- and Career-Ready Science Standards 2021, Grade 4	South Carolina Elevate Science, ©2023 Grade 4
Performance Expectation	
4-LS1-2. Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways.	**SE/TE:** Engineering Connection, 316 uInvestigate Lab: How can you locate an object using only sound?, 317 Visual Literacy Connection: How do elephants respond to stimulus?, 318-319 Animal Responses to Smells, 320 Lesson 5 Check, 322 Quest Check-In: Sound Off!, 323 Evidence-Based Assessment, 330-331 uDemonstrate Lab: How do earthworms respond to stimuli?, 332-333 Quest Kickoff: Make a Human Body Road Map, 336-337 uInvestigate Lab: Which parts of the body are more sensitive?, 359 Visual Literacy Connection: What are sensory organs?, 360-361 STEM Quest Check-In Lab: How can you test signals to and from your brain?, 364-365 **Realize™ Digital Resources:** **Structures and Functions** >Lesson 5, Plant and Animal Responses to the Environment>Video: Plant and Animal Responses to the Environment;>Interactivity: Plants and Animals Respond to the Environment **Human Body Systems** >Topic Launch>Quest Kickoff>Video: Make a Human Body Road Map >Lesson 3>Nervous System>Video: Nervous System

South Carolina College- and Career-Ready Science Standards 2021, Grade 4	South Carolina Elevate Science, ©2023 Grade 4
Disciplinary Core Ideas	
LS1.D: Information Processing	
Different sense receptors are specialized for particular kinds of information, which may be then processed by the animal's brain. Animals are able to use their perceptions and memories to guide their actions.	**SE/TE:** Engineering Connection, 316 uInvestigate Lab: How can you locate an object using only sound?, 317 Visual Literacy Connection: How do elephants respond to stimuli?, 318-319 Animal Responses to Smells, 320 Changing Environments and Survival, 321 Quest Check-In: Sound Off!, 323 uEngineer It!: Eye See You!, 324-325 Evidence-Based Assessment, 330-331 uDemonstrate Lab: How do earthworms respond to stimuli?, 332-333 Quest Kickoff: Make a Human Body Road Map, 336-337 uInvestigate Lab: Which parts of the body are more sensitive?, 359 Visual Literacy Connection: What are sensory organs?, 360-361 uBe a Scientist: Reaction Time, 362 Brain, 362 Nerves, 363 STEM Quest Check-In Lab: How can you test signals to and from your brain?, 364-365 Quest Findings: Make a Human Body Road Map, 376 **Realize™ Digital Resources:** **Structures and Functions** >Lesson 5, Plant and Animal Responses to the Environment>Video: Plant and Animal Responses to the Environment;>Interactivity: Plants and Animals Respond to the Environment **Human Body Systems** >Topic Launch>Quest Kickoff>Video: Make a Human Body Road Map >Lesson 3>Nervous System>Video: Nervous System;>Virtual Lab: Building a System;>Interactivity: Senses Make a Meal Sensational >Topic Close>Quest Findings>Interactivity: Make a Human Body Road Map

South Carolina College- and Career-Ready Science Standards 2021, Grade 4	South Carolina Elevate Science, ©2023 Grade 4
Science and Engineering Practices	
Developing and Using Models Use a model to test interactions concerning the functioning of a natural system.	**SE/TE:** uInvestigate Lab: How can you locate an object using only sound?, 317 Visual Literacy Connection: How do elephants respond to stimuli?, 318-319 Quest Check-In: Sound Off!, 323 uEngineer It!: Eye See You!, 324-325 Evidence-Based Assessment, 330-331 uDemonstrate Lab: How do earthworms respond to stimuli?, 332-333 Quest Kickoff: Make a Human Body Road Map, 336-337 uInvestigate Lab: Which parts of the body are more sensitive?, 359 Visual Literacy Connection: What are sensory organs?, 360-361 STEM Quest Check-In Lab: How can you test signals to and from your brain?, 364-365 Quest Findings: Make a Human Body Road Map, 376 **Realize™ Digital Resources:** **Structures and Functions** >Lesson 5, Plant and Animal Responses to the Environment>Video: Plant and Animal Responses to the Environment;>Interactivity: Plants and Animals Respond to the Environment **Human Body Systems** >Lesson 3>Nervous System>Video: Nervous System;>Virtual Lab: Building a System;>Interactivity: Senses Make a Meal Sensational

South Carolina College- and Career-Ready Science Standards 2021, Grade 4	South Carolina Elevate Science, ©2023 Grade 4
Crosscutting Concepts	
Systems and System Models A system can be described in terms of its components and their interactions.	**SE/TE:** Model It!, 295 How can you model how you breathe?, 341 Tissues, Organs, and Organ Systems, 342 Respiratory System, 343 Circulatory System, 344-345 Skeletal System, 352 Muscular System, 353 Digestive System, 368 Excretory System, 370 Reproductive System, 371 Immune System, 372-373 **Realize™ Digital Resources:** **Human Body Systems** >Lesson 1>Circulatory and Respiratory Systems>Video: Circulatory and Respiratory Systems; Interactivity: Follow the Flow >Lesson 2>Skeleton, Muscles, and Skin>Video: Skeleton, Muscles, and Skin;>Interactivity: Systems that Help You Move >Lesson 3, Nervous System>Video: Nervous System >Lesson 4, Digestive, Reproductive, and Other Systems>Video: Digestive, Reproductive, and Other Systems

South Carolina College- and Career-Ready Science Standards 2021, Grade 4	South Carolina Elevate Science, ©2023 Grade 4
Earth's Place in the Universe (ESS1)	
Performance Expectation	
4-ESS1-1 Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in a landscape over time.	**SE/TE:** Quest Kickoff: Dig for the Truth, 244-245 uConnect Lab: Where are fossils found in rock layers?, 246 uInvestigate Lab: What patterns do fossils follow?, 249 Rock Formations, 251 A Colorful Change, 252 STEM Math Connection: Canyonlands, 255 uInvestigate Lab: How can rock layers show change?, 259 Fossil Clues on Earth, 260 Index Fossils, 261 Crosscutting Concepts Toolbox: Patterns, 261 Visual Literacy Connection: How can layers of rock change?, 262-263 Comparing Rock Layers, 264 uBe a Scientist: Be a Rock Hound, 264 Quest Findings: Dig for the Truth, 268 Topic Assessment, 270-271 Evidence-Based Assessment, 272-273 uDemonstrate Lab: How can you correlate rock layers?, 274-275 **Realize™ Digital Resources**: **History of the Planet Earth** >Lesson 1, Patterns in Fossils and Rock Formations>Video: Patterns in Fossils and Rock Formations;>Interactivity: Patterns in Fossils and Rock Formations;>Quiz: Patterns in Fossils and Rock Formations >Lesson 2, Evidence of Change from Fossils and Rock Formations>Video: Evidence of Change from Fossils and Rock Formations;>Interactivity: Evidence of Change from Fossils and Rock Formations;>Quiz: Evidence of Change from Fossils and Rock Formations

South Carolina College- and Career-Ready Science Standards 2021, Grade 4	South Carolina Elevate Science, ©2023 Grade 4
Disciplinary Core Ideas	
ESS1.C: The History of Planet Earth	
Local, regional, and global patterns of rock formations reveal changes over time due to Earth forces, such as earthquakes. The presence and location of certain fossil types indicate the order in which rock layers were formed.	**SE/TE:** Earthquakes, 210 uBe a Scientist: Earthquake Evidence, 210 Quest Kickoff: Dig for the Truth, 244-245 uConnect Lab: Where are fossils found in rock layers?, 246 uInvestigate Lab: What patterns do fossils follow?, 249 Rock Formations, 251 A Colorful Change, 252 STEM Math Connection: Canyonlands, 255 uInvestigate Lab: How can rock layers show change?, 259 Fossil Clues on Earth, 260 Index Fossils, 261 Crosscutting Concepts Toolbox: Patterns, 261 Visual Literacy Connection: How can layers of rock change?, 262-263 Comparing Rock Layers, 264 uBe a Scientist: Be a Rock Hound, 264 Quest Findings: Dig for the Truth, 268 Topic Assessment, 270-271 Evidence-Based Assessment, 272-273 uDemonstrate Lab: How can you correlate rock layers?, 274-275 **Realize™ Digital Resources**: **Earth's Natural Hazards** >Lesson 1, Tectonic Hazards>Interactivity: Tectonic Events **History of the Planet Earth** >Lesson 1, Patterns in Fossils and Rock Formations>Video: Patterns in Fossils and Rock Formations;>Interactivity: Patterns in Fossils and Rock Formations;>Quiz: Patterns in Fossils and Rock Formations >Lesson 2, Evidence of Change from Fossils and Rock Formations>Video: Evidence of Change from Fossils and Rock Formations;>Interactivity: Evidence of Change from Fossils and Rock Formations;>Quiz: Evidence of Change from Fossils and Rock Formations

South Carolina College- and Career-Ready Science Standards 2021, Grade 4	South Carolina Elevate Science, ©2023 Grade 4
Science and Engineering Practices	
Constructing Explanations and Designing Solutions Identify the evidence that supports particular points in an explanation.	**SE/TE:** uBe a Scientist: Earthquake Evidence, 210 uConnect Lab: Where are fossils found in rock layers?, 246 uInvestigate Lab: What patterns do fossils follow?, 249 Quest Check-In: Existing Evidence, 254 uInvestigate Lab: How can rock layers show change?, 259 Quest Check-In Lab: What does a core sample tell us?, 266-267 Evidence-Based Assessment, 272-273 uDemonstrate Lab: How can you correlate rock layers?, 274-275 Science Practices: Constructing Explanations, EM6 **Realize™ Digital Resources**: **History of the Planet Earth** >Lesson 1, Patterns in Fossils and Rock Formations>Video: Patterns in Fossils and Rock Formations;>Interactivity: Patterns in Fossils and Rock Formations >Lesson 2, Evidence of Change from Fossils and Rock Formations>Video: Evidence of Change from Fossils and Rock Formations;>Interactivity: Evidence of Change from Fossils and Rock Formations
Crosscutting Concepts	
Patterns Patterns can be used as evidence to support an explanation.	**SE/TE:** uConnect Lab: Where are fossils found in rock layers?, 246 uInvestigate Lab: What patterns do fossils follow?, 249 uInvestigate Lab: How can rock layers show change?, 259 Crosscutting Concepts Toolbox: Patterns, 261 Quest Check-In Lab: What does a core sample tell us?, 266-267 uDemonstrate Lab: How can you correlate rock layers?, 274-275 **Realize™ Digital Resources**: **History of the Planet Earth** >Lesson 1, Patterns in Fossils and Rock Formations>Video: Patterns in Fossils and Rock Formations;>Interactivity: Patterns in Fossils and Rock Formations;>Quiz: Patterns in Fossils and Rock Formations

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South Carolina College- and Career-Ready Science Standards 2021, Grade 4	South Carolina Elevate Science, ©2023 Grade 4
Earth's Systems (ESS2)	
Performance Expectation	
4-ESS2-1. Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation.	**SE/TE:** Quest Kickoff: Does X Mark the Spot? That's Up to You!, 152-153 uConnect Lab: How can rain affect land?, 154 Visual Literacy Connection: How do rocks change?, 178-179 STEM Quest Check-In Lab: How can you make a model of a landform?, 182-183 uInvestigate Lab: How can a rock wear away?, 185 uBe a Scientist: Weathering, 186 STEM Quest Check-In Lab: How does water affect landforms?, 192 Quest Findings: Does X Mark the Spot? That's Up to You!, 194 **Realize™ Digital Resources:** **Earth's Features** >Topic Launch>Quest Kickoff>Video: Does X Mark the Spot? That's Up to You! >Topic Close>Quest Findings>Interactivity: Does X Mark the Spot? That's Up to You!
Disciplinary Core Ideas	
ESS2.A: Earth Materials and Systems	
Rainfall helps to shape the land and affects the types of living things found in a region. Water, ice, wind, living organisms, and gravity break rocks, soils, and sediments into smaller particles and move them around.	**SE/TE:** uConnect Lab: How can rain affect land?, 154 uInvestigate Lab: How can a rock wear away?, 185 uBe a Scientist: Weathering, 186 Quest Connection, 187 Erosion, 188 Movement of Particles, 189 Changes in Landforms over Time, 191 STEM Quest Check-In Lab: How does water affect landforms?, 192 Extreme Science: Powerful Plants, 193 Topic Assessment, 196-197 Evidence-Based Assessment, 198-199 **Realize™ Digital Resources:** **Earth's Features** >Lesson 4, Weathering and Erosion>Video: Weathering and Erosion;>Interactivity: Our Changing Landscape

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South Carolina College- and Career-Ready Science Standards 2021, Grade 4	South Carolina Elevate Science, ©2023 Grade 4
ESS2.E: Biogeology	
Living things affect the physical characteristics of their regions.	**SE/TE:** Extreme Science: Powerful Plants, 193
Science and Engineering Practices	
Planning and Carrying Out Investigations Make observations and/or measurements to produce data to serve as the basis for evidence for an explanation of a phenomenon.	**SE/TE:** uConnect Lab: How can rain affect land?, 154 uInvestigate Lab: How can a rock wear away?, 185 STEM Quest Check-In Lab: How does water affect landforms?, 192 **Realize™ Digital Resources:** **Earth's Features** >Lesson 4, Weathering and Erosion>Video: Weathering and Erosion;>Interactivity: Our Changing Landscape
Crosscutting Concepts	
Cause and Effect Cause-and-effect relationships are routinely identified, tested, and used to explain change.	**SE/TE:** uConnect Lab: How can rain affect land?, 154 uInvestigate Lab: How can a rock wear away?, 185 STEM Quest Check-In Lab: How does water affect landforms?, 192 **Realize™ Digital Resources:** **Earth's Features** >Lesson 4, Weathering and Erosion>Video: Weathering and Erosion;>Interactivity: Our Changing Landscape

South Carolina College- and Career-Ready Science Standards 2021, Grade 4	South Carolina Elevate Science, ©2023 Grade 4
Performance Expectation	
4-ESS2-2. Analyze and interpret data from maps to describe patterns of Earth's features.	**SE/TE:** Quest Kickoff: Does X Mark the Spot? That's Up to You!, 152-153 Sports Connection, 156 uInvestigate Lab: How do tools help us?, 157 Read a Map, 158 Quest Connection, 158 Visual Literacy Connection: How can you see the same place in different ways?, 160-161 Resource Maps, 162 Lesson 1 Check, 162 Quest Check-In: The Making of a Legend, 163 uEngineer It!: Take a Hike!, 164-165 uInvestigate Lab: Where are major landforms?, 167 Patterns of Mountains, 168 Patterns of Earthquakes and Volcanoes, 169 Crosscutting Concepts Toolbox: Patterns, 169 Visual Literacy Connection: How can a physical map help me locate different landforms?, 170-171 Patterns Under the Ocean, 172 Lesson 2 Check, 172 Quest Check-In: A Changing Landscape, 173 Evidence-Based Assessment, 198-199 **Realize™ Digital Resources:** **Earth's Features** >Topic Launch>Quest Kickoff>Video: Does X Mark the Spot? That's Up to You! >Lesson 1, Maps and Data>Video: Maps and Data;>Virtual Lab: Where Would You Build the Telescope;>Interactivity: The World of Maps >Lesson 2, Patterns of Earth's Features>Video: Patterns of Earth's Features;>Interactivity: The Shape of the Land >Topic Close>Quest Findings>Interactivity: Does X Mark the Spot? That's Up to You!

South Carolina College- and Career-Ready Science Standards 2021, Grade 4	South Carolina Elevate Science, ©2023 Grade 4
Disciplinary Core Ideas	
ESS2.B: Plate Tectonics and Large-Scale System Interactions	
The locations of mountain ranges, deep ocean trenches, ocean floor structures, earthquakes, and volcanoes occur in patterns. Most earthquakes and volcanoes occur in bands that are often along the boundaries between continents and oceans. Major mountain chains form inside continents or near their edges. Maps can help locate the different land and water features areas of Earth.	**SE/TE:** ulnvestigate Lab: Where are major landforms?, 167 Patterns of Mountains, 168 Patterns of Earthquakes and Volcanoes, 169 Crosscutting Concepts Toolbox: Patterns, 169 Visual Literacy Connection: How can a physical map help me locate different landforms?, 170-171 Patterns Under the Ocean, 172 Lesson 2 Check, 172 Quest Check-In: A Changing Landscape, 173 Evidence-Based Assessment, 198-199 **Realize™ Digital Resources:** **Earth's Features** >Lesson 2, Patterns of Earth's Features>Video: Patterns of Earth's Features;>Interactivity: The Shape of the Land
Science and Engineering Practices	
Analyzing and Interpreting Data Analyze and interpret data to make sense of phenomena using logical reasoning.	**SE/TE:** ulnvestigate Lab: How do tools help us?, 157 Visual Literacy Connection: How can you see the same place in different ways?, 160-161 Quest Check-In: The Making of a Legend, 163
Crosscutting Concepts	
Patterns Patterns can be used as evidence to support an explanation.	**SE/TE:** ulnvestigate Lab: Where are major landforms?, 167 Patterns of Mountains, 168 Patterns of Earthquakes and Volcanoes, 169 Crosscutting Concepts Toolbox: Patterns, 169 Visual Literacy Connection: How can a physical map help me locate different landforms?, 170-171 Patterns Under the Ocean, 172 Lesson 2 Check, 172 Quest Check-In: A Changing Landscape, 173 Evidence-Based Assessment, 198-199 **Realize™ Digital Resources:** **Earth's Features** >Lesson 2, Patterns of Earth's Features>Video: Patterns of Earth's Features;>Interactivity: The Shape of the Land

South Carolina College- and Career-Ready Science Standards 2021, Grade 4	South Carolina Elevate Science, ©2023 Grade 4
Earth and Human Activity (ESS3)	
Performance Expectation	
4-ESS3-1. Obtain and combine information to describe that energy and fuels are derived from natural resources and how their uses affect the environment.	**SE/TE:** uConnect Lab: How are energy resources used?, 54 uInvestigate Lab: Why is oil clean up so hard?, 85 Impact of Energy Production, 86 Impacts of Nuclear Power, 87 Science Practices Toolbox: Obtaining and Evaluating Information, 87 Visual Literacy Connection: How can the use of energy damage ecosystems?, 88-89 Impact of Transporting Fuels, 90 uDemonstrate Lab: How can energy resource usage change?, 98-99 **Realize™ Digital Resources:** **Human Uses of Energy** >Lesson 4, Environmental Impacts of Energy Use>Video: Environmental Impacts of Energy Use;>Virtual Lab: The Best Power for the Place;>Interactivity: Human Activity and the Environment

South Carolina College- and Career-Ready Science Standards 2021, Grade 4	South Carolina Elevate Science, ©2023 Grade 4
Disciplinary Core Ideas	
ESS3.A: Natural Resources	
All materials, energy, and fuels that humans use are derived from natural sources, and their use affects the environment in multiple ways. Some resources are renewable over time, and others are not.	**SE/TE:** uConnect Lab: How are energy resources used?, 54 Using Energy, 58 Fuels, 58 Chemical Energy, 59 Fossil Fuels, 66 Petroleum, 67 Visual Literacy Connection: Where do fossil fuels come from?, 68-69 Natural Gas, 70 Design It!, 70 Nuclear Fuel, 71 Visual Literacy Connection: Is renewable energy all around?, 76-77 Renewable Fuel, 78 Hydropower, 78 Energy That Does Not Run Out, 79 uInvestigate Lab: Why is oil clean up so hard?, 85 Impact of Energy Production, 86 Impacts of Nuclear Power, 87 Science Practices Toolbox: Obtaining and Evaluating Information, 87 Visual Literacy Connection: How can the use of energy damage ecosystems?, 88-89 Impact of Transporting Fuels, 90 uDemonstrate Lab: How can energy resource usage change?, 98-99 **Realize™ Digital Resources:** **Human Uses of Energy** >Lesson 2, Nonrenewable Energy Sources>Video: Nonrenewable Energy Sources;>Interactivity: Fossil Fuels >Lesson 3, Renewable Energy Sources>Video: Renewable Energy Sources;>Interactivity: Natural Resources >Lesson 4, Environmental Impacts of Energy Use>Video: Environmental Impacts of Energy Use;>Virtual Lab: The Best Power for the Place;>Interactivity: Human Activity and the Environment

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South Carolina College- and Career-Ready Science Standards 2021, Grade 4	South Carolina Elevate Science, ©2023 Grade 4
ETS2.A: Interdependence of Science, Engineering, and Technology	
Knowledge of relevant scientific concepts and research findings is important in engineering.	**SE/TE:** uInvestigate Lab: Why is oil clean up so hard?, 85 uDemonstrate Lab: How can energy resource usage change?, 98-99
ETS2.B: Influence of Engineering, Technology, and Science on Society and the Natural World	
Over time, people's needs and wants change, as do their demands for new and improved technologies.	**SE/TE:** uConnect Lab: How are energy resources used?, 54 Using Energy, 58 Fuels, 58 Chemical Energy, 59 Fossil Fuels, 66 Petroleum, 67 Visual Literacy Connection: Where do fossil fuels come from?, 68-69 Natural Gas, 70 Design It!, 70 Nuclear Fuel, 71 Visual Literacy Connection: Is renewable energy all around?, 76-77 Renewable Fuel, 78 Hydropower, 78 Energy That Does Not Run Out, 79 uDemonstrate Lab: How can energy resource usage change?, 98-99 **Realize™ Digital Resources:** **Human Uses of Energy** >Lesson 2, Nonrenewable Energy Sources>Video: Nonrenewable Energy Sources;>Interactivity: Fossil Fuels >Lesson 3, Renewable Energy Sources>Video: Renewable Energy Sources;>Interactivity: Natural Resources
Science and Engineering Practices	
Obtaining, Evaluating, and Communicating Information Obtain and combine information from books and other reliable media to explain phenomena.	**SE/TE:** Visual Literacy Connection: Where do fossil fuels come from?, 68-69 Visual Literacy Connection: Is renewable energy all around?, 76-77 Science Practices Toolbox: Obtaining and Evaluating Information, 87 Visual Literacy Connection: How can the use of energy damage ecosystems?, 88-89

South Carolina College- and Career-Ready Science Standards 2021, Grade 4	South Carolina Elevate Science, ©2023 Grade 4
Crosscutting Concepts	
Cause and Effect Cause-and-effect relationships are routinely identified and used to explain change.	**SE/TE:** uInvestigate Lab: Why is oil clean up so hard?, 85 Impact of Energy Production, 86 Impacts of Nuclear Power, 87
Performance Expectation	
4-ESS3-2. Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.	**SE/TE:** Quest Kickoff: Protect the City! Hazard Incoming!, 204-205 uConnect Lab: How can you reduce the impact of rapidly sliding soil?, 206 Quest Check-In: Water Warnings, 224 uInvestigate Lab: Where should you build an earthquake-safe structure?, 227 STEM Quest Check-In Lab: How can you reduce hazard damage?, 232-233 Quest Findings: Protect the City! Hazard incoming!, 234 uDemonstrate Lab: How can homes be designed to be more earthquake resistant?, 240-241 **Realize™ Digital Resources:** **Earth's Natural Hazards** >Topic Launch>Quest Kickoff>Video: Protect the City! Hazard Incoming! >Topic Close>Quest Findings>Interactivity: Protect the City! Hazard Incoming!

South Carolina College- and Career-Ready Science Standards 2021, Grade 4	South Carolina Elevate Science, ©2023 Grade 4
Disciplinary Core Ideas	
ESS3.B Natural Hazards	
A variety of hazards result from natural processes (e.g., earthquakes, tsunamis, volcanic eruptions). Humans cannot eliminate the hazards but can take steps to reduce their impacts.	**SE/TE:** Quest Kickoff: Protect the City! Hazard Incoming!, 204-205 uConnect Lab: How can you reduce the impact of rapidly sliding soil?, 206 Curriculum Connection, 208 uInvestigate Lab: How can a large wave affect land?, 209 Earthquakes, 210 Hazards of Earthquakes, 211 Visual Literacy Connection: What happens during a tsunami?, 212-213 Volcanoes, 214 Quest Check-In: Beware: Hot Ash!, 215 uEngineer It!: Warning!, 216-217 Sports Connection, 218 uInvestigate Lab: How does snow sliding quickly down a mountain impact people?, 219 Visual Literacy Connection: How much rainfall is enough?, 220-221 Blizzards, Hurricanes, and Tornadoes, 222 Landslides and Avalanches, 223 Quest Check-In: Water Warnings, 224 Solve it With Science: Where is the greatest earthquake risk?, 225 Engineering Connection, 226 uInvestigate Lab: Where should you build an earthquake-safe structure?, 227 Short-Term Effects of Hazards, 228 Plan It!, 228 Long-Term Effects of Hazards, 229 Predict Natural Hazards, 230 When Hazards Strike, 231 STEM Quest Check-In Lab: How can you reduce hazard damage?, 232-233 Quest Findings: Hazard incoming!, 234 Evidence-Based Assessment, 238-239 uDemonstrate Lab: How can homes be designed to be more earthquake resistant?, 240-241 **Realize™ Digital Resources:** **Earth's Natural Hazards** >Topic Launch>Quest Kickoff>Video: Protect the City! Hazard Incoming! >Lesson 1, Tectonic Hazards>Video: Tectonic Hazards;>Interactivity: Tectonic Events;>uEngineer It!>Interactivity: Bridging the Gap

South Carolina College- and Career-Ready Science Standards 2021, Grade 4	South Carolina Elevate Science, ©2023 Grade 4
Continued: **ESS3.B Natural Hazards:** A variety of hazards result from natural processes (e.g., earthquakes, tsunamis, volcanic eruptions). Humans cannot eliminate the hazards but can take steps to reduce their impacts.	**Continued:** >Lesson 2, Weather Hazards>Video: Weather Hazards;>Interactivity: Catastrophic Weather Events >Lesson 3, Impacts of Natural Hazards>Video: Impacts of Natural Hazards;>Virtual Lab: Withstanding Earth's Natural Hazards;>Interactivity: A Fun and Safe Wilderness Adventure >Topic Close>Quest Findings>Interactivity: Protect the City! Hazard Incoming!
ETS1.B: Developing Possible Solutions	
Testing a solution involves investigating how well it performs under a range of likely conditions. Communicating with peers about proposed solutions is an important part of the design process, and shared ideas can lead to improved designs.	**SE/TE:** uEngineer It!: Warning, 216-217 STEM Quest Check-In Lab: How can you reduce hazard damage?, 232-233 uDemonstrate Lab: How can homes be designed to be more earthquake resistant?, 240-241 **Realize™ Digital Resources:** **Earth's Natural Hazards** >Lesson 1, Tectonic Hazards>uEngineer It!>Interactivity: Bridging the Gap
ETS2.B: Influence of Engineering, Technology, and Science on Society and the Natural World	
Engineers improve existing technologies or develop new ones to increase their benefits, to decrease known risks, and to meet societal demands.	**SE/TE:** uEngineer It!: Warning, 216-217 STEM Quest Check-In Lab: How can you reduce hazard damage?, 232-233 uDemonstrate Lab: How can homes be designed to be more earthquake resistant?, 240-241 **Realize™ Digital Resources:** **Earth's Natural Hazards** >Lesson 1, Tectonic Hazards>uEngineer It!>Interactivity: Bridging the Gap

South Carolina College- and Career-Ready Science Standards 2021, Grade 4	South Carolina Elevate Science, ©2023 Grade 4
Science and Engineering Practices	
Constructing Explanations and Designing Solutions Generate and compare multiple solutions to a problem based on how well they meet the criteria and constraints of the design solution.	**SE/TE:** Quest Kickoff: Protect the City! Hazard Incoming!, 204-205 uConnect Lab: How can you reduce the impact of rapidly sliding soil?, 206 Quest Check-In: Water Warnings, 224 uInvestigate Lab: Where should you build an earthquake-safe structure?, 227 STEM Quest Check-In Lab: How can you reduce hazard damage?, 232-233 Quest Findings: Protect the City! Hazard incoming!, 234 uDemonstrate Lab: How can homes be designed to be more earthquake resistant?, 240-241 **Realize™ Digital Resources:** **Earth's Natural Hazards** >Topic Launch>Quest Kickoff>Video: Protect the City! Hazard Incoming! >Topic Close>Quest Findings>Interactivity: Protect the City! Hazard Incoming!
Crosscutting Concepts	
Cause and Effect Cause-and-effect relationships are routinely identified, tested, and used to explain change.	**SE/TE:** Literacy Connection: Cause and Effect, 207 Reading Check, 210, 218, 222, 223, 228 Literacy Toolbox: Cause and Effect, 211 Visual Literacy Connection: What happens during a tsunami?, 212-213 Lesson 1 Check, 214 Science Practices Toolbox: Cause and Effect, 229 Topic Assessment, 236-237 Evidence-Based Assessment, 238-239