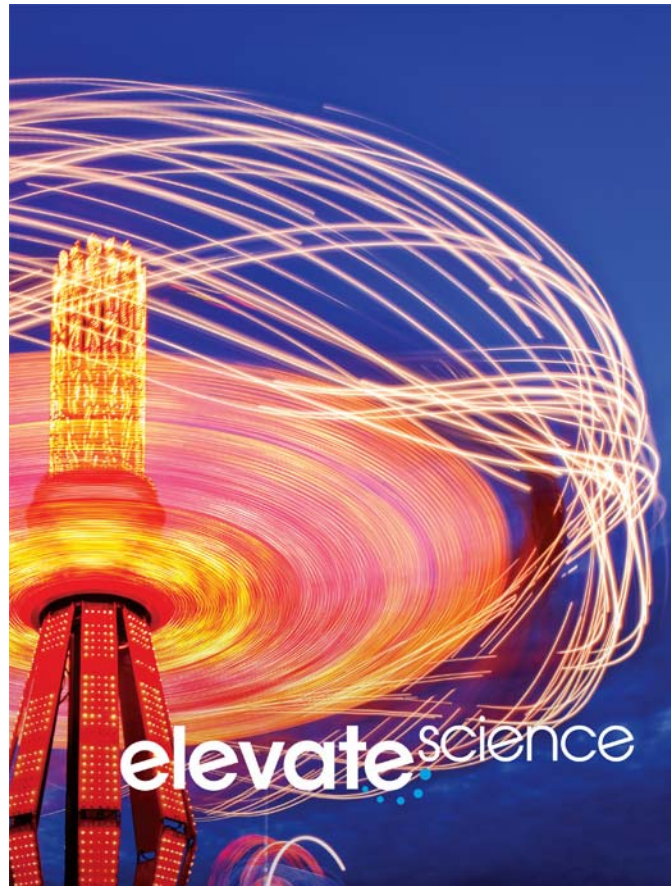


A Correlation of
Elevate Science
Grade 3, ©2019



To the
**Colorado 2020 Academic Standards
for Science**
Grade 3

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Introduction

The following document demonstrates how the ***Elevate Science, ©2019*** program supports Colorado 2020 Academic Standards for Science, Grade 3. For each standard, correlation references are to the Student Edition and Teacher Edition where applicable.

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), ***Elevate Science*** integrates three dimensional learning of the Scientific and Engineering Practices, Crosscutting Concepts (CCC), and Disciplinary Core Ideas (DCIs).

The ***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 ***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.

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. ***Elevate Science*** promises to:

- Elevate thinking.
- Elevate learning.
- Elevate teaching

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Prepared Graduates:	
2. Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding interactions between objects and within systems of objects.	
Grade Level Expectation:	
1. Patterns of motion can be used to predict future motion.	
Evidence Outcomes	
<i>Students Can:</i>	
<p>a. Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object. (3-PS2-1) <i>(Clarification Statement: Examples could include an unbalanced force on one side of a ball can make it start moving and balanced forces pushing on a box from both sides will not produce any motion at all.) (Boundary Statements: Limited to one variable at a time: number, size or direction of forces and to gravity being addressed as a force that pulls objects down. Does not include quantitative force size, only qualitative and relative.)</i></p>	<p>SE/TE: Topic 1 Quest Kickoff: STEM Pinball Wizard, 2-3 Topic 1 uConnect Lab: How do things move?, 4 Topic 1 STEM ulnvestigate Lab: How can you hold up an object?, 35 Topic 1 Measuring Forces, 39 Topic 1 Math Toolbox: Design Solutions, 39 Topic 1 STEM Quest Check-In Lab: How can you control your flippers?, 40-41 Topic 1 ulnvestigate Lab: How can you keep objects in the air?, 57 Topic 1 STEM ulnvestigate Lab: How can you make a magnet?, 67</p>
<p>b. Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion. (3-PS2-2) <i>(Clarification Statement: Examples of motion with a predictable pattern could include a child swinging in a swing, a ball rolling back and forth in a bowl and two children on a see-saw.) (Boundary Statement: Does not include technical terms such as period and frequency.)</i></p>	<p>SE/TE: Topic 1 uConnect Lab: How do things move?, 4 Topic 1 ulnvestigate Lab: How fast can it Move?, 7 Topic 1 ulnvestigate Lab: How can you describe the motion of an object?, 17 Topic 1 Patterns of Motion, 18 Topic 1 Math Toolbox: Multiply and Divide, 18 Topic 1 Visual Literacy Connection: How high can it fly?, 20-21</p>

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Academic Context and Connections	
<i>Colorado Essential Skills and Science and Engineering Practices:</i>	
<p>1. Ask questions that can be investigated based on patterns such as cause and effect relationships. (Asking Questions and Defining Problems) (Entrepreneurial: Inquiry/Analysis)</p>	<p>SE/TE: Topic 1 STEM Quest Check-In Lab: How can you control your flippers?, 40-41 Topic 1 uInvestigate Lab: How can you keep objects in the air?, 57 Science and Engineering Practices Handbook: Science Practices, Ask Questions, 294 Science and Engineering Practices Handbook: Engineering Practices, Defining Problem, EM10</p> <p>TE Only: Topic 1 21st Century Skills: Understanding Current Science and Technology, 19</p>
<p>2. Define a simple problem that can be solved through the development of a new or improved object or tool. (Asking Questions and Defining Problems) (Entrepreneurial: Inquiry/Analysis)</p>	<p>SE/TE: Topic 1 Quest Check-In: Launch Your Pinball!, 32 Topic 1 STEM uInvestigate Lab: How can you hold up an object?, 35 Topic 1 Math Toolbox: Design Solutions, 39 Topic 1 STEM Quest Check-In Lab: How can you control your flippers?, 40-41 Topic 1 Quest Findings: STEM Pinball Wizard, 42 Topic 1 uInvestigate Lab: How can you keep objects in the air?, 57 Topic 1 STEM uInvestigate Lab: How can you make a magnet?, 67 Science and Engineering Practices Handbook: Engineering Practices, Defining Problem, EM10</p>

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<p>3. Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence, using fair tests in which variables are controlled and the number of trials considered. (Planning and Carrying Out Investigations) (Entrepreneurial: Inquiry/Analysis)</p>	<p>SE/TE: Topic 1 uConnect Lab: How do things move?, 4 Topic 1 uInvestigate Lab: How fast can it Move?, 7 Topic 1 uInvestigate Lab: How can you describe the motion of an object?, 17 Science and Engineering Practices Handbook: Science Practices, Ask Questions, 294 Science and Engineering Practices Handbook: Science Practices, Carry Out Investigations, EM1 Science and Engineering Practices Handbook: Engineering Practices, Using Models and Prototype, EM12</p>
<p>4. Make observations and/or measurements to produce data to serve as the basis for evidence for an explanation of a phenomenon or test a design solution. (Planning and Carrying Out Investigations) (Entrepreneurial: Inquiry/Analysis)</p>	<p>SE/TE: Topic 1 STEM uInvestigate Lab: How can you hold up an object?, 35 Topic 1 Measuring Forces, 39 Topic 1 Math Toolbox: Design Solutions, 39 Topic 1 STEM Quest Check-In Lab: How can you control your flippers?, 40-41 Topic 1 STEM uDemonstrate Lab: Why do objects move?, 48-49 Science and Engineering Practices Handbook: Science Practices, Ask Questions, 294 Science and Engineering Practices Handbook: Engineering Practices, Using Models and Prototype, EM12 Science and Engineering Practices Handbook: Engineering Practices, Optimizing Solutions, EM13</p>
<p><i>Elaboration on the GLE:</i></p>	
<p>1. Students can answer the questions: How can one predict an object's continued motion, changes in motion or stability? What underlying forces explain the variety of interactions observed?</p>	<p>SE/TE: Topic 1 uConnect Lab: How do things move?, 4 Topic 1 uInvestigate Lab: How fast can it move?, 7 Topic 1 uInvestigate Lab: How can you describe the motion of an object?, 17 Topic 1 STEM uDemonstrate Lab: Why do objects move?, 48-49</p>

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<p>2. PS2:A Forces and Motion: Each force acts on one particular object and has both strength and a direction. An object at rest typically has multiple forces acting on it, but they add to give zero net force on the object. Forces that do not sum to zero can cause changes in the object's speed or direction of motion. (Boundary: Qualitative and conceptual, but not quantitative addition of forces is used at this level). The patterns of an object's motion in various situations can be observed and measured; when that past motion exhibits a regular pattern, future motion can be predicted from it. (Boundary: Technical terms, such as magnitude, velocity, momentum and vector quantity, are not introduced at this level, but the concept that some quantities need both size and direction to be described is developed.)</p>	<p>SE/TE: Topic 1 Changes in Speed, 12 Topic 1 Quest Check-In: Get Rolling, 13 Topic 1 uInvestigate Lab: What makes it move?, 25 Topic 1 Forces, 26 Topic 1 Contact Forces, 27 Topic 1 Quest Connection, 30, 38</p>
<p>3. PS2:B Types of Interactions: Objects in contact exert forces on each other.</p>	<p>SE/TE: Topic 1 Forces, 26 Topic 1 Contact Forces, 27 Topic 1 Equal and Opposite Forces, 30 Topic 1 Combined Forces, 31 Topic 1 Lesson 3 Check: Question 2, 31</p>
<p><i>Cross Cutting Concepts:</i></p>	
<p>1. Cause and Effect: Cause - and - effect relationships are routinely identified.</p>	<p>SE/TE: Topic 1 Quest Check-In: Get Rolling, 13 Topic 1 Crosscutting Concept Toolbox; Cause and Effect, 26 Topic 1 Contact Forces, 27 Topic 1 STEM uDemonstrate Lab: Why do objects move?, 48-49</p>

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2. Patterns: Patterns of change can be used to make predictions.	SE/TE: Topic 1 uConnect Lab: How do things move?, 4 Topic 1 uInvestigate Lab: How fast can it move?, 7 Topic 1 uInvestigate Lab: How can you describe the motion of an object?, 17 Topic 1 STEM Quest Check-In Lab: How can you control your flippers?, 40-41
Prepared Graduates:	
3. Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding how energy is transferred and conserved.	
Grade Level Expectation:	
2. Objects in contact exert forces on each other; electric and magnetic forces between a pair of objects do not require contact.	
Evidence Outcomes	
<i>Students Can:</i>	
a. Ask questions to determine cause - and - effect relationships of electric or magnetic interactions between two objects not in contact with each other. (3-PS2-3) (Clarification Statement: Examples of an electric force could include the force on hair from an electrically charged balloon and the electrical forces between a charged rod and pieces of paper; examples of a magnetic force could include the force between two permanent magnets, the force between an electromagnet and steel paperclips and the force exerted by one magnet versus the force exerted by two magnets. Examples of cause - and - effect relationships could include how the distance between objects affects strength of the force and how the orientation of magnets affects the direction of the magnetic force.) (Boundary: Limited to forces produced by objects that can be manipulated by students, and electrical interactions are limited to static electricity.)	SE/TE: Topic 2 uConnect Lab: How can you move objects without touching them?, 54 Topic 2 STEM Quest Check-In Lab: How can magnets sort objects by weight?, 72-73 Topic 2 uEngineer It! Build Topic 2 STEM: Moving Along, 74-75 Topic 2 STEM uDemonstrate Lab: How can you use a Force? 82-83 Science and Engineering Practices Handbook: Science Practices, Ask Questions, 294

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b. Define a simple design problem that can be solved by applying scientific ideas about magnets. (3-PS2-4) (Clarification Statement: Examples of problems could include constructing a latch to keep a door shut and creating a device to keep two moving objects from touching each other.)	SE/TE: Topic 2 STEM Quest Check-In Lab: How can magnets sort objects by weight?, 72-73 Topic 2 uEngineer It! Build Topic 2 STEM: Moving Along, 74-75 Topic 2 STEM uDemonstrate Lab: How can you use a Force? 82-83 Science and Engineering Practices Handbook: Engineering Practices, Defining Problem, EM10
Academic Context and Connections	
<i>Colorado Essential Skills and Science and Engineering Practices:</i>	
1. Ask questions that can be investigated based on patterns such as cause - and - effect relationships. (Asking Questions and Defining Problems) (Entrepreneurial: Inquiry/Analysis).	SE/TE: Topic 2 uConnect Lab: How can you move objects without touching them?, 54 Topic 2 STEM Quest Check-In Lab: How can magnets sort objects by weight?, 72-73 Science and Engineering Practices Handbook: Science Practices, Ask Questions, 294 Science and Engineering Practices Handbook: Engineering Practices, Defining Problem, EM10
2. Define a simple problem that can be solved through the development of a new or improved object or tool. (Asking Questions and Defining Problems) (Personal: Personal responsibility).	SE/TE: Topic 2 uEngineer It! Build Topic 2 STEM: Moving Along, 74-75 Science and Engineering Practices Handbook: Science Practices, Ask Questions, 294 Science and Engineering Practices Handbook: Engineering Practices, Defining Problem, EM10
3. Plan and conduct an investigation that control variables and provide evidence to support explanations or design solutions. (Planning and Carrying Out Investigations) (Entrepreneurial: Inquiry/Analysis).	SE/TE: Topic 2 STEM Quest Check-In Lab: How can magnets sort objects by weight?, 72-73 Science and Engineering Practices Handbook: Science Practices, Carry Out Investigations, EM1
<i>Elaboration on the GLE:</i>	
1. Students can answer the question: Why are some physical systems more stable than others?	SE/TE: Topic 2 Attract or Repel, 59 Topic 2 Visual Literacy Connection: How Do Electric Charges Move?, 60-61 Topic 2 Moving Charges, 62

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<p>2. PS2:B Types of Interactions: Electric and magnetic forces between a pair of objects do not require that the objects be in contact. The sizes of the forces in each situation depend on the properties of the objects and their distances apart and for forces between two magnets on their orientation relative to each other.</p>	<p>SE/TE Topic 1 Visual Literacy Connection: What are noncontact forces?, 28-29 Topic 2 uConnect Lab: How can you move objects without touching them?, 54 Topic 2 Strength of Electric Force, 63 Topic 2 Lesson 1 Check: Question 1, 63 Topic 2 Quest Check-In: Changing the Electric Force, 64</p>
<i>Cross Cutting Concepts:</i>	
<p>1. Cause and Effect: Cause and effect relationships are routinely identified, tested and used to explain change.</p>	<p>SE/TE: Topic 2 uConnect Lab: How can you move objects without touching them?, 54 Topic 2 STEM Quest Check-In Lab: How can magnets sort objects by weight?, 72-73</p>
<p>2. Connections to Engineering, Technology and Applications of Science: Interdependence of Science, Engineering and Technology-Scientific discoveries about the natural world can often lead to new and improved technologies, which are developed through the engineering design process.</p>	<p>SE/TE: Topic 1 uInvestigate Lab: How can you keep objects in the air?, 57 Topic 1 STEM uInvestigate Lab: How can you make a magnet?, 67 Topic 2 STEM Quest Check-In Lab: How can magnets sort objects by weight?, 72-73 Topic 2 uEngineer It! Build Topic 2 STEM: Moving Along, 74-75 Science and Engineering Practices Handbook: Engineering Practices, Defining Problem, EM10</p>

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Prepared Graduates:	
5. Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding how individual organisms are configured and how these structures function to support life, growth, behavior and reproduction.	
Grade Level Expectation:	
1. Organisms have unique and diverse life cycles.	
Evidence Outcomes	
<i>Students Can:</i>	
a. Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction and death. (3-LS1-1) <i>(Clarification Statement: Changes organisms go through during their life form a pattern.) (Boundary Statement: Limited to those of flowering plants and does not include details of human reproduction.)</i>	SE/TE: Topic 5 uInvestigate Lab: How are life cycles similar and different?, 175 Topic 5 Diversity of Living Things, 176 Topic 5 Plant Reproduction, 177 Topic 5 Visual Literacy Connection: How are life cycles the same?, 180-181 Science and Engineering Practices Handbook: Science Practices, Developing and Using Models, EM6 Science and Engineering Practices Handbook: Engineering Practices, Using Models and Prototype, EM12 TE Only: Topic 5 Focus on Mastery!: Developing and Using Models, 175
Academic Context and Connections	
<i>Colorado Essential Skills and Science and Engineering Practices:</i>	
1. Develop models to describe phenomena (Developing and Using Models) (Personal: Initiative/Self-direction).	SE/TE: Topic 5 uInvestigate Lab: How are life cycles similar and different?, 175 Science and Engineering Practices Handbook: Science Practices, Developing and Using Models, EM6 Science and Engineering Practices Handbook: Engineering Practices, Using Models and Prototype, EM12 TE Only: Topic 5 Focus on Mastery!: Developing and Using Models, 175

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<i>Elaboration on the GLE:</i>	
1. Students can answer the question: How do the structures of organisms enable life's functions?	SE/TE: Topic 5 Plant Reproduction, 177 Topic 5 uBe a Scientist: Observing Growth, 177
2. LS1:B Growth and Development of Organisms: Reproduction is essential to the continued existence of every kind of organism. Plants and animals have unique and diverse life cycles.	SE/TE: Topic 5 Diversity of Living Things, 176 Topic 5 Plant Reproduction, 177 Topic 5 uBe a Scientist: Observing Growth, 177 Topic 5 Animal Reproduction, 178 Topic 5 Life Cycles, 179 Topic 5 uInvestigate Lab: How are life cycles similar and different?, 175 Topic 5 Assessment, Question 1
<i>Cross Cutting Concepts:</i>	
1. Patterns: Patterns of change can be used to make predictions.	SE/TE: Topic 5 Patterns of Life Cycles, 182 Topic 5 Lesson 1 Check: Question 1, 182 TE Only: Scaffolded Questions, 181
Prepared Graduates:	
6. Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding how living systems interact with the biotic and abiotic environment.	
Grade Level Expectation:	
2. Being part of a group helps animals obtain food, defend themselves and cope with changes.	
Evidence Outcomes	
<i>Students Can:</i>	
a. Construct an argument that some animals form groups that help members survive. (3-LS2-1)	SE/TE: Topic 6 uInvestigate Lab: How do some birds fly so far?, 225 Topic 6 Visual Literacy Connection: Why do animals form groups?, 226-227 Topic 6 Lesson 2 Check: Question 2, 229 Topic 6 Assessment: Questions 2, 3, 246 TE Only: Topic 6 Focus on Mastery!: Engaging in Argument from Evidence, 225, 226

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Academic Context and Connections	
<i>Colorado Essential Skills and Science and Engineering Practices:</i>	
1. Construct an argument with evidence, data and/or a model. (Engaging in Argument from Evidence) (Personal: Initiative/Self-direction)	<p>SE/TE: Topic 6 uInvestigate Lab: How do some birds fly so far?, 225 Topic 6 Visual Literacy Connection: Why do animals form groups?, 226-227 Topic 6 Lesson 2 Check: Question 2, 229 Science and Engineering Practices Handbook: Science Practices, Developing and Using Models, EM6 Science and Engineering Practices Handbook: Engineering Practices, Using Models and Prototype, EM12</p> <p>TE Only: Topic 6 Focus on Mastery!: Engaging in Argument from Evidence, 225, 226 Topic 6 21st Century Skills: Using Technology to Communicate, 227</p>
<i>Elaboration on the GLE:</i>	
1. Students can answer the question: How do organisms interact with the living and nonliving environments to obtain matter and energy?	<p>SE/TE: Topic 6 Quest Kickoff: STEM Help the Pond Organisms Survive, 212-213 Topic 6 Quest Check-In Lab: How are living things suited to their habitats?, 222-223 Topic 6 Quest Check-In: Let's Get Together, 230</p>
2. LS2:D Social Interactions and Group Behavior: Being part of a group helps animals obtain food, defend themselves and cope with changes. Groups may serve different functions and vary dramatically in size.	<p>SE/TE: Topic 6 Visual Literacy Connection: Why do animals form groups?, 226-227 Topic 6 Animal Groups, 228-229 Topic 6 Interactivity, 228 Topic 6 Quest Connection: Do you think living in groups is an advantage or disadvantage for animals living near a pond?, 228</p>
<i>Cross Cutting Concepts:</i>	
1. Cause and Effect: Cause - and - effect relationships are routinely identified and used to explain change.	<p>SE/TE: Topic 6 Lesson 2 Check: Question 1, 229</p> <p>TE Only: Topic 6 Focus on Mastery!: Cause and Effect, 229</p>

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Prepared Graduates:	
7. Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding how genetic and environmental factors influence variation of organisms across generations.	
Grade Level Expectation:	
3. Different organisms vary in how they look and function because they have different inherited information; the environment also affects the traits that an organism develops.	
Evidence Outcomes	
<i>Students Can:</i>	
<p>a. Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms. (3-LS3-1) <i>(Clarification Statement: Patterns are the similarities and differences in traits shared between offspring and their parents, or among siblings. Emphasis is on organisms other than humans.) (Boundary Statement: Does not include genetic mechanisms of inheritance and prediction of traits. Assessment is limited to non-human examples.)</i></p>	<p>SE/TE: Topic 5 uInvestigate Lab: How do offspring compare to their parents?, 185 Topic 5 Traits from Parents, 186 Topic 5 Traits of Parents and Offspring, 187 Topic 5 Topic 5 Traits in Similar Plants, 188 Topic 5 Traits in Similar Animals, 189 Topic 5 Sunlight and Plant Traits, 200 Topic 5 Assessment: Question 3, 204 Topic 5 Assessment: Questions 5-7, The Essential Question, 205 Topic 5 Evidence-Based Assessment: Questions 1-3, 206-207 Topic 5 uDemonstrate Lab: How can you use evidence to support that a trait is inherited?, 208-209 TE Only: Topic 5 Focus on Mastery!: Analyzing and Interpreting Data, 185, 188</p>
<p>b. Use evidence to support the explanation that traits can be influenced by the environment. (3-LS3-2) <i>(Clarification Statement: Examples of the environment affecting a trait could that include normally tall plants grown with insufficient water are stunted; and a pet dog that is given too much food and little exercise may become overweight.)</i></p>	<p>SE/TE: Topic 5 uInvestigate Lab: How can the environment affect an organism?, 195 Topic 5 Inherited Traits and the Environment, 196 Topic 5 Environmental Factors, 197 Topic 5 Sunlight and Plant Traits, 200 Topic 5 Lesson 3 Check: Questions 1, 2, 200 Topic 5 Quest Check-In: Set the Scene, 201 Topic 5 Assessment: Question 4, 204 Topic 5 Assessment: The Essential Question, 205 Topic 5 Evidence-Based Assessment: Questions 4-6, 207</p>

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Academic Context and Connections	
<i>Colorado Essential Skills and Science and Engineering Practices:</i>	
<p>1. Analyze and interpret data to make sense of phenomena using logical reasoning. (Analyzing and Interpreting Data) (Entrepreneurial: Critical thinking/Problem solving)</p>	<p>SE/TE: Topic 5 uInvestigate Lab: How do offspring compare to their parents?, 185 Topic 5 Traits from Parents, 186 Topic 5 Traits of Parents and Offspring, 187 Topic 5 uBe a Scientist, Identify Traits, 187 Topic 5 uInvestigate Lab: How can the environment affect an organism?, 195 Topic 5 Quest Check-In: Set the Scene, 201 Topic 5 Evidence-Based Assessment: Questions 3, 4, 207 Topic 5 uDemonstrate Lab: How can you use evidence to support that a trait is inherited?, 208-209 Science and Engineering Practice Handbook: Science Practices, Analyzing and Interpreting Data, EM4 TE Only: Topic 5 Focus on Mastery!: Analyzing and Interpreting Data, 185 Topic 5 21st Century Skills: Understanding Current Science and Technology, 199</p>
<p>2. Use evidence (e.g., observations, patterns) to support an explanation. (Constructing Explanations and Designing Solutions) (Entrepreneurial: Critical thinking/Problem solving)</p>	<p>SE/TE: Topic 5 Visual Literacy Connection: How can environmental factors affect organism?, 198-199 Topic 5 Sunlight and Plant Traits, 200 Topic 5 Lesson 3 Check: Questions 1, 2, 200 Topic 5 Assessment: The Essential Question, 205 Topic 5 Evidence-Based Assessment: Questions 2, 6, 206-207 Topic 5 uDemonstrate Lab: How can you use evidence to support that a trait is inherited?, 208-209</p>

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<p>3. Use of evidence in constructing explanations that specify variables that describe and predict phenomena and in designing multiple solutions to design problems. (Constructing Explanations and Designing Solutions) (Entrepreneurial: Critical thinking/Problem solving)</p>	<p>SE/TE: Topic 5 Lesson 2 Check: Question 1, 189 Topic 5 Visual Literacy Connection: How can environmental factors affect organism?, 198-199 Topic 5 Sunlight and Plant Traits, 200 Topic 5 Lesson 3 Check: Questions 1, 2, 200 Topic 5 Quest Check-In: Set the Scene, 201</p>
<i>Elaboration on the GLE:</i>	
<p>1. Students can answer the questions: How are the characteristics of one generation related to the previous generation? Why do individuals of the same species vary in how they look, function and behave?</p>	<p>SE/TE: Topic 5 uInvestigate Lab: How do offspring compare to their parents?, 185 Topic 5 Traits from Parents, 186 Topic 5 Traits of Parents and Offspring, 187 Topic 5 Traits in Similar Plants, 188 Topic 5 Traits in Similar Animals, 188 Topic 5 Lesson 2 Check: Question 1, 189 Topic 5 Extreme Science: Mammal Eggs?, 191 Topic 5 Assessment: Question 3, 204 Topic 5 Assessment: Questions 5-7, 205 Topic 5 Evidence-Based Assessment: Question 1, 206 Topic 5 uDemonstrate Lab: How can you use evidence to support that a trait is inherited?, 208-209</p>

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<p style="text-align: center;">2020 Colorado Academic Standards for Science – Grade 3</p>	<p style="text-align: center;">Elevate Science Grade 3, 2019</p>
<p>2. LS3:A Inheritance of Traits: Many characteristics of organisms are inherited from their parents. Other characteristics result from individuals' interactions with the environment, which can range from diet to learning. Many characteristics involve both inheritance and environment.</p>	<p>SE/TE: Topic 5 Lesson 2 Inherited Traits: STEM Connection, 184 Topic 5 uInvestigate Lab: How do offspring compare to their parents?, 185 Topic 5 Traits from Parents, 186 Topic 5 Traits of Parents and Offspring, 187 Topic 5 uBe a Scientist, Identify Traits, 187 Topic 5 uInvestigate Lab: How can the environment affect an organism?, 195 Topic 5 Inherited Traits and the Environment, 196 Topic 5 Environmental Factors, 197 Topic 5 Visual Literacy Connection: How can environmental factors affect organism?, 198-199 Topic 5 Sunlight and Plant Traits, 200 Topic 5 Lesson 3 Check: Questions 1, 2, 200 Topic 5 Assessment: Questions 3, 4, 204 Topic 5 Evidence-Based Assessment: Questions 4-6, 207</p>
<p>3. LS3:B Variation of Traits: Different organisms vary in how they look and function because they have different inherited information. The environment also affects the traits that an organism develops.</p>	<p>SE/TE: Topic 5 Traits of Parents and Offspring, 187 Topic 5 uBe a Scientist, Identify Traits, 187 Topic 5 uInvestigate Lab: How can the environment affect an organism?, 195 Topic 5 Inherited Traits and the Environment, 196 Topic 5 Environmental Factors, 197 Topic 5 Visual Literacy Connection: How can environmental factors affect organism?, 198-199 Topic 5 Sunlight and Plant Traits, 200 Topic 5 Lesson 3 Check: Questions 1, 2, 200 Topic 5 Assessment: Questions 5-7, The Essential Question, 205</p>

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<i>Cross Cutting Concepts:</i>	
1. Patterns: Similarities and differences in patterns can be used to sort and classify natural phenomena.	SE/TE: Topic 5 uInvestigate Lab: How do offspring compare to their parents?, 185 Topic 5 uBe a Scientist, Identify Traits, 187 Topic 5 Evidence-Based Assessment: Question 2, 206 TE Only: Possible Misconception: Animal Classification, 191
2. Cause and Effect: Cause - and - effect relationships are routinely identified and used to explain change.	SE/TE: Topic 5 Cross Cutting Concepts Toolbox, Cause and Effect, 196 Topic 5 Quest Check-In: Set the Scene, 201 Topic 5 Evidence-Based Assessment: Question 6, 207
Grade Level Expectation:	
4. Some living organisms resemble organisms that once lived on Earth.	
Evidence Outcomes	
<i>Students Can:</i>	
a. Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago. (3-LS4-1) <i>(Clarification Statement: Examples of data could include type, size, and distributions of fossil organisms. Examples of fossils and environments could include marine fossils found on dry land, tropical plant fossils found in Arctic areas and fossils of extinct organisms.) (Boundary Statement: Does not include identification of specific fossils or present plants and animals and is limited to major fossil types and relative ages.)</i>	SE/TE: Topic 7 uConnect Lab: What can a fossil tell you?, 256 Topic 7 uInvestigate Lab: How do minerals help form fossils?, 259 Topic 7 Quest Check-In: Plant, Animal, or Trace, 266 Topic 7 Quest Check-In: Long Ago and Today, 275 Topic 7 Quest Check-In Lab: Where did those fossils come from?, 284-285 Topic 7 Quest Findings: Written in Stone, 286 Topic 7 Assessment: Questions 7, 289 Topic 7 uDemonstrate Lab: What were this organism and its environment like?, 292-293

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<p>b. Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates and reproducing. (3-LS4-2) <i>(Clarification Statement: Examples of cause - and - effect relationships could be that plants that have larger thorns than other plants may be less likely to be eaten by predators; and animals that have better camouflage coloration than other animals may be more likely to survive and therefore more likely to leave offspring.)</i></p>	<p>SE/TE: Topic 6 uConnect Lab: What clues do beak shapes give about birds?, 214 Topic 6 uInvestigate Lab: How do sea lions stay warm in cold waters?, 217 Topic 6 Visual Literacy Connection: How do living things survive?, 218-219 Topic 6 Differences Can Help Living Things, 221 Topic 6 Lesson 1 Check: Question 2, 221 Topic 6 Evidence-Based Assessment: Question 3, 249</p>
<p>Academic Context and Connections</p>	
<p>Colorado Essential Skills and Science and Engineering Practices:</p>	
<p>1. Analyze and interpret data to make sense of phenomena using logical reasoning. (Analyzing and Interpreting Data) (Entrepreneurial: Critical thinking/Problem solving).</p>	<p>SE/TE: Topic 6 uInvestigate Lab: How do sea lions stay warm in cold waters?, 217 Topic 7 uConnect Lab: What can a fossil tell you?, 256 Topic 7 uInvestigate Lab: How do minerals help form fossils?, 259 Topic 7 Quest Check-In: Plant, Animal, or Trace, 266 Topic 7 uInvestigate Lab: What can fossil footprints tell you about an animal?, 269 Topic 7 Quest Check-In: Long Ago and Today, 275 Topic 7 Quest Check-In Lab: Where did those fossils come from?, 284-285 Topic 7 uDemonstrate Lab: What were this organism and its environment like?, 292-293 Science and Engineering Practice Handbook: Science Practices, Analyzing and Interpreting Data, EM4 TE Only: Topic 7 Focus on Mastery!: Analyzing and Interpreting Data, 272</p>

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<p>2. Use evidence (e.g., observations, patterns) to construct an explanation. (Constructing Explanations and Designing Solutions) (Entrepreneurial: Critical thinking/Problem solving).</p>	<p>SE/TE: Topic 6 uConnect Lab: What clues do beak shapes give about birds?, 214 Topic 6 uInvestigate Lab: How do sea lions stay warm in cold waters?, 217 Topic 6 uDemonstrate Lab: How well will the rabbit survive?, 250-251 Topic 7 uConnect Lab: What can a fossil tell you?, 256 Topic 7 Literacy Connection: Use Evidence from Text, 257 Topic 7 Quest Connection: What can fossils of footprints tell us about the animals that made them?, 261</p>
<p>3. Critiquing the scientific explanations or solutions proposed by peers by citing relevant evidence about the natural and designed world(s). (Engaging in Argument from Evidence) (Entrepreneurial: Critical thinking/Problem solving).</p>	<p>SE/TE: Topic 7 uConnect Lab: What can a fossil tell you?, 256 Topic 7 Quest Check-In Lab: Where did those fossils come from?, 284-285</p>
<i>Elaboration on the GLE:</i>	
<p>1. Students can answer the questions: What evidence shows that different species are related? How does genetic variation among organisms affect survival and reproduction?</p>	<p>SE/TE: Topic 5 Lesson 2 Inherited Traits: STEM Connection, 184 Topic 5 Extreme Science: Mammal Eggs?, 191</p>

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<p>2. LS4:A Evidence of Common Ancestry and Diversity: Some kinds of plants and animals that once lived on Earth are no longer found anywhere. Fossils provide evidence about the types of organisms that lived long ago and also about the nature of their environments.</p>	<p>SE/TE: Topic 7 The Essential Question: Show What You Know, 253 Topic 7 Quest Kickoff: Written in Stone, 254-255 Topic 7 uConnect Lab: What can a fossil tell you?, 256 Topic 7 Kinds of Fossils, 260 Topic 7 Fossil Evidence, 261 Topic 7 Question It!, 264 Topic 7 Fossils in Tar, 265 Topic 7 Quest Check-In: Long Ago and Today, 275 Topic 7 Quest Check-In Lab: Where did those fossils come from?, 284-285 Topic 7 Quest Findings: Written in Stone, 286 Topic 7 uDemonstrate Lab: What were this organism and its environment like?, 292-293</p>
<p>3. LS4:B Natural Selection: Sometimes the differences in characteristics between individuals of the same species provide advantages in surviving, finding mates and reproducing.</p>	<p>SE/TE: Topic 6 uConnect Lab: What clues do beak shapes give about birds?, 214 Topic 6 Differences Can Help Living Things, 221 Topic 6 uDemonstrate Lab: How well will the rabbit survive?, 250-251</p>
<i>Cross Cutting Concepts:</i>	
<p>1. Scale, Proportion and Quantity: Observable phenomena exist from very short to very long time periods.</p>	<p>SE/TE: Topic 7 Visual Literacy Connection: When did animals appear on Earth?, 272-273 Topic 7 Quest Check-In: Long Ago and Today, 275 TE Only: Topic 6 Possible Misconception: Adaptations, 219</p>
<p>2. Systems and System Models</p>	<p>SE/TE: Topic 7 uInvestigate Lab: How do minerals help form fossils?, 259 Topic 7 Visual Literacy Connection: How does a fossil form?, 262-263 Topic 7 uEngineer It! Model STEM: Rebuilding Dinosaurs, 276-277 Topic 7 Changes Over Time, 280-281</p>

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<p>3. Cause and Effect: Cause - and - effect relationships are routinely identified and used to explain change.</p>	<p>SE/TE: Topic 6 Literacy Connection: Cause and Effect, 215 Topic 6 Lesson 1 Check: Question 1, 221 Topic 6 Evidence-Based Assessment: Questions 1, 4, 248-249 Topic 7 Climate Change and Extinction, 283 TE Only: Topic 7 21st Century Skills: Critical Thinking, 282</p>
<p>Prepared Graduates:</p>	
<p>8. Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding how natural selection drives biological evolution accounting for the unity and diversity of organisms.</p>	
<p>Grade Level Expectation:</p>	
<p>5. Sometimes differences in characteristics between individuals of the same species provide advantages in survival and reproduction.</p>	
<p>Evidence Outcomes</p>	
<p><i>Students Can:</i></p>	
<p>a. Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well and some cannot survive at all. (3-LS4-3) <i>(Clarification Statement: Examples of evidence could include needs and characteristics of the organisms and habitats involved. The organisms and their habitat make up a system in which the parts depend on each other.)</i></p>	<p>SE/TE: Topic 6 uInvestigate Lab: How do sea lions stay warm in cold waters?, 217 Topic 6 Visual Literacy Connection: How do living things survive?, 218-219 Topic 6 Survival in Different Habitats, 220 Topic 6 Differences Can Help Living Things, 221 Topic 6 Lesson 1 Check: Question 2, 221 Topic 6 Evidence-Based Assessment: Question 3, 249 Topic 6 uDemonstrate Lab: How well will the rabbit survive?, 250-251 Topic 7 uInvestigate Lab: How can you use evidence to infer climate change?, 279 Topic 7 Climate Change and Extinction, 283 Topic 7 Assessment: Question 2, 289 Topic 7 uDemonstrate Lab: What were this organism and its environment like?, 292-293</p>

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<p>b. Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change. (3-LS4-4) <i>(Clarification Statement: Examples of environmental changes could include changes in land characteristics, water distribution, temperature, food and other organisms.) (Boundary Statement: Limited to a single environmental change. Assessment does not include the greenhouse effect or climate change.)</i></p>	<p>SE/TE: Topic 5 Quest Kickoff: STEM Design a Mystery Creature, 170-171 Topic 5 Quest Check-In Lab: Which animals can live here?, 183 Topic 5 Quest Findings: STEM Design a Mystery Creature, 202 Topic 6 Plan It!, 239 Topic 6 uDemonstrate Lab: How well will the rabbit survive?, 250-251</p>
Academic Context and Connections	
<i>Colorado Essential Skills and Science and Engineering Practices:</i>	
<p>1. Analyze and interpret data to make sense of phenomena using logical reasoning. (Analyzing and Interpreting Data) (Entrepreneurial: Critical thinking/Problem solving)</p>	<p>SE/TE: Topic 5 Quest Check-In Lab: Which animals can live here?, 183 Topic 6 uInvestigate Lab: How will sea level affect Tigers?, 233 Topic 6 uConnect Lab: What clues do beak shapes give about birds?, 214 Topic 6 Quest Check-In Lab: How are living things suited to their habitats?, 222-223 Topic 6 uInvestigate Lab: How will sea level affect Tigers?, 233 Science and Engineering Practice Handbook: Science Practices, Analyzing and Interpreting Data, EM4</p>
<p>2. Use evidence to construct an explanation. (Constructing Explanations and Designing Solutions) (Personal: Initiative/Self-direction)</p>	<p>SE/TE: Topic 6 uInvestigate Lab: How do sea lions stay warm in cold waters?, 217 Topic 6 Lesson 1 Check: Question 2, 221 Topic 6 Lesson 3 Check: Question 2, 240 Topic 6 Quest Check-In: A Changing Pond Environment, 241</p>

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<p>3. Construct an argument with evidence. (Engaging in Argument from Evidence) (Entrepreneurial: Critical thinking/Problem solving).</p>	<p>SE/TE: Topic 6 Science Practice Toolbox: Argue Using Evidence, 234 Topic 6 Quest Findings: STEM Help the Pond Organisms Survive, Make an Argument, 244</p>
<p>4. Make a claim about the merit of a solution to a problem by citing relevant evidence about how it meets the criteria and constraints of the problem. (Engaging in Argument from Evidence) (Entrepreneurial: Critical thinking/Problem solving).</p>	<p>SE/TE: Topic 6 Plan It!, 239 Topic 6 uEngineer It! Design STEM: Have Your Fun, and Be Considerate Too!, 242-243 Topic 6 Quest Findings: STEM Help the Pond Organisms Survive, Make an Argument, 244</p>
<i>Elaboration on the GLE:</i>	
<p>1. Students can answer the questions: How does the environment influence populations of organisms over multiple generations? What is biodiversity, how do humans affect it, and how does it affect humans?</p>	<p>SE/TE: Topic 5 Diversity of Living Things, 176 Topic 5 Environmental Factors, 197 Topic 5 Visual Literacy Connection: How can environmental factors affect organism?, 198-199</p>
<p>2. LS2.C Ecosystem Dynamics, Functioning, and Resilience: When the environment changes in ways that affect a place's characteristics, temperature or availability of resources, some organisms survive and reproduce, others move to new locations, yet others move into the transformed environment, and some die.</p>	<p>SE/TE: Topic 6 Differences Can Help Living Things, 221 Topic 6 Lesson 1 Check: Question 2, 221 Topic 6 uInvestigate Lab: How will sea level affect Tigers?, 233 Topic 6 Changes in the Environment, 234 Topic 6 Case Study: Denali National Park, 235 Topic 6 Lesson 3 Check: Question 2, 240 Topic 6 Changes in Environmental Conditions, 240</p>

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<p>3. LS4:C Adaptation: For any particular environment, some kinds of organisms survive well, some survive less well, and some cannot survive at all.</p>	<p>SE/TE: Topic 6 uConnect Lab: What clues do beak shapes give about birds?, 214 Topic 6 uInvestigate Lab: How do sea lions stay warm in cold waters?, 217 Topic 6 Visual Literacy Connection: How do living things survive?, 218-219 Topic 6 Survival in Different Habitats, 220 Topic 6 Quest Connection, 220 Topic 6 Differences Can Help Living Things, 221 Topic 6 Lesson 1 Check: Question 2, 221 Topic 6 Evidence-Based Assessment: Question 3, 249 Topic 7 uInvestigate Lab: How can you use evidence to infer climate change?, 279 Topic 7 Climate Change and Extinction, 283 Topic 7 Assessment: Question 2, 289 Topic 7 uDemonstrate Lab: What were this organism and its environment like?, 292-293</p>
<p>4. LS4:D Biodiversity and Humans: Populations live in a variety of habitats, and change in those habitats affects the organisms living there.</p>	<p>SE/TE: Topic 6 Quest Check-In Lab: How are living things suited to their habitats?, 222-223 Topic 6 uInvestigate Lab: How will sea level affect Tigers?, 233 Topic 6 Changes in the Environment, 234 Topic 6 Case Study: Denali National Park, 235 Topic 6 Changes in Environmental Conditions, 240 Topic 6 Quest Check-In: A Changing Pond Environment, 241</p>

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<i>Cross Cutting Concepts:</i>	
1. Cause and Effect: Cause - and - effect relationships are routinely identified and used to explain change.	<p>SE/TE: Topic 6 Literacy Connection: Cause and Effect, 215 Topic 6 Lesson 1 Check: Question 1, 221 Topic 6 uInvestigate Lab: How will sea level affect Tigers?, 233 Topic 6 Case Study: Denali National Park, Write About It, 235 Topic 6 Evidence-Based Assessment: Questions 1, 4, 248-249 Topic 7 Climate Change and Extinction, 283</p> <p>TE Only: Topic 7 21st Century Skills: Critical Thinking, 282</p>
2. Systems and System Models: A system can be described in terms of its components and their interactions.	<p>SE/TE: Topic 5 Quest Check-In Lab: Which animals can live here?, 183 Topic 6 Quest Check-In: Let’s Get Together, 230 Topic 6 Quest Findings: STEM Help the Pond Organisms Survive, Make an Argument, 244 Topic 7 Changes Over Time, 280-281</p>
Prepared Graduates:	
10. Students can use the full range of science and engineering practices to make sense of natural phenomena and solve problems that require understanding how and why Earth is constantly changing.	

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Grade Level Expectation:	
1. Climate describes patterns of typical weather conditions over different scales and variations; historical weather patterns can be analyzed.	
Evidence Outcomes	
<i>Students Can:</i>	
<p>a. Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season. (3-ESS2-1) <i>(Clarification Statement: Examples of data could include average temperature, precipitation, and wind direction. Obtain and combine information to describe climates in different regions of the world.) (Boundary Statement: Graphical displays are limited to pictographs and bar graphs. Does not include climate change.)</i></p>	<p>SE/TE: Topic 3 Seasonal Weather Changes: STEM Connection, 100 Topic 3 uInvestigate Lab: When is the air dry?, 101 Topic 3 Assessment, Question 3, 120 Topic 3 uDemonstrate Lab: What can barometric pressure tell you?, 124-125 Topic 4 Quest Kickoff: Climates on Location, 128-129 Topic 4 uInvestigate Lab: How do mountains affect climate?, 153 Topic 4 Quest Check-In: Explore the World, 159 Topic 4 Quest Findings: Climates on Location, 160</p>
<p>b. Obtain and combine information to describe climates in different regions of the world. (3-ESS2-2)</p>	<p>SE/TE: Topic 3 Lesson 2 Check: Question 1, 107 Topic 4 Lesson 3 World Climates: Local-To-Global, 152 Topic 4 World Climate Zones, 156 Topic 4 Quest Check-In: Explore the World, 159 Topic 4 Evidence-Based Assessment: Questions 1-3, 164-165 TE Only: Topic 4 21st Century Skills: Doing Research Using the Internet, 156</p>

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Academic Context and Connections	
<i>Colorado Essential Skills and Science and Engineering Practices:</i>	
<p>1. Represent data in tables and various graphical displays (bar graphs and pictographs) to reveal patterns that indicate relationships. (Analyzing and Interpreting Data) (Entrepreneurial: Critical thinking/Problem solving)</p>	<p>SE/TE: Topic 3 uInvestigate Lab: When is the air dry?, 101 Topic 3 Weather and Seasons, 102 Topic 3 Weather Graphs, 103 Topic 4 uConnect Lab: How does temperature change on a mountain?, 130 Topic 4 STEM Math Connection: Draw and Analyze Graphs, 141 Topic 4 Quest Check-In: Explore the World, 159</p>
<p>2. Obtain and combine information from books and other reliable media to explain phenomena. (Obtaining, Evaluating, and Communicating Information) (Professional: Information literacy).</p>	<p>SE/TE: Topic 3 uInvestigate Lab: When is the air dry?, 101 Topic 4 Quest Check-In: Explore the World, 159 TE Only: Topic 3 21st Century Skills: Interpersonal and Collaborative Skills, 94 Topic 3 Synthesize: Document, Enrichment Activity, 106 Topic 3 21st Century Skills: Understanding Current Science and Technology, 107 Topic 4 21st Century Skills: Doing Research Using the Internet, 156</p>

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<i>Elaboration on the GLE:</i>	
<p>1. Students can answer the question: What regulates weather and climate?</p>	<p>SE/TE: Topic 3 uInvestigate Lab: When is the air dry?, 101 Topic 3 Weather and Seasons, 102 Simple Weather Instruments, 106 Topic 4 uConnect Lab: How does temperature change on a mountain?, 130 Topic 4 Literacy Connection: Compare and Contrast, Weather and Climate, 131 Topic 4 uInvestigate Lab: How does the sun’s radiation vary on Earth’s surface?, 133 Topic 4 Climate Characteristics, 134 Topic 4 The Sun and Climate, 135 Topic 4 Latitude and Climate, 136 Topic 4 The Ocean and Climate, 137 Topic 4 uInvestigate Lab: How do mountains affect climate?, 153 Topic 4 Assessment: The Essential Question, How can you explain what climate is like in difference places?, 163 Topic 4 Evidence-Based Assessment: Question 3, 165 Topic 4 uDemonstrate Lab: What affects the climate in a region?, 166-167</p>
<p>2. ESS2:D Weather and Climate: Scientists record patterns of the weather across different times and areas so that they can make predictions about what kind of weather might happen next. Climate describes a range of an area's typical weather conditions and the extent to which those conditions vary over years.</p>	<p>SE/TE: Topic 3 Weather and Seasons, 102 Interactivity, 106 Topic 3 Simple Weather Instruments, 106 Topic 3 Lesson 2 Check: Question 2, 107 Topic 3 Assessment: Questions 6, 7, 121 Topic 4 Climate Characteristics, 134 Topic 4 Land Features and Climate, 138 Topic 4 The Atmosphere and Climate, 139 Topic 4 Natural Factors and Climate Change, 146 Topic 4 Dry Climates, 154 Topic 4 Wet Climates, 155 TE Only: Topic 4 Moody Weather, Bullet 3, 140</p>

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<i>Cross Cutting Concepts:</i>	
1. Patterns: Patterns of change can be used to make predictions.	<p>SE/TE: Topic 3 uInvestigate Lab: When is the air dry?, 101 Topic 3 uBe a Scientist: Forecast the Weather, 102 Topic 3 Simple Weather Instruments, 106 Topic 3 Lesson 2 Check: Question 2, 107 Topic 4 Quest Check-In Lab: How do changing glaciers show climate change?, 148-149</p> <p>TE Only: Topic 3 Focus on Mastery!: Patterns, 104 Topic 4 Focus on Mastery!: Patterns, 144</p>
Grade Level Expectation:	
2. A variety of weather hazards result from natural process; humans cannot eliminate weather-related hazards but can reduce their impacts.	
Evidence Outcomes	
<i>Students Can:</i>	
a. Make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard. (3-ESS3-1) (Clarification Statement: Examples of design solutions to weather-related hazards could include barriers to prevent flooding, wind resistant roofs and lightning rods.)	<p>SE/TE: Topic 3 uEngineer It! STEM: Wild Weather!, 98-99 Topic 3 Quest Check-In: A Roof for All Seasons, 108 Topic 3 Quest Connection: What are some ways that a roof can keep you safe in a storm?, 112 Topic 3 STEM uInvestigate Lab: How can you stop a flood?, 111 Topic 3 Reduce the Impact, 113 Topic 3 STEM Quest Check-In: How can a roof be improved?, 116-117 Topic 3 Quest Findings STEM: Hold on to your roof!, 118-119 Science and Engineering Practices Handbook: Engineering Practices, Designing solutions, EM11</p>

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Academic Context and Connections	
<i>Colorado Essential Skills and Science and Engineering Practices:</i>	
<p>1. Make a claim about the merit of a solution to a problem by citing relevant evidence about how it meets the criteria and constraints of the problem. (Engaging in Argument from Evidence) (Personal: Initiative/Self-direction).</p>	<p>SE/TE: Topic 3 Quest Check-In: Rainy Weather Is Coming, 97 Topic 3 uEngineer It! STEM: Wild Weather!, 98-99 Topic 3 STEM Quest Check-In: How can a roof be improved?, 116-117 Topic 3 Quest Findings STEM: Hold on to your roof!, 118-119</p> <p>TE Only: Topic 3 Extreme Science: Weather Whiplash, Bullet 2, 109</p>
<i>Elaboration on the GLE:</i>	
<p>1. Students can answer the question: How do natural hazards affect individuals and societies?</p>	<p>SE/TE: Topic 3 Visual Literacy Connection: How can a snowstorm affect you?, 104-105 Topic 3 Lesson 3 Weather Hazards: STEM Connection, 110</p>

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<p>2. ESS3:B Natural Hazards: A variety of natural hazards result from natural processes. Humans cannot eliminate natural hazards but can take steps to reduce their impacts.</p>	<p>SE/TE: Topic 3 Weather: The Essential Question, What are ways to reduce the impacts of hazardous weather?, 85 Topic 3 uEngineer It! STEM: Wild Weather!, 98-99 Topic 3 Lesson 3 Weather Hazards: STEM Connection, 110 Topic 3 STEM uInvestigate Lab: How can you stop a flood?, 111 Topic 3 Storms, 112 Topic 3 Reduce the Impact, 113 Topic 3 Drought: Write About It, 115, 2, 115 Topic 3 Lesson 3 Check: Questions 1 Topic 3 STEM Quest Check-In: How can a roof be improved?, 116-117 Topic 3 Assessment: Question 4, 120 Topic 3 Assessment: The Essential Question, 121</p> <p>TE Only: Topic 3 Focus on Mastery!, Engaging in Argument from Evidence, 114</p>
<i>Cross Cutting Concepts:</i>	
<p>1. Cause and Effect: Cause - and - effect relationships are routinely identified, tested and used to explain change.</p>	<p>SE/TE: Topic 3 Quest Check-In: Rainy Weather Is Coming, 97</p> <p>TE Only: Topic 3 Quest Kickoff: STEM Hold on to Your Roof!, Focus on Mastery, Cause and Effect, 86 Topic 3 Scaffolded Questions: Cause and Effect, 105 Topic 3 Extreme Science: Weather Whiplash, Bullet 3, 109 Topic 3 Focus on Mastery!: Cause and Effect, 113</p>