

A Correlation of

Elevate Science

Grade 4, ©2019



To the

Idaho

Content Standards for Science (2018)

Grade 4

**A Correlation of Elevate Science ©2019, Grade 4
To the
Idaho Content Standards for Science, Grade 4**

Introduction

The following document demonstrates how the ***Elevate Science* ©2019** program supports the Idaho Content Standards for Science, Grade 4. 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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PS1-4-2.PS3.B.i 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: Quest Kickoff: Energy Changes in Collisions, 2-3 Literacy Connection: Cause and Effect, 5 Quest Connection, 8 Energy in Motion, 9 Sports Connection, 16 uInvestigate Lab: How does energy transfer between objects?, 17 Visual Literacy Connection: Energy Changes in a Collision, 18-19 Quest Connection, 20 Other Energy Changes, 20-21 Model It!, 20 STEM Quest Check-In Lab: How does modeling help you understand a collision?, 22-23 STEM Connection, 24 Visual Literacy Connection: How is energy transferred?, 26-27 Light Energy, 29 Question It!, 29 Sound Energy, 30 Quest Check-In: Crash It!, 32 Quest Findings: Energy Changes in Collisions, 42 Topic Assessment, 44-45 Evidence-Based Assessment, 46-47
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PS1-4-4.ETS1.A Defining Engineering Problems	
PS1-4-4.ETS1.A.i 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 Check-In Lab: How can an electric circuit help prevent collisions?, 40-41 Quest Check-In: Human Power, 63 STEM Quest Check-In Lab: How can you use a battery to produce motion?, 72-73 Quest Findings: Power from the People, 92 uEngineer It! Take a Hike!, 164-165 uConnect Lab: How can you reduce the impact of rapidly sliding soil?, 206 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 Defining Problems, EM10 Designing Solutions, EM11
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PS2-4-1.PS4.A.ii 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 Lesson 1 Check, 112 Visual Literacy Connection: How do wave patterns move?, 120-121 Topic Assessment, 144-145
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PS2-4-3.PS4.C.i 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.	SE/TE: uEngineer It!: Hold That Phone, 82-83 How Do Cell Phone Calls Work?, 137 Digital and Analog Signals, 138 Topic Assessment, 144-145 Digital Tools, EM3

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LS1-4-1.LS1.A Structure and Function	
LS1-4-1.LS1.A.i Plants and animals have both internal and external structures that serve various functions in growth, survival, behavior, and reproduction.	<p>SE/TE:</p> <ul style="list-style-type: none"> uConnect Lab: How do your eyes respond to differences in lighting?, 280 uInvestigate Lab: What parts are inside a flower?, 283 Plant Systems, 284 Functions of Plant Structures, 285 Visual Literacy Connection: What are the functions of internal leaf structures?, 286-287 Lesson 1 Check, 289 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 External Structures of a Plant, 294 Stems and Their Coverings, 295 Visual Literacy Connection: What structures do flowering plants use to reproduce?, 296-297 Lesson 2 Check, 298 uInvestigate Lab: How can you compare the stomachs of cows and dogs?, 301 Animal Structures for Support, 302 Structure of the Animal Heart, 303 Visual Literacy Connection: How do lungs and gills compare?, 304-305 Lesson 3 Check, 306 Quest Check-In: Fish Float and Sink, 307 Visual Literacy Connection: What do exoskeletons do?, 310-311 Other External Structures of Animals, 312 Lesson 4 Check, 313 Solve it with Science: Why do animals shed their exoskeletons?, 315 Topic Assessment, 328-329 Evidence-Based Assessment, 330-331

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LS1-4-2.LS1.D Information Processing	
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LS2-4 Ecosystems: Interactions, Energy, and Dynamics	
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LS2-4-1 Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.	SE/TE: Connecting Concepts Toolbox: Energy and Matter, 66 Visual Literacy Connection: What are some functions of internal leaf structures?, 286-287 Photosynthesis, 288
Supporting Content	
LS2-4-1.LS2.A Interdependent Relationships in Ecosystems	
LS2-4-1.LS2.A.i The food of almost any kind of animal can be traced back to plants. Organisms are related in food webs in which some animals eat plants for food and other animals eat the animals that eat plants. Some organisms, such as fungi and bacteria, break down dead organisms (both plants or plants parts and animals) and therefore operate as “decomposers.” Decomposition eventually restores (recycles) some materials back to the soil. Organisms can survive only in environments in which their particular needs are met. A healthy ecosystem is one in which multiple species of different types are each able to meet their needs in a relatively stable web of life. Newly introduced species can damage the balance of an ecosystem.	SE/TE: Visual Literacy Connection: What are some functions of internal leaf structures?, 286-287 Plant Adaptations to their Environment, 289 Changing Environments and Survival, 321
LS2-4-1.LS2.B Cycles of Matter and Energy Transfer in Ecosystems	
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ESS Earth and Space Sciences	
ESS1-4 Earth's Place in the Universe	
Performance Standard	
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ESS1-4-1.ESS1.C The History of Planet Earth	
ESS1-4-1.ESS1.C.i 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: Quest Kickoff: Dig for the Truth, 244-245 uConnect Lab: Where are fossils found in rock layers?, 246 STEM Connection, 248 uInvestigate Lab: What patterns do fossils follow?, 249 Quest Connection, 250 Fossils, 250 Rock Formations, 251 Rock Strata Can Change, 251 A Colorful Change, 252 Lesson 1 Check, 253 Geologic Time Scale, 253 Quest Check-In: Existing Evidence, 254 STEM Math Connection: Canyonlands, 255 uInvestigate Lab: How can rock layers show change?, 259 Fossil Clues on Earth, 260 Index Fossils, 261 Question It!, 261 Visual Literacy Connection: How can layers of rock change?, 262-263 Quest Connection, 264 Comparing Rock Layers, 264 Lesson 2 Check, 265 Quest Check-In Lab: What does a core sample tell us?, 266-267 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
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ESS2-4 Earth's Systems	
Performance Standard	
ESS2-4-1 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: uConnect Lab: How can rain affect land?, 154 uInvestigate Lab: How can a rock wear away?, 185 uBe a Scientist: Weathering, 186 Chemical Weathering, 186 Quest Connection, 187 STEM Quest Check-In Lab: How does water affect landforms?, 192 Extreme Science: Powerful Plants, 193 Quest Findings: Does X Mark the Spot? That's Up to You!, 194 Evidence-Based Assessment, 198-199
Supporting Content	
ESS2-4-1.ESS2.A Earth Materials and Systems	
ESS2-4-1.ESS2.A.i 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 Chemical Weathering, 186 Quest Connection, 187 Physical Weathering, 187 Erosion, 188 Movement of Particles, 189 Deposition, 190 Changes in Landforms over Time, 191 STEM Quest Check-In Lab: How does water affect landforms?, 192 Extreme Science: Powerful Plants, 193 Quest Findings: Does X Mark the Spot? That's Up to You!, 194 Topic Assessment, 196-197 Evidence-Based Assessment, 198-199 Plant Adaptations to their Environment, 289
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<p>ESS2-4-2 Analyze and interpret data from maps to describe patterns of Earth’s features.</p>	<p>SE/TE: Sports Connection, 156 uInvestigate Lab: How do tools help us?, 157 Quest Connection, 158 Types of Maps, 159 Visual Literacy Connection: How can you see the same place in different ways?, 160-161 Lesson 1 Check, 162 Resource Maps, 162 Quest Check-In: The Making of a Legend, 163 Patterns of Mountains, 168 Crosscutting Concepts Toolbox: Patterns, 169 Patterns of Earthquakes and Volcanoes, 169 Visual Literacy Connection: How can a physical map help me locate different landforms?, 170-171 Lesson 2 Check, 172 Topic Assessment, 196-197 Evidence-Based Assessment, 198-199 Solve it With Science: Where is the greatest earthquake risk?, 225</p>

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Supporting Content	
ESS2-4-2.ESS2.B Plate Tectonics and Large-Scale System Interactions	
ESS2-4-2.ESS2.B.i 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: Sports Connection, 156 uInvestigate Lab: How do tools help us?, 157 Quest Connection, 158 Types of Maps, 159 Visual Literacy Connection: How can you see the same place in different ways?, 160-161 Lesson 1 Check, 162 Resource Maps, 162 Quest Check-In: The Making of a Legend, 163 uInvestigate Lab: Where are major landforms?, 167 Patterns of Mountains, 168 Science Practice Toolbox: Cite Evidence, 168 Crosscutting Concepts Toolbox: Patterns, 169 Patterns of Earthquakes and Volcanoes, 169 Visual Literacy Connection: How can a physical map help me locate different landforms?, 170-171 Lesson 2 Check, 172 Patterns Under the Ocean, 172 STEM Quest Check-In Lab: How can you make a model of a landform?, 182-183 Topic Assessment, 196-197 Solve it With Science: Where is the greatest earthquake risk?, 225

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ESS3-4 Earth and Human Activity	
Performance Standard	
<p>ESS3-4-1 Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.</p>	<p>SE/TE: Using Energy, 58 STEM ulnvestigate Lab: How do we find oil?, 65 Connecting Concepts Toolbox: Energy and Matter, 66 Fossil Fuels, 66 Coal, 66 Petroleum, 67 Visual Literacy Connection: Where do fossil fuels come from?, 68-69 Design It!, 70 Natural Gas, 70 Visual Literacy Connection: Is renewable energy all around?, 76-77 Renewable Fuel, 78 ulnvestigate Lab: Why is oil clean up so hard?, 85 Impact of Energy Production, 86 Quest Connection, 87 Impact of Obtaining Fuel, 87 Visual Literacy Connection: How can the use of energy damage ecosystems?, 88-89 Impact of Transporting Fuels, 90 Quest Check-In: Impact Inspections, 91 Topic Assessment, 94-95 Evidence-Based Assessment, 96-97 uDemonstrate Lab: How can energy resource usage change?, 98-99</p>

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Supporting Content	
ESS3-4-1.ESS3.A Natural Resources	
ESS3-4-1.ESS3.A.i 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: Using Energy, 58 Fuels, 58 Chemical Energy, 59 STEM ulnvestigate Lab: How do we find oil?, 65 Fossil Fuels, 66 Coal, 66 Petroleum, 67 Visual Literacy Connection: Where do fossil fuels come from?, 68-69 Natural Gas, 70 Design It!, 70 Lesson 2 Check, 71 Visual Literacy Connection: Is renewable energy all around?, 76-77 Hydropower, 78 Renewable Fuel, 78 Energy That Does Not Run Out, 79 ulnvestigate Lab: Why is oil clean up so hard?, 85 Impact of Energy Production, 86 Impact of Obtaining Fuel, 87 Quest Connection, 87 Visual Literacy Connection: How can the use of energy damage ecosystems?, 88-89 Impact of Transporting Fuels, 90 Quest Check-In: Impact Inspections, 91 Topic Assessment, 94-95 Evidence-Based Assessment, 96-97 Topic Assessment, 196-197

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Performance Standard	
ESS3-4-2 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 Connection, 211 Quest Check-In: Beware: Hot Ash!, 215 Quest Check-In: Water Warnings, 224 uInvestigate Lab: Where should you build an earthquake-safe structure?, 227 Plan It!, 228 Lesson 3 Check, 231 Quest Check-In Lab: How can you reduce hazard damage?, 232-233 Quest Findings: Hazard incoming!, 234 uDemonstrate Lab: How can homes be designed to be more earthquake resistant?, 240-241
Supporting Content	
ESS3-4-2.ESS3.B Natural Hazards	
ESS3-4-2.ESS3.B.i 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 uBe a Scientist: Earthquake Evidence, 210 Quest Connection, 211 Hazards of Earthquakes, 211 Visual Literacy Connection: What happens during a tsunami?, 212-213 Lesson 1 Check, 214 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

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ESS3-4-2.ETS1.B Designing Solutions to Engineering Problems	
ESS3-4-2.ETS1.B.i Testing a solution involves investigating how well it performs under a range of likely conditions.	SE/TE: 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 STEM Quest Check-In Lab: How can you reduce hazard damage?, 232-233 STEM uDemonstrate Lab: How can homes be designed to be more earthquake resistant?, 240-241 uEngineer It! Pump It Up!, 348-349 Optimizing Solutions, EM13