

A Correlation of
Elevate Science
Grade 5, ©2019



To the
Missouri
Learning Standards for Science
Grade 5

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Introduction

The following document demonstrates how the ***Elevate Science, ©2019*** program supports the Missouri Learning Standards for Science, Grade 5. 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 Matter and Its Interactions		
PS1.A	Structure and Properties of Matter	
PS1.A.1	Develop a model to describe that matter is made of particles too small to be seen.	SE/TE: Divide Matter, 16 uInvestigate Lab: How can you detect matter without seeing it?, 17 Atoms, 18 Molecules, 19 Visual Literacy Connection: What is the matter?, 20-21 Lesson 2 Check, 22 Quest Check-In Lab: How do you know that matter is still there?, 23
PS1.A.2	Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved.	SE/TE: STEM uConnect Lab What happens to mass when objects are mixed?, 46 uInvestigate Lab: How can you identify chemical changes?, 65 Conservation of Matter, 68-69 Visual Literacy Is matter conserved?, 70-71 uDemonstrate Lab How does mass change when you make glop?, 94-95
PS1.B	Types of Interactions of Matter	
PS1.B.1	Plan and conduct investigations to separate the components of a mixture/solution by their physical properties (i.e., sorting, filtration, magnets, screening).	SE/TE: uInvestigate Lab: How can you separate a mixture?, 79 Mixtures, 80 Engineering Practice Toolbox: Construct Explanations, 81 Plan it!, 84 Separating Solutions, 84 Mixtures and Solutions, 85

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PS1.B.2	Conduct an investigation to determine whether the combining of two or more substances results in new substances.	SE/TE: Quest Connection, 19 Investigate Lab How can you identify chemical changes?, 65 Particles and Chemical Changes, 67 Mixtures, 80 Solutions, 81 Mixtures and Solutions, 85
PS2 Motion and Stability: Forces and Interactions		
PS2.B	Types of Interaction	
PS2.B.1	Support an argument that the gravitational force exerted by Earth on objects is directed toward the planet's center.	SE/TE: Investigate Lab: How long do objects take to fall?, 279 Gravitational Force, 280 Gravity on Earth, 281 Be a Scientist: Explore Gravity, 281 Science Practice Toolbox: Engage in Argument from Evidence, 282 Lesson 1 Check, 282 Quest Check-In Lab: How does gravity affect matter?, 283

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PS3 Energy		
PS3.D	Energy in Chemical Process and Everyday	
PS3.D.1	Use models to describe that energy stored in food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.	SE/TE: Energy and Food, 314-315 Quest Kickoff: Plan Your Plate!, 316-317 uConnect Lab: How much food do you need?, 318 uInvestigate Lab: How is the sun involved in your meals?, 321 Plants and Energy, 322 Animals and Energy, 323 Energy Paths to the Sun, 326 Sports Connection, 338 uInvestigate Lab: How do animals get energy from the sun?, 339 Energy and Body Heat, 340 Energy and Movement, 342 Quest Connection, 342 uBe a Scientist!: Energy Tracker, 342 Internal Uses of Energy, 343 Lesson 3 Check, 343 Extreme Science: The Hungriest Animals!, 345 Quest Findings: Plan Your Plate!, 346 Topic Assessment, 348-349 uDemonstrate Lab: How does matter move through an ecosystem?, 352-353 Food Chains, 374
PS4 Waves and Their Applications in technologies for Information Transfer		
PS4.A	Wave Properties	
PS4.A.1	Develop a model to describe that objects can be seen only when light is reflected off them or when they produce their own light.	SE/TE: This standard is addressed in Elevate Science Grade 4: Properties of Light, 126 Design It, 127 Seeing Objects, 127

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LS1 From Molecules to Organisms: Structure and Processes		
LS1.A	Structure and Function	
LS1.A.1	Compare and contrast the major organs/organ systems (e.g. support, reproductive, digestive, transport/circulatory, excretory, response) that perform similar functions for animals belonging to different vertebrate classes.	<p>SE/TE: This standard is addressed in Elevate Science Grade 4:</p> <ul style="list-style-type: none"> 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 How do lungs and gills compare?, 304-305 Structure of the Animal Brain, 306 Visual Literacy How do elephants respond to stimuli?, 318-319 Animal Responses to Smell, 320 uDemonstrate Lab How do earthworms respond to stimuli?, 332-333 Respiratory System 343 Circulatory System, 344-345 Skeletal System, 352 Muscular System, 353 Visual Literacy What are sensory organs? 360-361 Brain, 362 Nerves, 363 Digestive, System 368 Excretory, System 370 Reproductive, System 371

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LS1.C	Organization for Matter and Energy Flow in Organisms	
LS1.C.1	Support an argument that plants get the materials (i.e. carbon dioxide, water, sunlight) they need for growth chiefly from air and water.	SE/TE: Plants and Energy, 322 uInvestigate Lab: What matter do plants need to make food?, 329 Model It!, 330 How Plants Gain Mass, 331 Engineering Toolbox: Growing Plants in Space, 333 Lesson 2 Check, 333 Photosynthesis, 333 uEngineer It!: A Code for Plant Matter, 336-337 Topic Assessment, 348-349

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LS2 Ecosystems: Interactions, Energy, and Dynamics		
LS2.B	Cycles of Matter and Energy Transfer in Ecosystems	
LS2.B.1	Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.	<p>SE/TE: Energy Paths to the Sun, 326 Crosscutting Concepts Toolbox: Energy and Matter, 340 Evidence-Based Assessment, 350-351 uDemonstrate Lab: How does matter move through an ecosystem?, 352-353 STEM Connection, 368 uInvestigate Lab: How can matter change in an ecosystem?, 369 Producers, 370 Decomposers, 371 Visual Literacy Connection: Who eats whom?, 372-373 Food Chains, 374 Food Webs, 375 Lesson 2 Check, 375 Engineering Connection, 386 Flow of Matter in Ecosystems, 388 Cycles of Matter, 392 Lesson 4 Check, 392 Topic Assessment, 398-399 uDemonstrate Lab: How can you model matter cycles in the Earth system?, 402-403</p>

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ESS1 Earth's Place in the Universe		
ESS1.A	The Universe and its Stars	
ESS1.A.1	Support an argument that relative distances from Earth affects the apparent brightness of the sun compared to other stars.	SE/TE: Local-to-Global Connection, 236 uInvestigate Lab: How are distance and brightness related?, 237 Brightness of Stars, 240 Distances of Stars, 240 Star Temperature, 240 Plan It!, 241 Lesson 1 Check, 242 Evidence-Based Assessment, 268-269 Stars and Constellations, 297
ESS1.B	Earth and the Solar System	
ESS1.B.1	Make observations during different seasons to relate the amount of daylight to the time of year.	Earth's Revolution, 287
ESS1.B.2	Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.	SE/TE: Literacy Connection: Sequence, 277 uInvestigate Lab: How are we spinning?, 285 Quest Check-In: Sun Up, Sun Down, 292 uInvestigate Lab: What star patterns can you see?, 295 Model It!, 296 Shadow Patterns, 296 uBe a Scientist: Shadow Play, 296 Visual Literacy Connection: How do we identify star patterns in the sky?, 298-299 Keeping Track of Time, 302 Lesson 3 Check, 302 Quest Findings: Plan a Trip Around the World of Patterns, 306 Topic Assessment, 308-309 Evidence-Based Assessment, 310-311 uDemonstrate Lab: What can we tell from shadows?, 312-313

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ESS2 Earth's Systems		
ESS2.A	Earth Materials and Systems	
ESS2.A.1	Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.	<p>SE/TE: Quest Kickoff: Connect the Spheres, 98-99 Earth's Systems, 104 Quest Connection, 105 Visual Literacy Connection: What are parts of Earth's geosphere and biosphere?, 106-107 Quest Check-In: Raining Acid, 109 uInvestigate Lab: How does a greenhouse work?, 111 Visual Literacy Connection: What are parts of Earth's hydrosphere?, 112-113 Quest Connection, 114 Hydrosphere and Atmosphere Together, 115 Lesson 2 Check, 115 Science Practice Toolbox: Analyze and Interpret Data, 115 Quest Check-In Lab: Where are Earth's spheres?, 116-117 uInvestigate Lab: How does the geosphere affect the hydrosphere?, 121 Crosscutting Concepts Toolbox: Systems and Biosphere, 122 Interdependence of Earth's Systems, 122 System Models, 122 Geosphere and Atmosphere, 123 Visual Literacy Connection: How does the ocean affect other systems on Earth?, 124-125 Lesson 3 Check, 127 Quest Check-In: Earth's Interactions, 128 Quest Findings: Connect the Spheres, 130 Topic Assessment, 132-133 Evidence-Based Assessment, 134-135 uDemonstrate Lab: How are the spheres represented in a terrarium?, 136-137</p>

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ESS2.C	The Role of Water in Earth's Surface Processes	
ESS2.C.1	Describe and graph the amounts and percentages of water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth.	<p>SE/TE: Visual Literacy Connection: What are parts of Earth's hydrosphere?, 112-113 Quest Kickoff: Water, Water Everywhere!, 140-141 Movement of Earth's Water, 147 Quest Check-In: Follow the Flow, 151 Visual Literacy Connection: How is freshwater distributed across the Earth?, 156-157 Freshwater Shortages, 158 uBe a Scientist: Modeling Water Distribution, 158 Lesson 2 Check, 159 STEM Quest Check-In Lab: How do we filter water?, 160-161 Where is Water?, 164 Quest Check-In: Water Resources, 170 Topic Assessment, 174-175 Evidence-Based Assessment, 176-177</p>

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ESS3 Earth and Human Activity		
ESS3.C	Human Impacts on Earth's Systems	
ESS3.C.1	Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.	<p>SE/TE: Quest Kickoff: Take Care of Earth – It's Our Home!, 182-183 uConnect Lab: How can we reuse materials to design new products?, 184 Air Resources, 192 Quest Check-In: Efficient or Wasteful?, 193 uEngineer It!: Make Energy the Solar Way, 194-195 Quest Check-In: Save Energy!, 203 uInvestigate Lab: What happens to substances over time?, 205 Reduce Human Impacts, 209 Resource Protection, 214 Environmental Conservation, 215 Visual Literacy Connection: How do people recycle?, 216-217 Reduce and Reuse, 218 Lesson 4 Check, 219 Resource Use, 219 Quest Check-In: Increase Conservation, 220 Evidence-Based Assessment, 226-227 uDemonstrate Lab: How can you use the energy of water?, 228-229</p>

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ETS1 Engineering Design		
ETS1.A	Defining and Delimiting Engineering Problems	
ETS1.A.1	Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.	SE/TE: uEngineer It!: Robot Chef, 24-25 uEngineer It!: Foam Sweet Foam, 76-77 uEngineer It!: A New Home, 118-119 uEngineer It!: It's Melting!, 152-153 uEngineer It!: Make Energy the Solar Way, 194-195 uEngineer It!: What's with the dust?, 244-245 Defining Problems, EM10
ETA1.B	Developing Possible Solutions	
ETS1.B.1	Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.	SE/TE: STEM Quest Check-In Lab: How can you make modeling dough?, 74-75 uEngineer It!: Foam Sweet Foam, 76-77 Quest Check-In Lab: How can you make a new and improved formula?, 86-87 STEM Quest Check-In Lab: How do we filter water?, 160-161 uInvestigate Lab: How can you separate salt from water?, 163 Quest Findings: Water, Water Everywhere!, 172 uDemonstrate Lab: How can water move upward?, 178-179 uConnect Lab: How can we reuse materials to design new products?, 184 uEngineer It!: Make Energy the Solar Way, 194-195 Quest Check-In Lab: How do building materials affect energy efficiency?, 210-211 uInvestigate Lab: How can you collect rainwater?, 213 uDemonstrate Lab: How can you use the energy of water?, 228-229

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ETS1.C	Optimizing the Solution Process	
ETS1.C.1	Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.	SE/TE: Quest Check In How can you make a new and improved formula?, 86 Quest Findings, 88 Supporting: uDemonstrate Lab How are the spheres represented in a terrarium?, 136-137 Supporting: uDemonstrate Lab How can water move upward, 178-179 Supporting: uDemonstrate Lab How can you use the energy of water, 228-229 uDemonstrate Lab: How can you model matter cycles in the Earth system?, 402-403