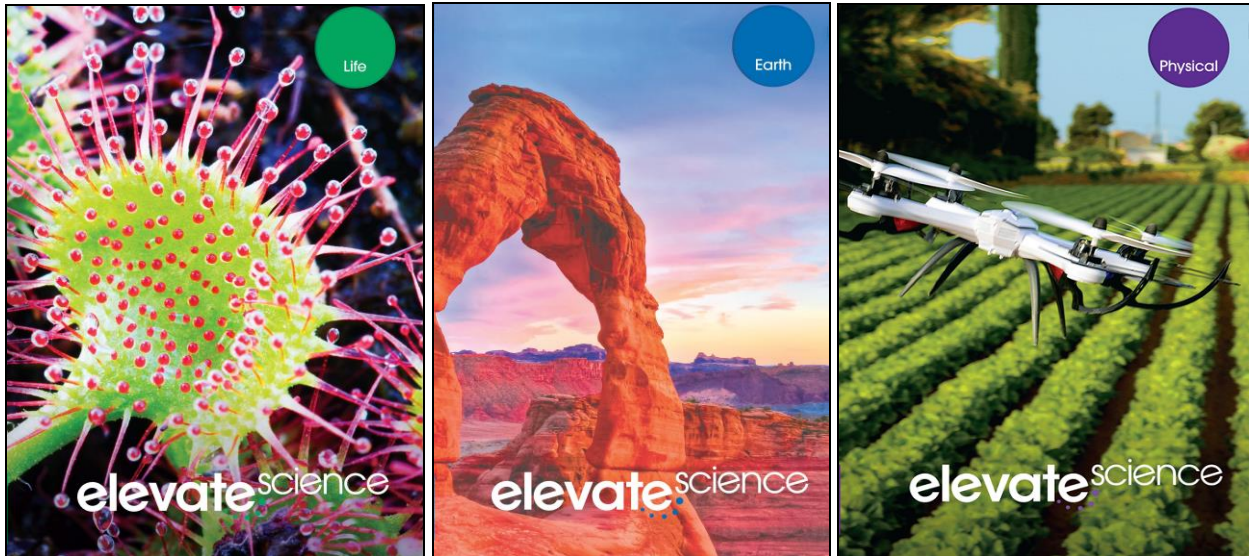


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Life, Earth, & Physical

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To the

Missouri

Learning Standards for Science

Grades 6-8

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Introduction

This document demonstrates how the ***Elevate Science* ©2019** program supports the Missouri Learning Standards for Science, Grades 6-8. Correlation page references are to the Student and Teacher's Editions and cited at the page level.

Pearson is proud to introduce ***Elevate Science*** Middle Grades – where exploration is the heart of science! Designed to address the rigors of new science standards, students will experience science up close and personal, using real-world, relevant phenomena to solve project-based problems. Our newest program prepares students for the challenges of tomorrow, building strong reasoning skills and critical thinking strategies as they engage in explorations, formulate claims, and gather and analyze data that promote evidence-based arguments. The blended print and digital curriculum covers all Next Generation Science Standards at every grade level.

Elevate Science helps teachers transform learning, promote innovation, and manage their classroom.

Transform science classrooms by immersing students in active, three-dimensional learning.

Elevate Science engages students with real-world tasks, open-ended Quests, uDemonstrate performance-based labs, and in the engineering/design process with uEngineer It! investigations.

- A new 3-D learning model enhances best practices.
- Engineering-focused features infuse STEM learning.
- Phenomena-based activities put students at the heart of a Quest for knowledge.

Innovate learning by focusing on 21st century skills.

Students are encouraged to think, collaborate, and innovate! With ***Elevate Science***, students explore STEM careers, experience engineering activities, and discover our scientific and technological world. The content, strategies, and resources of *Elevate Science* equip the science classroom for scientific inquiry and science and engineering practices.

- Problem-based learning Quests put students on a journey of discovery.
- STEM connections help integrate curriculum.
- Coding and innovation engage students and build 21st century skills.

Manage the classroom with confidence.

Teachers will lead their class in asking questions and engaging in argumentation. Evidence-based assessments provide new options for monitoring student understanding.

- Professional development offers practical point-of-use support.
- Embedded standards in the program allow for easy integration.
- ELL and differentiated instruction strategies help instructors reach every learner.
- Interdisciplinary connections relate science to other subjects.

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

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

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6-8-ESS2-5 Research, collect, and analyze data to provide evidence for how the motions and complex interactions of air masses results in changes in weather conditions.	Earth Science SE/TE: Major Air Masses, 67-68 Types of Air Masses, 68 Model It!: Develop Models, 71 Quest Check-In, 73 Case Study: The Case of the Runaway Hurricane, 92-93 Factors That Affect Precipitation, 452-453
6-8-ESS2-6 Develop and use a model to describe how unequal heating and rotation of the Earth cause patterns of atmospheric and oceanic circulation that determine regional climates.	Earth Science SE/TE: Global Winds, 182 The Coriolis Effect, 183 Global Wind Patterns, 184-185 Factors Affecting Surface Currents, 190 Hands-On-Lab: Modeling Ocean Current Formation, 190 El Nino and La Nina, 192 u Demonstrate Lab: Not All Heating is Equal, 202-205 Factors Affecting Surface Currents, 428 Effects on Climate, 429 U Demonstrate Lab: Not All Heating Is Equal, 440-443 Factors That Affect Temperature, 449-451 Hands-On Lab: How Does Latitude Affect Climate, 449 Math Toolbox: Temperature and Altitude, 450 World Climate, 454-455 Hands-On Lab: Classifying Climates, 454 Model It! City Climates, 455 Lesson 1 Check, 465 Topic 8: Review and Assess, 480

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6-8-ESS3 Earth and Human Activity	
6-8-ESS3.A Natural Resources	
6-8-ESS3-1 Construct a scientific explanation based on evidence for how the uneven distributions of Earth’s mineral, energy, and groundwater resources are the result of past and current geoscience processes and human activity.	Earth Science SE/TE: Natural Resources, 265 Figure 5: Mineral Distribution, 287 Humans and Minerals, 288 Water on Earth, 293-295 Math Toolbox: Distribution of Water Resources, 294 Figure 3: Distribution of Groundwater, 295 Human Impacts, 296-297 Topic 6 Evidence-Based Assessment, 302-303 uDemonstrate Lab: To Drill or not to Drill, 304-307
6-8-ESS3.B Natural Hazards	
6-8-ESS3-2 Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects.	Earth Science SE/TE: Quest Connection, 82 Storm Safety, 90 Flood and Drought, 89 Storm Safety, 90 Case Study: Runaway Hurricanes, 92-93 Hands-On Lab: Earthquake Data to Identify Patterns, 183 uEngineer It!: Designing to Prevent Destruction, 189 Question It! Building on a Volcano, 198 Quest Kickoff: How can I design and build an artificial island?, 210-211 uEngineer It!: Ground Shifting Advances, 221 Math Toolbox: Finding an Epicenter, 185 uDemonstrate Lab: Materials on a Slope, 256-259

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6-8-ESS3.C Human Impacts on Earth's Systems	
6-8-ESS3-3 Analyze data to define the relationship for how increases in human population and per-capita consumption of natural resources impact Earth's systems.	<p>Earth Science SE/TE: The Human Population, 313 Hands-On Lab: Growth Spurt, 313 Population Changes, 314 Population Growth Rate, 315 Math Toolbox: Projected Growth Rates, 315 Using Natural Resources, 316-317 Hands-On Lab: Doubling Time, 316 Land as Resource, 331-332 Importance of Soil Management, 333-336 Math Toolbox: Causes of Land Degradation, 335</p>
6-8-ESS3-4 Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.	<p>Life Science SE/TE: Human Impact, 319-322 uEngineer It!: From Bulldozers to Biomes, 335</p> <p>Earth Science SE/TE: Micro-Hydro Power, 281 Math Toolbox: Causes of Land Degradation, 335 Dealing with Climate Change, 476-477 Energy-Efficient Technologies, 476 Design It!: Adapting for Climate Change, 476 uEngineer It!: Changing Climate Change, 479 Quest Kickoff, 446-447 Quest Findings: Complete the Quest, 483</p>
6-8-ESS3.D Global Climate Change	
6-8-ESS3-5 Analyze evidence of the factors that have caused the change in global temperatures over the past century.	<p>Earth Science SE/TE: Hands-On Lab: What is the Greenhouse Effect?, 460 Recent Climate Change, 463 Human Activities, 464-465 Carbon Dioxide Concentrations, 466 Impact of Rising Temperatures, 471-475</p>

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Engineering	
6-8-ETS1 Engineering Design	
6-8-ETS1.A Defining and Delimiting Engineering Problems	
6-8-ETS-1 Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.	<p>Life Science SE/TE: uEngineer It! An Artificial Leaf, 107 uEngineer It! Artificial Skin, 139 uEngineer It! Gardening in Space, 217 uEngineer It! Eating Oil, 271 uEngineer It! From Bulldozer To Biomes, 335 uEngineer It! Fossils from Bedrock, 433</p> <p>Earth Science SE/TE: uEngineer It! Micro-Hydro Power, 281 uEngineer It! From Wastewater to Tap Water, 353 uEngineer It! Windmills of the Future, 425 uEngineer It! Changing Climate Change, 479 uEngineer It!: Power from the Tides, 523 uEngineer It! Blast Off, 559</p> <p>Physical Science SE/TE: uEngineer It! Say "Cheese!", 197 uEngineer It! Electromagnetism In Action, 265 uEngineer It! A Life-Saving Mistake, 299 uEngineer It! When Particles Collide, 367 uEngineer It! Making Water Safe to Drink, 407 uEngineer It! Generating Energy from Potholes, 479</p>

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6-8-ETS1.B Developing Possible Solutions	
6-8-ETS-2 Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.	<p>Life Science SE/TE: uEngineer It! An Artificial Leaf, 107 uEngineer It! Artificial Skin, 139 uEngineer It! Gardening in Space, 217 uEngineer It! Eating Oil, 271 uEngineer It! From Bulldozer To Biomes, 335 uEngineer It! Fossils from Bedrock, 433</p> <p>Earth Science SE/TE: uEngineer It! Catching Water With a Net, 24 uEngineer It! Ground Shifting Advances: Maps Help Protect, 84 uEngineer It!, A Disease Becomes a Cure, 160 uEngineer It! Artificial Skin, 215 uEngineer It! Micro-Hydro Power, 281 uEngineer It! From Wastewater to Tap Water, 353 uEngineer It! Windmills of the Future, 425 uEngineer It! Changing Climate Change, 479 uEngineer It!: Power from the Tides, 523 uEngineer It! Blast Off, 559</p> <p>Physical Science SE/TE: uEngineer It! Prosthetics on the Move, 25 uEngineer It!, Generating Energy from Potholes, 86 uEngineer It! A Daring Bridge, 126 uEngineer It! Windmills of the Future, 169 uEngineer It! Say "Cheese!", 197 uEngineer It! Electromagnetism In Action, 265 uEngineer It! A Life-Saving Mistake, 299 uEngineer It! When Particles Collide, 367 uEngineer It! Making Water Safe to Drink, 407 uEngineer It! Generating Energy from Potholes, 479</p>

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<p>6-8-ETS-3 Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.</p>	<p>Life Science SE/TE: uEngineer It! An Artificial Leaf, 107 uEngineer It! Artificial Skin, 139 uEngineer It! Gardening in Space, 217 uEngineer It! Eating Oil, 271 uEngineer It! From Bulldozer To Biomes, 335 uEngineer It! Fossils from Bedrock, 433</p> <p>Earth Science SE/TE: uEngineer It! Micro-Hydro Power, 281 uEngineer It! From Wastewater to Tap Water, 353 uEngineer It! Windmills of the Future, 425 uEngineer It! Changing Climate Change, 479 uEngineer It!: Power from the Tides, 523 uEngineer It! Blast Off, 559</p> <p>Physical Science SE/TE: uEngineer It! A Daring Bridge, 126 uEngineer It! Windmills of the Future, 169 uEngineer It! Say "Cheese!", 197 uEngineer It! Electromagnetism In Action, 265 uEngineer It! A Life-Saving Mistake, 299 uEngineer It! When Particles Collide, 367 uEngineer It! Making Water Safe to Drink, 407 uEngineer It! Generating Energy from Potholes, 479</p>

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<p>6-8-ESTS-4 Develop a model to generate data for iterative testing and modification of a proposed object, tool, or process such that an optimal design can be achieved.</p>	<p>Life Science SE/TE: uEngineer It! An Artificial Leaf, 107 uEngineer It! Artificial Skin, 139 uEngineer It! Gardening in Space, 217 uEngineer It! Eating Oil, 271 uEngineer It! From Bulldozer To Biomes, 335</p> <p>Earth Science SE/TE: uEngineer It! Catching Water With a Net, 24 Model It!: Develop Models, 71 Model It!: How Thunderstorms Form, 85 Model It!: Oxbow Lakes, 234 uDemonstrate Lab: Materials on a Slope, 256-259 Model It!: Develop Models, 247 uEngineer It!, A Disease Becomes a Cure, 160 uEngineer It! Micro-Hydro Power, 281 uEngineer It! From Wastewater to Tap Water, 353</p> <p>Physical Science SE/TE: uEngineer It! Say "Cheese!", 197 uEngineer It! Electromagnetism In Action, 265 uEngineer It! A Life-Saving Mistake, 299</p>