

A Correlation of

Elevate Science

Course 3, ©2019



To the

Iowa Core

Science Standards

Grade 8



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Introduction

This document demonstrates how the ***Elevate Science* ©2019** program supports the Iowa Core Science Standards, Grade 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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Iowa Core New Science Standards Grade 8	Elevate Science Course 3, ©2019
Matter and Its Interactions (MS-PS1)	
(MS-PS1-3) Gather and make sense of information to describe that synthetic materials come from natural resources and impact society.	SE/TE: 98–105, 106–107, 108, 109
Motion and Stability: Forces and Interactions (MS-PS2)	
(MS-PS2-1) Apply Newton’s Third Law to design a solution to a problem involving the motion of two colliding objects.	SE/TE: 149, 164–167
(MS-PS2-2) Plan an investigation to provide evidence that the change in an object’s motion depends on the sum of the forces on the object and the mass of the object.	SE/TE: 120–127, 128–137, 138–139, 140–148, 164–167 TE Only: pp. 120–127, 128–137, 138–139, 164–167
Energy (MS-PS3)	
(MS-PS3-1) Construct and interpret graphical displays of data to describe the relationships of kinetic energy to the mass of an object and to the speed of an object.	This standard is addressed in Elevate Science, Course 1: SE/TE: 86–87, 100–106, 128–129 This standard is addressed in Elevate Science, Course 2: SE/TE: 180–181, 221, 352
(MS-PS3-3) Apply scientific principles to design, construct, and test a device that either minimizes or maximizes thermal energy transfer.	This standard is addressed in Elevate Science, Course 1: SE/TE: 107, 117, 136–139, 166–167, 170–173
Waves and Their Applications in Technologies for Information Transfer (MS-PS4)	
(MS-PS4-1) Use mathematical representations to describe a simple model for waves that includes how the amplitude of a wave is related to the energy in a wave.	This standard is addressed in Elevate Science, Course 2: SE/TE: 388–391, 392–399, 442–445
(MS-PS4-2) Develop and use a model to describe that waves are reflected, absorbed, or transmitted through various materials.	This standard is addressed in Elevate Science, Course 2: SE/TE: 388–391, 402–410, 411, 412–421, 422–430, 432–441, 442–449

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(MS-PS4-3) Integrate qualitative scientific and technical information to support the claim that digitized signals are a more reliable way to encode and transmit information than analog signals.	This standard is addressed in Elevate Science, Course 2: SE/TE: 500–503, 504–512, 514–523, 524–525, 526–534, 536–539, 540–543
Ecosystems: Interactions, Energy, and Dynamics (MS-LS2)	
(MS-LS2-5) Evaluate competing design solutions for maintaining biodiversity and ecosystem services.	This standard is addressed in Elevate Science, Course 2: SE/TE: 232–235, 254–265, 268–276, 277
Biological Evolution: Unity and Diversity (MS-LS4)	
(MS-LS4-1) Analyze and interpret data for patterns in the fossil record that document the existence, diversity, extinction, and change of life forms throughout the history of life on Earth under the assumption that natural laws operate today as in the past.	SE/TE: 266–279, 302, 304–306, 318, 328, 330–331, 334–337
(MS-LS4-2) Apply scientific ideas to construct an explanation for the anatomical similarities and differences among modern organisms and between modern and fossil organisms to infer evolutionary relationships.	SE/TE: 242, 266–279, 280–288, 310–311, 334–337
(MS-LS4-3) Analyze displays of pictorial data to compare patterns of similarities in the embryological development across multiple species to identify relationships not evident in the fully formed anatomy.	SE/TE: 266–269, 270–273, 274–275
(MS-LS4-4) Construct an explanation based on evidence that describes how genetic variations of traits in a population increase some individuals' probability of surviving and reproducing in a specific environment.	SE/TE: 182–183, 238–247, 248–256, 258–265
(MS-LS4-5) Gather and synthesize information about the technologies that have changed the way humans influence the inheritance of desired traits in organisms.	SE/TE: 216–225, 248–256

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(MS-LS4-6) Use mathematical representations to support explanations of how natural selection may lead to increases and decreases of specific traits in populations over time.	SE/TE: 248–256, 258–265, 266–277, 280–288
Earth’s Systems (MS-ESS2)	
(MS-ESS2-4) Develop a model to describe the cycling of water through Earth’s systems driven by energy from the sun and the force of gravity.	This standard is addressed in Elevate Science, Course 1: SE/TE: 174–177, 198–209, 210–217, 218–219, 230–238, 268–269, 272–275
(MS-ESS2-5) Collect data to provide evidence for how the motions and complex interactions of air masses results in changes in weather conditions.	This standard is addressed in Elevate Science, Course 1: SE/TE: 218–221, 222–229, 240–247, 248–255, 266–271
(MS-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.	SE/TE: 342–350, 352–360, 362–369, 370–371, 376–379, 384–392 This standard is also addressed in Elevate Science, Course 1: SE/TE: 218–219, 222–229, 248–255, 268–271
Earth and Human Activity (MS-ESS3)	
(MS-ESS3-3) Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.	This standard is addressed in Elevate Science, Course 2: SE/TE: 138–139, 158, 277, 307, 345
(MS-ESS3-4) Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth’s systems.	This standard is addressed in Elevate Science, Course 2: SE/TE: 286–287, 290–299, 300–306, 308–317, 318–324, 326–327, 334–337, 338–345, 346–354, 356–367, 368–378, 380–383, 384–387
(MS-ESS3-5) Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century.	SE/TE: 394–403, 406–414, 415, 416–417

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Engineering Design (MS-ETS1)	
(MS-ETS1-1) 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>SE/TE: 66-67, 84, 85, 118-119, 382-383, 495, 533</p> <p>This standard is also addressed in Elevate Science, Course 1: SE/TE: 38-41, 55, 106, 322-325</p> <p>This standard is also addressed in Elevate Science, Course 2: SE/TE: 64-67, 234-235, 252, 265, 288-289, 330-333, 513</p>
(MS-ETS1-2) Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.	<p>SE/TE: 66-67, 84, 85, 106-107, 118-119, 334-337, 340-341, 382-383, 412, 495</p> <p>This standard is also addressed in Elevate Science, Course 1: SE/TE: 55, 106, 125, 165, 322-325</p> <p>This standard is also addressed in Elevate Science, Course 2: SE/TE: 252, 265, 479, 489, 513, 540-543</p>
(MS-ETS1-3) 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>SE/TE: 66-67, 84, 85, 97, 112-115, 164-167, 225, 230-233, 533, 535</p> <p>This standard is also addressed in Elevate Science, Course 1: SE/TE: 33, 116, 165, 170-173, 413, 430-433</p> <p>This standard is also addressed in Elevate Science, Course 2: SE/TE: 489, 513</p>

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<p>(MS-ETS1-4) 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>SE/TE: 66-67, 84, 85, 112-115, 118-119, 164-167, 334-337</p> <p>This standard is also addressed in Elevate Science, Course 1: SE/TE: 33, 82-85, 106, 132-135, 154, 174-175, 378-381, 382-383, 413, 425, 430-433</p> <p>This standard is also addressed in Elevate Science, Course 2: SE/TE: 64-67, 132-135, 265, 330-333, 415, 424-425, 479, 489, 513, 540-543</p>