

A Correlation of

Elevate Science Modules

Grades 6-8, ©2019



To the

CREC NGSS Curriculum Consortium

Scope and Sequence

Grade 8

A Correlation of Elevate Science Modules ©2019
To the
CREC NGSS Curriculum Consortium Scope and Sequence, Grade 8

Introduction

This document demonstrates how the ***Elevate Science Modules ©2019*** program supports CREC NGSS Curriculum Consortium Scope and Sequence for 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.

**A Correlation of Elevate Science Modules ©2019
To the
CREC NGSS Curriculum Consortium Scope and Sequence, Grade 8**

Table of Contents

Bundle 1: Forces and Motion (Jetpacks/Collisions).....	4
Bundle 2: Waves and Communication Technology (Sending a Music Byte).....	5
Bundle 3: Genetics (Dog Breeds/Jurassic park)	6
Bundle 4: Explaining Earth’s changes Over Time	7

**A Correlation of Elevate Science Modules ©2019
To the
CREC NGSS Curriculum Consortium Scope and Sequence, Grade 8**

CREC NGSS Curriculum Consortium Scope and Sequence for Grade 8	Elevate Science Modules Grades 6-8 ©2019
Bundle 1: Forces and Motion (Jetpacks/Collisions)	
(PS-MS-PS2-1) Apply Newton’s Third Law to design a solution to a problem involving the motion of two colliding objects.	Forces SE/TE: 2-3, 32, 47
(PS-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.	Forces SE/TE: 21, 48-51
(PS-MS-PS2-3) Ask questions about data to determine the factors that affect the strength of electric and magnetic forces.	Forces SE/TE: 59, 64, 81, 85, 87
(PS-MS-PS2-4) Construct and present arguments using evidence to support the claim that gravitational interactions are attractive and depend on the masses of interacting objects.	Forces SE/TE: 39, 41, 42
(PS-MS-PS2-5) Conduct an investigation and evaluate the experimental design to provide evidence that fields exist between objects exerting forces on each other even though the objects are not in contact.	Forces SE/TE: 59, 85, 98-101
(PS-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.	Energy Transfer SE/TE: 16

**A Correlation of Elevate Science Modules ©2019
To the
CREC NGSS Curriculum Consortium Scope and Sequence, Grade 8**

<p>(PS-MS-PS3-2) Develop a model to describe that when the arrangement of objects interacting at a distance changes, different amounts of potential energy are stored in the system.</p>	<p>Energy Transfer SE/TE: 18, 35, 44-45, 46-49</p>
<p>(PS-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>	<p>Forces SE/TE: 33, 48-51, 110-113</p> <p>Energy Transfer SE/TE: 96-99</p>
<p>(PS-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>	<p>Energy Transfer SE/TE: 46-49</p> <p>Forces SE/TE: 47, 48-51</p>
Bundle 2: Waves and Communication Technology (Sending a Music Byte)	
<p>(PS-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.</p>	<p>Waves and Information Technologies SE/TE: 10-11</p>
<p>(PS-MS-PS4-2) Develop and use a model to describe that waves are reflected, absorbed, or transmitted through various materials.</p>	<p>Waves and Information Technologies SE/TE: 16, 17, 18-19, 27, 33, 34, 37, 42, 50, 53, 54-55, 56-57, 58-61</p>
<p>(PS-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.</p>	<p>Waves and Information Technologies SE/TE: 86-87, 92-93, 94, 95, 96, 98-99, 100-101, 102-105</p>

**A Correlation of Elevate Science Modules ©2019
To the
CREC NGSS Curriculum Consortium Scope and Sequence, Grade 8**

(PS-MS-ETS1-2) Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.	Waves and Information Technologies SE/TE: 23, 33
(PS-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.	Waves and Information Technologies SE/TE: 24, 27, 114-117
Bundle 3: Genetics (Dog Breeds/Jurassic park)	
(PS-MS-LS3-1) Develop and use a model to describe why structural changes to genes (mutations) located on chromosomes may affect proteins and may result in harmful, beneficial, or neutral effects to the structure and function of the organism.	Diversity of Life SE/TE: 41, 44, 45, 47, 60-61, 93, 96, 116
(PS-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.	Diversity of Life SE/TE: 74, 79, 98, 99-101, 102-103, 104-105, 106-108, 109, 110-111 Relationships Within Ecosystems SE/TE: 107, 122-123
(PS-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.	Diversity of Life SE/TE: 75, 79, 98, 103, 104, 109, 110-111, 121, 122-123, 126-129 Systems, Reproduction, and Growth SE/TE: 22

**A Correlation of Elevate Science Modules ©2019
To the
CREC NGSS Curriculum Consortium Scope and Sequence, Grade 8**

<p>(PS-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.</p>	<p>Diversity of Life SE/TE: 104</p>
<p>(PS-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.</p>	<p>Diversity of Life SE/TE: 70, 77, 79, 80, 85, 88, 90, 97</p> <p>Systems, Reproduction, and Growth SE/TE: 189, 222-223</p>
<p>(PS-MS-LS4-5) Gather and synthesize information about the technologies that have changed the way humans influence the inheritance of desired traits in organisms.</p>	<p>Diversity of Life SE/TE: 48, 49, 50-53, 56, 57, 59, 60-61</p>
<p>(PS-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.</p>	<p>Diversity of Life SE/TE: 83, 84</p>
<p>Bundle 4: Explaining Earth's Changes over Time</p>	
<p>(PS-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.</p>	<p>Diversity of Life SE/TE: 74, 79, 98, 99-101, 102-103, 104-105, 106-108, 109, 110-111</p> <p>Relationships Within Ecosystems SE/TE: 107, 122-123</p>

**A Correlation of Elevate Science Modules ©2019
To the
CREC NGSS Curriculum Consortium Scope and Sequence, Grade 8**

<p>(PS-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.</p>	<p>Diversity of Life SE/TE: 75, 79, 98, 103, 104, 109, 110-111, 121, 122-123, 126-129</p> <p>Systems, Reproduction, and Growth SE/TE: 22</p>
<p>(PS-MS-ESS1-1) Develop and use a model of the Earth-sun-moon system to describe the cyclic patterns of lunar phases, eclipses of the sun and moon, and seasons.</p>	<p>Earth's Place in the Universe SE/TE: 19, 26, 29, 30, 31, 37, 38-39, 40-43</p>
<p>(PS-MS-ESS1-2) Develop and use a model to describe the role of gravity in the motions within galaxies and the solar system.</p>	<p>Earth's Place in the Universe SE/TE: 23, 94-95</p>
<p>(PS-MS-ESS1-3) Analyze and interpret data to determine scale properties of objects in the solar system.</p>	<p>Earth's Place in the Universe SE/TE: 56-57, 60-61, 96-99</p>
<p>(PS-MS-ESS1-4) Construct a scientific explanation based on evidence from rock strata for how the geologic time scale is used to organize Earth's 4.6-billion-year-old history.</p>	<p>Earth Systems SE/TE: 156-157, 158, 162-163, 164, 165-167, 168-169, 170, 180, 182, 184-185, 186-189</p>
<p>(PS-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.</p>	<p>Changing Earth and Human Activity SE/TE: 64, 101, 104, 105, 108, 109, 122, 124, 146-147, 148-149</p>

**A Correlation of Elevate Science Modules ©2019
To the
CREC NGSS Curriculum Consortium Scope and Sequence, Grade 8**

<p>(PS-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>	<p>Earth Systems SE/TE: 23, 131, 146-149</p>
---	--