A Correlation of

Elevate Science: Physical
©2019

To the

Idaho Content Standards for Science
Physical Sciences

Grades 6-8

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Introduction

This document demonstrates how ***Elevate Science ©2019*** meets the Idaho Content Standards for Science. Correlation page references are to the Student and Teacher's Editions and cited at the page level.

Savvas 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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PS3-MS-4.PS3.B.i The amount of energy transfer needed to change the temperature of a matter sample by a given amount depends on the nature of the matter, the size of the sample, and the environment.	**SE/TE:** Thermal Energy and Changes in Matter, 31 How Temperature and Thermal Energy Are Related, 143-145 Comparing Thermal Energy, 144 Changes in Temperature, 145 uDemonstrate Lab: Testing Thermal Conductivity, 170-173
Performance Standard	
PS3-MS-5 Construct, use, and present arguments to support the claim that when the kinetic energy of an object changes, energy is transferred to or from the object.	**SE/TE:** Literacy Connection: Cite Textual Evidence, 110 Energy Changes Form, 119-121 Kinetic and Potential Energy, 120 Energy Transformation and Transfer, 121 Lesson 4 Check, 125 Topic Review and Assess, 128-129 Evidence-Based Assessment, 130-131 uDemonstrate Lab: 3, 2, 1...Liftoff!, 132-135 uEngineer It!: Shockwave to the Future, 155 Plan It!: Materials for Airplanes, 164 Evidence-Based Assessment, 168-169
Supporting Content	
PS3-MS-5.PS3.B Conservation of Energy and Energy Transfer	
PS3-MS-5.PS3.B.i When the motion energy of an object changes, there is inevitably some	**SE/TE:** Motion and Energy, 91

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other change in energy at the same time.	Energy Changes Form, 119-121 Kinetic and Potential Energy, 120 Conservation of Energy in Transfers, 123 Topic Review and Assess, 128-129
PS4-MS Waves	
Performance Standard	
PS4-MS-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.	**SE/TE:** Types of Waves, 179-181 Properties of Waves, 182-183 Properties of Waves Figure 5, 182 Math Toolbox: Wave Properties, 184 Wave Energy, 184 Lesson 1 Check, 185 Connect It!, 198
PS4-MS-1.PS4.A Wave Properties	
PS4-MS-1.PS4.A.i A simple wave has a repeating pattern with a specific wavelength, frequency, and amplitude.	**SE/TE:** Types of Waves, 179-181 Interactivity, 181 Properties of Waves, 182-183 Properties of Waves Figure 5, 182 Lesson 1 Check, 185 Math Toolbox: Frequencies and Wavelengths of Light, 213
Performance Standard	
PS4-MS-2 Develop and use a model to describe that waves are reflected, absorbed, or transmitted through various materials.	**SE/TE:** Topic 5 Opener: Waves and Electromagnetic Radiation, 174-175 Quest Connection, 178 Reflection, Refraction and Absorption, 189-191 Plan It!: Develop Models, 190 uEngineer It!: Say "Cheese!", 197

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	Connect It!, 198 The Behavior of Sound, 199-201 Absorption, 200 Reflection and Transmission, 200 Diffraction, 201 Model It!, 201 Lesson 3 Check, 207 Quest Connection, 208 Model It!: Polarizing Glasses, 211 Quest Check-In, 216 Model It!: Fun with Mirrors, 224 Quest Check-In, 227 Topic Review and Assess, 228-229 Evidence-Based Assessment, 230-231 uDemonstrate Lab: Making Waves, 232-235
Supporting Content	
PS4-MS-2.PS4.A Wave Properties	
PS4-MS-2.PS4.A.i A sound wave needs a medium through which it is transmitted.	**SE/TE:** Case Study: Sound and Light at the Ballpark, 186-187 The Behavior of Sound, 199-201 Diffraction, 201 Model It!, 201 Density, 202 Stiffness, 202 Lesson 3 Check, 207
PS4-MS-2.PS4.B Electromagnetic Radiation	
PS4-MS-2.PS4.B.i When light shines on an object, it is reflected, absorbed, or transmitted through the object, depending on the object's material and the frequency (color) of the light.	**SE/TE:** Quest Connection, 188 Reflection, Refraction and Absorption, 189-191 Question It!: Classify, 191

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	Quest Check-In, 196 Connect It!, 208 Models of Electromagnetic Wave Behavior, 210-211 Quest Check-In, 216 Quest Connection, 218 Color Filters, 221 Reflecting Light, 222-224 Mirror Images, 223 Concave Mirrors, 224
PS4-MS-2.PS4.B.ii The path that light travels can be traced as straight lines, except at surfaces between different transparent materials (e.g., air and water, air and glass) where the light path bends.	**SE/TE:** Quest Connection, 178 Quest Check-In, 185 Connect It!, 188 Reflection, Refraction and Absorption, 189-191 Question It!: Classify, 191 Lesson 2 Check, 196 Quest Check-In, 196
PS4-MS-2.PS4.B.iii A wave model of light is useful for explaining brightness, color, and the frequency-dependent bending of light at a surface between media.	**SE/TE:** Properties of Waves, 182-183 Math Toolbox: Frequencies and Wavelengths of Light, 213 Lesson 3 Check, 216 Careers: Lighting Designer, 217 Color Filters, 221
PS4-MS-2.PS4.B.iv However, because light can travel through space, it cannot be a matter wave, like sound or water waves.	**SE/TE:** Quest Connection, 178 Types of Waves, 179 Case Study: Sound and Light at the Ballpark, 186-187 Characteristics of Electromagnetic Waves, 209

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Performance Standard	
PS4-MS-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.	**SE/TE:** uEngineer It!: A Life-Saving Mistake, 299 Quest Connection, 300 Signals and Information, 301-303 Electronic Signals, 302 Electromagnetic Signals, 303 Analog and Digital Signals, 304-306 Analog Signals, 304 Digital Signals, 304 Sampling Rate, 305 Binary Signals, 306 Transmitting Signals, 307-308 Sound Information, 307 Visual Information, 308 Lesson 2 Check, 309 Quest Check-In, 309 Case Study: Super Ultra High Definition!, 310-

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	311 Quest Connection, 312 Communications Systems, 315-317 Advantages of Digital Signals, 318-319 Noise, 318 Bandwidth, 319 Security, 319 Lesson 3 Check, 320 Quest Check-In, 320 Extraordinary Science: Beam Me Up!, 321 Topic Review and Assess, 322-323 Evidence-Based Assessment, 324-325 uDemonstrate Lab: Over and Out, 326-329
Supporting Content	
PS4-MS-3.PS4.C Information Technologies and Instrumentation	
PS4-MS-3.PS4.C.i Digitized signals (sent as wave pulses) are a more reliable way to encode and transmit information.	**SE/TE:** Signals and Information, 301-303 Electronic Signals, 302 Electromagnetic Signals, 303 Analog and Digital Signals, 304-306 Analog Signals, 304 Digital Signals, 304 Sampling Rate, 305 Binary Signals, 306 Transmitting Signals, 307-308 Sound Information, 307 Lesson 2 Check, 309