

A Correlation of
Elevate Science
Grade 5, ©2019



To the
Ohio New Learning Standards
Science

**A Correlation of Elevate Science ©2019, Grade 5
to the
Ohio New Learning Standards - Science**

Introduction

The following document demonstrates how the ***Elevate Science, ©2019*** program supports the Ohio's New Learning Standards - 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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Ohio's New Learning Standards - Science		Elevate Science, ©2019
ESS	Earth and Space Science	
ESS.1	Cycles and Patterns in the Solar System: This topic focuses on the characteristics, cycles and patterns in the solar system and within the universe.	
ESS.1.1	The solar system includes the sun and all celestial bodies that orbit the sun. Each planet in the solar system has unique characteristics. Note: The shape of Earth's orbit is nearly circular (also true for other planets). Many graphics that illustrate the orbit overemphasize the elliptical shape, leading to the misconception regarding seasonal change being related to how close Earth is to the sun. The discussion of planet characteristics should be at an introductory level for this grade.	
ESS.1.1.a	The distance from the sun, size, composition and movement of each planet are unique. Planets revolve around the sun in elliptical orbits. Some of the planets have moons and/or debris that orbit them. Comets, asteroids and meteoroids orbit the sun.	<p>SE/TE:</p> <ul style="list-style-type: none"> uInvestigate Lab: How does a planets distance from the sun affect its path?, 247 Visual Literacy Connection: What is in our solar system?, 248-249 Quest Connection, 250 Planetary Orbit, 250 Quest Check-In Lab: What's inside the solar system?, 252-253 Gas Giants, 256 Quest Connection, 256 Science Practice Toolbox: Engage in Argument from Evidence, 256 Jupiter: Gas Giant with Many Moons, 257 Saturn: A Planet with "Handles", 257 Visual Literacy Connection: How are the outer planets aligned?, 258-259 Neptune, 260 Uranus, 260 STEM Quest Check-In Lab: What planets are way out there?, 262 Quest Findings: Keeping the Planets in Order, 264 uDemonstrate Lab How can you compare the sizes of objects in space, 270-271 STEM Math Connection: How long does it take to orbit?, 293

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ESS.1.2	The sun is one of many stars that exist in the universe.	
ESS.1.2.a	The sun appears to be the largest star in the sky because it is the closest star to Earth. Some stars are larger than the sun and some stars are smaller than the sun.	SE/TE: Earth's Sun, 238 Brightness of Stars, 240 Distances of Stars, 240 Plan It!, 241 Size of Stars, 241 Evidence-Based Assessment, 268-269
ESS.1.3	Most of the cycles and patterns of motion between the Earth and sun are predictable. Note 1: The amount of direct sunlight that Earth receives is related to the altitude of the sun, which affects the angle of the sun's rays, and the amount of time the sun is above the horizon each day. Note 2: Different regions around the world have seasonal changes that are not based solely on average temperature (e.g., rainy season, dry season, monsoon season).	
ESS.1.3.a	Earth's revolution around the sun takes approximately 365 days. Earth completes one rotation on its axis in a 24-hour period, producing day and night. This rotation makes the sun, stars and moon appear to change position in the sky. Earth's axis is tilted at an angle of 23.5°. This tilt, along with Earth's revolution around the sun, affects the amount of direct sunlight that the Earth receives in a single day and throughout the year. The average daily temperature is related to the amount of direct sunlight received. Changes in average temperature throughout the year are identified as seasons.	SE/TE: Local-to-Global Connection, 284 Investigate Lab: How are we spinning?, 285 Earth's Rotation, 286 Earth's Revolution, 287 Quest Connection, 287 Seasons, 290-291 Investigate Lab What star patterns can you see?, 295 Shadow Patterns, 296 Topic Assessment, 308-309 Evidence-Based Assessment, 310-311

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LS	Life Science	
LS.1	Interconnections within Ecosystems: This topic focuses on foundational knowledge of the structures and functions of ecosystems.	
LS.1.1	Organisms perform a variety of roles in an ecosystem.	
LS.1.1.a	Populations of organisms can be categorized by how they acquire energy.	SE/TE: Animals and Energy, 323 uDemonstrate Lab: How does matter move through an ecosystem?, 352-353 uInvestigate Lab: How can matter change in an ecosystem?, 369 Producers, 370 Decomposers, 371 Visual Literacy Connection: Who eats whom?, 372-373 Engineering Connection, 386 Flow of Matter in Ecosystems, 388 Quest Check-In: Moving Matter and Energy, 393 Topic Assessment, 398-399
LS.1.1.b	Food webs can be used to identify the relationships among producers, consumers and decomposers in an ecosystem.	SE/TE: What is a trophic level?, 324-325 Visual Literacy Connection: Who eats whom?, 372-373 Food Chains, 374 Quest Connection, 374 Food Webs, 375 Evidence-Based Assessment, 400-401
LS.1.2	All of the processes that take place within organisms require energy.	
LS.1.2.a	For ecosystems, the major source of energy is sunlight.	SE/TE: Crosscutting Concepts Toolbox: Energy and Matter, 238 uInvestigate Lab: How is the sun involved in your meals?, 321 Energy Paths to the Sun, 326 Quest Check-In Lab: What plant foods provide the most energy and nutrients?, 334-335

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LS.1.2.b	Energy entering ecosystems as sunlight is transferred and transformed by producers into energy that organisms use through the process of photosynthesis. That energy then passes from organism to organism as illustrated in food webs.	<p>SE/TE: Crosscutting Concepts Toolbox: Energy and Matter, 238 uInvestigate Lab: How is the sun involved in your meals?, 321 Plants and Energy, 322 What is a trophic level?, 324-325 Crosscutting Concepts Toolbox: Energy and Matter, 330 Model It!, 330 Photosynthesis, 330 How Plants Gain Mass, 331 Quest Check-In Lab: What plant foods provide the most energy and nutrients?, 334-335 Crosscutting Concepts Toolbox: Energy and Matter, 340 Producers, 370 Visual Literacy Connection: Who eats whom?, 372-373</p>
LS.1.2.c	In most ecosystems, energy derived from the sun is transferred and transformed into energy that organisms use by the process of photosynthesis in plants and other photosynthetic organisms.	<p>SE/TE: uInvestigate Lab: How is the sun involved in your meals?, 321 Energy Paths to the Sun, 326 uInvestigate Lab: What matter do plants need to make food?, 329 Crosscutting Concepts Toolbox: Energy and Matter, 330 Model It!, 330 Photosynthesis, 330 Nutrients from Soil, 333 Crosscutting Concepts Toolbox: Energy and Matter, 340 Evidence-Based Assessment, 350-351 uDemonstrate Lab: How does matter move through an ecosystem?, 352-353 Producers, 370 Quest Check-In: Moving Matter and Energy, 393</p>

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PS	Physical Science	
PS.1	Light, Sound and Motion: This topic focuses on the forces that affect motion. This includes the relationship between the change in speed of an object, the amount of force applied and the mass of the object. Light and sound are explored as forms of energy that move in predictable ways, depending on the matter through which they move. While mass is the scientifically correct term to use in this context, the NAEP 2009 Science Framework (page 27) recommends using the more familiar term 'weight' in the elementary grades with the distinction between mass and weight being introduced at the middle school level. In Ohio, students will not be assessed on the differences between mass and weight until Grade 6.	
PS.1.1	The amount of change in movement of an object is based on the mass of the object and the amount of force exerted. Note 1: Gravity and magnetism are introduced (through observation) in PS grade 2.	
PS.1.1.a	Movement can be measured by speed. The speed of an object is calculated by determining the distance (d) traveled in a period of time (t).	See Grade 4, Topic 1, Energy and Motion, Lesson 1.
PS.1.1.b	Earth pulls down on all objects with a gravitational force. Weight is a measure of the gravitational force between an object and the Earth.	SE/TE: Gravitational Force, 280 Gravity on Earth, 281 uBe a Scientist: Explore Gravity, 281 Science Practice Toolbox: Engage in Argument from Evidence, 282 Quest Check-In Lab: How does gravity affect matter?, 283 Topic Assessment, 308-309
PS.1.2	Light and sound are forms of energy that behave in predictable ways. Note: At this grade level, the discussion of light and sound should be based on observable behavior. Waves are introduced at the middle school level.	
PS.1.2.a	Light travels and maintains its direction until it interacts with an object or moves from one medium to another and then it can be reflected, refracted or absorbed.	This standard is met in Grade 4, Topic 3, Waves and Information, Lesson 3.
PS.1.2.b	Sound is produced by vibrating objects and requires a medium through which to travel. The rate of vibration is related to the pitch of the sound.	This standard is met in Grade 4, Topic 1, Energy and Motion, Lesson 3. See also Topic 3, Waves and Information, Lesson 1.