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Elevate Science Modules
Grade 6-8, ©2019

To the

Minnesota
2019 Academic Standards in Science
Grade 6

Prepared by Savvas Learning Company, formerly Pearson K12 Learning

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Introduction

This document demonstrates how ***Elevate Science ©2019*** meets the Minnesota K-12 Academic Standards in Science, Grades 6-8. Correlation page references are to the Student and Teacher's Editions and cited at the page level. Realize digital courseware is cited using a pathway for each asset (each ">" indicates one click).

Savvas Learning Company LLC 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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ESS: Earth's Place in the Universe	
6E.1.1.1.1 Ask questions that arise from observations of patterns in the movement of night sky objects to test the limitations of a solar system model. (P: 1, CC: 1, : S1) Emphasis is on students questioning the limitations of their own models and questioning the kinds of revisions needed to account for new data. Examples of observations may include the student's own observations or observations made by others. Examples of night sky objects include the Moon, constellations, and planets.	**SE/TE:** **Earth's Place in the Universe** Hands-On Lab: uInvestigate, Watching the Skies, 6 Reflect, 27 Lunar Motion, 28 Moon Phases, Figure 3, 29 Two Types of Eclipses, Figure 4, 30 Model It!: Solar and Lunar Eclipses, 31 Topic 1 Review and Assess, #18, 37 Evidence-Based Assessment, 38-39 uDemonstrate Lab: Modeling Lunar Phases, 40-43 **Realize™ Digital Resources:** **Earth's Place in the Universe** **Earth-Sun-Moon Systems** >Lesson 1, Movement in Space>uInvestigate Lab: Watching the Skies; >Interactivity: Discovery of the Solar System;>Interactivity: Interpreting the Night Sky >Lesson 2, Earth's Movement in Space>Inquiry Warm-Up Lab: Patterns: Day and Night;>Interactivity: Patterns in Earth's Rotation and Revolution >Lesson 3, Phases and Eclipses>Interactivity: Why Can You See the Moon During the Day?;>uInvestigate Lab: How Does the Moon Move?;>Interactivity: Our View of the New Moon;>Interactivity: Moon Phases and Eclipses;>Interactivity: Eclipses

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ESS: Earth's Systems and Processes	
6E.1.1.1.2 Ask questions to examine an interpretation about the relative ages of different rock layers within a sequence of several rock layers. (P: 1, CC: 1, : S1) Emphasis is on the interpretation of rock layers using geologic principles like superposition and cross-cutting relationships.	**SE/TE:** **Earth Systems** TE Only: Focus on Mastery!, 151, 153 See supporting content: Quest Kickoff: How do paleontologists know where to look for fossils?, 152-153 Connect It!, 154 Determining Relative Ages of Rocks, 156-158 Lesson 1 Check, 161 Connect It!, 164 Quest Check-In, 170 Topic Review and Assess, 182-183 Evidence-Based Assessment, 184-185 Quest Findings, 185 uDemonstrate Lab: Core Sampling Through Time, 186-189 **Realize™ Digital Resources:** **Earth Systems** History of Earth >Topic Launch>Quest Kickoff>Video: The Big Fossil Hunt >Lesson 1, Determining Ages of Rocks>Inquiry Warm-Up Lab: Rock Pancakes;>Interactivity: Oldest to Youngest;>Interactivity: Know Your Index Fossils;>uInvestigate Lab: The Story in Rocks;>Quest Check-In Interactivity: Clues in Rock Layers;>Interactivity: Fossils Around the World >Lesson 2, Geologic Time Scale>Interactivity: On the Clock;>Quest Check-In Hands-on Lab: A Matter of Time >Topic Close>Quest Findings>Interactivity: Reflect on the Big Fossil Hunt

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ESS: Human Impacts and Sustainability in Earth's Systems	
6E.1.1.1.3 Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century. (P: 1, CC: 7, : S3) Emphasis is on the major role that human activities play in causing the rise in global temperatures. Examples of factors include human activities (such as fossil fuel combustion, cement production, and agricultural activity) and natural processes (such as changes in incoming solar radiation or volcanic activity). Examples of evidence can include tables, graphs, and maps of global and regional temperatures, atmospheric levels of gases such as carbon dioxide and methane, and the rates of human activities.	**SE/TE:** **Earth Systems** Global to Local: A New Mass Extinction?, 181 **Cycles Influencing Weather and Climate** Lesson 2 Check, #5, 123 Quest Kickoff: How can I help reduce my school's carbon footprint?, 102-103 See supporting content: **SE/TE:** **Cycles Influencing Weather and Climate** The Greenhouse Effect, 66 Climate, The Essential Question: How have natural processes and human activities changed Earth's Climate?, 101 Human Activities, 120-121 Case Study: The Carbon Cycle, 124-125 uEngineer It! Defining the Problem STEM: Changing Climate Change, 135 Evidence-Based Assessment, 138-139 uDemonstrate Lab: An Ocean of a Problem, 1 40-143 **Realize™ Digital Resources:** **Cycles Influencing Weather and Climate** **Climate** >Topic Launch>uConnect Lab: How Do Climates Differ?>Quest Kickoff>Video: Shrinking Your Carbon Footprint >Lesson 2, Climate Change>Interactivity: Regional Climate Change;>Interactivity: In the Greenhouse;>uInvestigate Lab: What Is the Greenhouse Effect?;>Interactivity: Human Impact on Climate Change; Interactivity: Climate Change Q & A;>Quest Check-In Hands-on Lab: Energy Saving at School >Topic Close>Quest Findings>Interactivity: Reflecting on Shrinking Your Carbon Footprint

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1.2 Planning and carrying out investigations	
1.2.1 Students will be able to design and conduct investigations in the classroom, laboratory, and/or field to test students' ideas and questions, and will organize and collect data to provide evidence to support claims the students make about phenomena.	
ESS: Weather and Climate	
6E.1.2.1.1 Collect data and use digital data analysis tools to identify patterns to provide evidence for how the motions and complex interactions of air masses result in changes in weather conditions.** (P: 3, CC: 2, : S2) Emphasis is on how weather at a fixed location changes in response to moving air masses and to interactions at frontal boundaries between air masses. Examples of weather data may include temperature, air pressure, precipitation, and wind. Examples of data analysis may include weather maps, diagrams, and visualizations or may be obtained through laboratory experiments (such as with condensation).	**SE/TE:** Cycles Influencing Weather and Climate Quest Kickoff: How can you prepare for severe weather? 2-3 Air Pressure, 7-8 Major Air Masses, 23-24 uInvestigate Lab: Weather Fronts, 25 Model It!: Develop Models, 27 Cyclones and Anticyclones, 28 Quest Check-In, 29 Global Patterns and Local Weather, 33 uInvestigate Lab: Tracking Weather, 32 Math Toolbox: Isobars, 34 Lesson 4 Check, 36 Case Study: The Case of the Runaway Hurricane, 48-49 Evidence-Based Assessment, 52-53 Quest Findings, 53 Global Winds, 76 Global Wind Patterns, 78 Evidence-Based Assessment, 94-95 **Realize™ Digital Resources:** **Cycles Influencing Weather and Climate** **Weather in the Atmosphere** >Lesson 3, Air Masses>Interactivity: When Air Masses Collide;>Video: Two Types of Fronts;>Interactivity: Mapping Out the Weather;>Quest Check-In>Interactivity: All About Air Masses >Lesson 4, Predicting Weather Changes>Interactivity: Using Air Masses to Predict Weather;>Video: Weather Satellites;>Interactivity: Weather Predicting;>Quest Check-In>Interactivity: Predicting Severe Weather

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2.0 Looking at data and empirical evidence to understand phenomena or solve problems	
2.1 Analyzing and interpreting data	
2.1.1 Students will be able to represent observations and data in order to recognize patterns in the data, the meaning of those patterns, and possible relationships between variables.	
ESS: Earth's Place in the Universe	
6E.2.1.1.1 Analyze and interpret data to determine similarities and differences among features and processes occurring on solar system objects. (P: 4, CC: 3, : S1) Examples of objects may include moons, planets, comets or asteroids. Example features may include characteristics of an object's atmosphere, surface or interior. Examples of processes may include erosion, deposition, cratering, or volcanism.	**SE/TE:** **Earth's Place in the Universe** Quest Kickoff: How do we look for things that can't be seen?, 46-47 Understanding the Solar System, 49-52 The Solar System, Figure 7, 56-57 Lesson 1 Check, 59 Case Study: Comparing Solar System Objects, 60-61 Star Color and Temperature, Figure 5, 77 uDemonstrate Lab: Scaling Down the Solar System, 96-99 **Realize™ Digital Resources:** **Earth's Place in the Universe** **Solar System and the Universe** >Topic Launch>Quest Kickoff>Video: Searching for a Star >Lesson 1, Solar System Objects>Inquiry Warm-Up Lab: Ring Around the Sun;>Interactivity: Distance Learning;>Video: Distances in the Solar System;>Virtual Lab: A New Home;>Interactivity: Solar System; uInvestigate Lab: Layers of the Sun;>Interactivity: Layers of the Sun;>Interactivity: How to Make a Solar System >Topic Close>Quest Findings>Interactivity: Reflect on Searching for a Star, ESS: Earth's Systems and Processes

SE = Student Edition TE = Teacher's Edition

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6E.2.1.1.2 Analyze and interpret data on the distribution of fossils, rocks, continental shapes, and seafloor structures to provide evidence of past plate motions. (P: 4, CC: 1, : S2) Examples of data may include similarities of rock and fossil types on different continents, the shapes of the continents (including the continental shelves), and the locations of ocean floor features such as ridges and trenches.	**SE/TE:** **Earth's Systems** uConnect Lab: How Are Earth's Continents Linked Together?, 94 Connect It!, 98 Evidence from Land Features, 100 Evidence from Fossils, 100 Mid-Ocean Ridges, 102 Model It!: Predict North America's Movement, 105 It's All Connected: The Slow Acceptance of Continental Drift, 107 The Theory of Plate Tectonics, 109-112 Plate Boundaries, 113-116 Lesson 2 Check, 117 Case Study: Australia on the Move, 118-119 New Landforms from Plate Movement, 123-124 **Realize™ Digital Resources:** **Earth Systems** **Plate Tectonics** >Topic Launch>uConnect Lab: How Are Earth's Continents Linked Together?;>Quest Kickoff>Video: To Hike or Not to Hike >Lesson 1, Evidence of Plate Tectonics>Interactivity: Puzzling Pieces;>uInvestigate Lab: Piecing Together a Supercontinent;>Interactivity: Land and Sea-Floor Patterns;>Video: Ocean Ridges and Trenches;>Interactivity: Slow and Steady;>Quest Check-In Lab: Patterns in the Cascade Range >Topic Close>Quest Findings>Interactivity: Reflect on Mount Rainier's Safety, ESS: Human Impacts and Sustainability in Earth's Systems

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6E.2.1.1.3 Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects.* (P: 4, CC: 1, : S3, ETS1) Examples of natural hazards may be taken from interior processes (such as earthquakes and volcanic eruptions), surface processes (such as mass wasting and tsunamis), or severe weather events. Examples of data may include the locations, magnitudes, and frequencies of the natural hazards. Examples of technologies may include building tornado shelters or barriers to protect from flooding.	**SE/TE:** **Cycles Influencing Weather and Climate** Quest Kickoff: How can you prepare for severe weather?, 2-3 Winter Storms, 40 Storm Safety, 46 Lesson 5 Check, 47 Case Study: The Case of the Runaway Hurricane, 48-49 **Earth Systems** Quest Kickoff: How safe is it to hike around Mount Rainier?, 96-97 Math Toolbox: Finding an Epicenter, 127 uEngineer It!: Designing to Prevent Destruction, 131 Quest Findings, 145 uDemonstrate Lab: Modeling Sea-Floor Spreading, 146-149 **Changing Earth and Human Activity** Quest Kickoff: How can I design and build an artificial island?, 2-3 uEngineer It!: Ground Shifting Advances, 13 Math Toolbox: Major Landslides and Mudflows, 17 Quest Check-In, 20 uDemonstrate Lab: Materials on a Slope, 48-51 **Realize™ Digital Resources:** **Cycles Influencing Weather and Climate** **Weather in the Atmosphere** >Topic Launch>Quest Kickoff>Video: Preparing a Plan >Lesson 4, Predicting Weather Changes>Interactivity: Using Air Masses to Predict Weather;>Video: Weather Satellites;>Interactivity: Weather Predicting;>Quest Check-In>Interactivity: Predicting Severe Weather >Topic Close>Quest Findings>Interactivity: Reflect on Your PSA

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3.0 Developing possible explanations of phenomena or designing solutions to engineering problems	
3.1 Developing and using models	
3.1.1 Students will be able to develop, revise, and use models to represent the students' understanding of phenomena or systems as they develop questions, predictions and/or explanations, and communicate ideas to others.	
ESS: Earth's Place in the Universe	
6E.3.1.1.1 Develop and use scale models of solar system objects to describe the sizes of objects, the location of objects, and the motion of the objects; and include the role that gravity and inertia play in controlling that motion. (P: 2, CC: 3, : S1) Emphasis is on the regularity of the motion and accounting for Earth-based visual observations of the motion of these objects in our sky. Emphasis is also on recognizing the limitations of any of the models. Examples may include physical models (such as the analogy of distance along a football field or computer visualizations of orbits) or conceptual models (such as mathematical proportions relative to the size of familiar objects such as students' school or state). Not included are Kepler's Laws and retrograde motion of planets.	**SE/TE:** **Earth's Place in the Universe** Quest Kickoff: How can we look for things that can't be seen?, 46-47 Case Study: Comparing Solar System Objects, 60-61 Lesson 3 Check, 81 The Andromeda Galaxy, 86 Quest Findings, 95 Evidence-Based Assessment, 94-95 uDemonstrate Lab: Scaling Down the Solar **Realize™ Digital Resources:** **Earth's Place in the Universe** **Solar System and the Universe** >Lesson 1, Solar System Objects>Inquiry Warm-Up Lab: Ring Around the Sun;>Interactivity: Distance Learning;>uInvestigate Lab: Pulling Planets;>Video: Distances in the Solar System;>Virtual Lab: A New Home;>Interactivity: Solar System; uInvestigate Lab: Layers of the Sun;>Interactivity: Layers of the Sun;>Interactivity: How to Make a Solar System;>Interactivity: Anatomy of the Sun;>Quest Check-In>Interactivity: Space Invaders >Lesson 2, Learning About the Universe>Inquiry Warm-Up Lab: How Does Distance Affect an Image?;>Interactivity: Space Exploration;>Interactivity: Telescopes;>uInvestigate Lab: Space Exploration Vehicle;>Video: Learning About the Universe;>Interactivity: Eyes in the Sky;>Quest Check-In>Interactivity: Anybody Out There?

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6E.3.1.1.2 Develop a model, based on observational evidence, to describe the cycling and movement of Earth's rock material and the energy that drives these processes. (P: 2, CC: 5, : S2) Emphasis of the practice is on using observations of processes like weathering and erosion of soil and rock, deposition of sediment, and crystallization of lava to inform model development. Emphasis of the core idea is on how these processes operate over geologic time to form rocks and minerals through the cycling of Earth's materials. Examples of models may be conceptual or physical.	**SE/TE:** **Earth Systems** Quest Kickoff: How can you predict the effects of a forest fire?, 2-3 Lesson 1 Check, 10 Quest Findings, 39 Quest Kickoff: How can you depict Earth processes in a movie script?, 46-47 Model It!: Modeling Earth's Interior, 54-55 Convection Currents, 56 Mantle Convection, 57 Mineral Formation, 64-66 Model It!: Diamond Formation, 66 Lesson 2 Check, 68 Igneous Rock Formation, 73 Sequencing Sedimentary Rock Formation, 74 Metamorphic Changes, 75 The Rock Cycle, 81 Lesson 4 Check, 83 Case Study: Mighty Mauna Loa, 84-85 Topic 2 Review and Assess, 86-87 uDemonstrate Lab: The Rock Cycle in Action, 90-93

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ESS: Earth's Systems and Processes	
6E.3.1.1.3 Develop a model, based on observational and experimental evidence, to describe the cycling of water through Earth's systems driven by energy from the sun and the force of gravity. (P: 2, CC: 5, : S2) Emphasis of the practice is on developing a way to represent the mechanisms of water changing state, the global movements of water and energy, and on how the observational and experimental evidence supports the model. Examples of models may be conceptual or physical.	**SE/TE:** **Earth Systems** Model It!: Sea Ice and Climate, 8 The Water Cycle, Figure 2, 26 Topic Review and Assess, #17, 36-37 uDemonstrate Lab: Modeling a Watershed, 40-43 **Cycles Influencing Weather and Climate** Forming a Cloud, 14 Water Droplets, 16 Model It!: Identify Patterns, 9 Lesson 2 Check, 20 uEngineer It!: Catching Water With a Net, 21 uDemonstrate Lab: Water from Trees, 54-57 **Earth Systems** Plan It!: Building a Reservoir, 29 Groundwater, 30 The Ocean Floor, 32 Case Study: The Case of the Shrinking Sea, 34-35 Evidence-Based Assessment, 38-39

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3.2 Constructing explanations and designing solutions	
3.2.1 Students will be able to apply scientific principles and empirical evidence (primary or secondary) to explain the causes of phenomena or identify weaknesses in explanations developed by the students or others.	
6E.3.2.1.1 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: 6, CC: 3, : S1) Emphasis is on how analyses of rock formations and the fossils they contain are used to establish relative ages of major events in Earth's history. Examples of major events may include the evolution or extinction of organisms, the formation of mountain chains and the formation of ocean basins. Not included is using radioactive decay to age date rocks.	**SE/TE:** **Earth Systems** Quest Kickoff: How do paleontologists know where to look for fossils?, 152-153 Connect It!, 154 Absolute Age, 155 Using Fossils, 157 Reading Check: Write Explanatory Texts, 158 Case Study: Rewriting the History of Your Food, 162-163 Connect It!, 164 The Geologic Time Scale, 165-167 Lesson 2 Check, 170 Model It!, 177 Lesson 3 Check, 180 Topic Review and Assess, 182-183 Evidence-Based Assessment, 184-185

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6E.3.2.1.2 Construct a scientific explanation based on evidence for how the uneven distribution of Earth's mineral, energy, or groundwater resources is the result of past geological processes. (P: 6, CC: 2, : S3) Emphasis is on how these resources are limited and typically non-renewable on a human timeframe. Examples of uneven distribution of resources may include petroleum (like in the North Dakota Bakken Shale), metal ores (like iron in the rocks of Minnesota's Iron Range), or groundwater in the different regions of Minnesota.	**SE/TE:** **Changing Earth and Human Activity** Coal Formation and Distribution, 59 Quest Kickoff: How could natural resources have saved a ghost town?, 54-55 Connect It!, 56 Natural Resources, 57 Oil, 60-61 Distribution of Uranium, 63 Lesson 1 Check, 65 Lesson 2 Check, 72 Distribution of Minerals, 78-79 Humans and Minerals, 80 Lesson 3 Check, 81 Quest Check-In, 81 Case Study: Phosphorus Fiasco, 82-83 Water on Earth, 85-87 Human Impacts, 88-89 Lesson 4 Check, 90 It's All Connected: The Pseudoscience of Water Dowsing, 91 Quest Findings, 95 uDemonstrate Lab: To Drill or Not to Drill, 96-99 **Realize™ Digital Resources:** **Changing Earth and Human Activity** **Distribution of Natural Resources** >Topic Launch>uConnect Lab: What's in a Piece of Coal?;>Quest Kickoff>Video: Predicting Boom or Bust >Lesson 1, Nonrenewable Energy Resources>Inquiry Warm-Up Lab: Using Resources;>uInvestigate Lab: Fossil Fuels;>Video: Fossil Fuels;>Interactivity: Distribution of Fossil Fuels; Interactivity: Fossil Fuel Sources;>Quest Check-In>Interactivity: Surviving on Fossil Fuels

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6E.3.2.1.3 Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.* (P: 6, CC: 2, : S3, ETS1) Emphasis of the practice is on applying scientific principles about Earth's natural processes (like how water moves through the ground and air) to designing solutions to problems caused by human activity. Emphasis of the core idea is on how human activity impacts Earth's environments. Examples of parts of the design process may include assessing the kinds of solutions that are feasible, and designing and evaluating solutions that may reduce those impacts. Examples of human activities that impact the environment may include withdrawing too much water from aquifers, altering stream flow by building dams or levees, increasing runoff caused by impermeable surfaces like parking lots, or adding undesirable materials to the air, water or land.	**SE/TE:** **Changing Earth and Human Activity** Plan It!: Household Energy Use, 64 uEngineer It: Micro-Hydro Power, 73 Design It!: Sustainable Fishing, 89 Quest Kickoff: How can you help your school reduce its impact on Earth's Systems, 102-103 Plan It! Reducing Waste in Factories, 143 uEngineer It!: From Wastewater to Tap Water, 145 Quest Findings, 149 **Cycles Influencing Weather and Climate** Energy-Efficient Technologies, Design It!, 132 uEngineer It!: Changing Climate Change, 135 **Realize™ Digital Resources:** **Changing Earth and Human Activity** **Human Impacts on the Environment** >Topic Launch>uConnect Lab: Finding a Solution for Your Pollution;>Quest Kickoff>Video: Trash Backlash >Lesson 1, Population Growth and Consumption>uInvestigate Lab: Doubling Time;>Interactivity: Sources of Resources >Lesson 2, Air Pollution>Interactivity: Air Pollution Sources and Solutions;>Quest Check-In Lab: Trash vs. Water >Lesson 3, Impacts on Land>Interactivity: Using Land;>uInvestigate Lab: Mining Matters;>Interactivity: Farming Lessons;>Video: Impacts on Land;>Interactivity: Ride the Light Rail;>Quest Check-In>Interactivity: Life of a Landfill >Lesson 4, Water Pollution>uInvestigate Lab: Getting Clean;>Interactivity: Research Water Pollution;>Quest Check-In Lab: Reducing Waste; uEngineer It!>Video: Making Dirty Water Drinkable >Topic Close>Quest Findings>Interactivity: Reflect on Trash Backlash

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4.0 Communicating reasons, arguments and ideas to others	
4.1 Engaging in Argument from Evidence	
4.1.1 Students will be able to engage in argument from evidence for the explanations the students construct, defend and revise their interpretations when presented with new evidence, critically evaluate the scientific arguments of others, and present counter arguments.	
6E.4.1.1.1 Construct an argument, supported by evidence, for how geoscience processes have changed Earth's surface at varying time and spatial scales. (P: 7, CC: 3, : S2) Emphasis is on how processes like erosion, deposition, mountain building, and volcanism affect the surface of Earth. Some processes, like mountain building take a long time. Other processes, like landslides, happen quickly. Examples may include how weathering, erosion and glacial activity have shaped the surface of Minnesota.	**SE/TE:** **Changing Earth and Human Activity** Quest Kickoff: How can I design and build an artificial island?, 2-3 Connect It!, 4 Lesson 1 Check, 12 Connect It!, 14 Lesson 2 Check, 20 Connect It!, 22 Groundwater Changes of Earth's Surface, 28-29 Lesson 3 Check, 31 Case Study: Buyer Beware!, 32-33 Glacial Erosion, 37 Landforms Formed by Wave Erosion, 41 Lesson 4 Check, 43 Topic 1 Review and Assess, 44-45 Quest Findings, 47 uDemonstrate Lab: Materials on a Slope, 48-51 **Realize™ Digital Resources:** **Earth Systems** **Plate Tectonics** >Topic Launch>uConnect Lab: How Are Earth's Continents Linked Together?;>Quest Kickoff>Video: To Hike or Not to Hike >Lesson 2, Plate Tectonics and Earth's Surface>Inquiry Warm-Up Lab: Stressing Out;>Virtual Lab: Geological Processes and Evil Plans;>Interactivity: Relative Plate Motion;>Interactivity: By No Fault of Their Own;>Video: Tectonic Plates Boundary Types >Lesson 2, Erosion and Deposition>Interactivity: Material Slope Angle;>Interactivity: Predicting Disasters;>Interactivity: Changing Landscapes;>Quest Check-In Lab: Ingenious Island Part I

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4.2 Obtaining, evaluating and communicating information	
4.2.2 Students will be able to gather information about and communicate the methods that are used by various cultures, especially those of Minnesota American Indian Tribes and communities, to develop explanations of phenomena and design solutions to problems.	
ESS: Earth's Place in the Universe	
4.2.2 Communicate how a series of models, including those used by Minnesota American Indian Tribes and communities and other cultures, are used to explain how motion in the Earth-Sun-Moon system causes the cyclic patterns of lunar phases, eclipses and seasons. (P: 8, CC: 1, : S1) Examples of cultures may include those within the local context of the learning community and within the context of Minnesota. Emphasis is on students questioning the limitations of their models and revising them to account for new observations. Models may be physical, graphical or conceptual.	**SE/TE:** **Earth's Place in the Universe** Quest Kickoff: How are tides related to our place in space?, 2-3 Case Study: The Ptolemaic Model, Explaining the Unexplained, 14-15 The Seasons, 19-20 Orbital Motion, Figure 6, 23 It's All Connected: Tracking Time in the Sky, 25 Lunar Motion, Figure 2, 28 **Realize™ Digital Resources:** **Earth's Place in the Universe** **Earth-Sun-Moon Systems** >Topic Launch>uConnect Lab: What Is At the Center?;>Quest Kickoff>Video: It's as Sure as the Tides >Lesson 1, Movement in Space>Interactivity: Movement in the Night Sky;>uInvestigate Lab: Watching the Skies; >Video: Movement in Space;>Interactivity: Evidence in Observations;>Interactivity: Discovery of the Solar System;>Interactivity: Interpreting the Night Sky; Quest Check-In>Interactivity: Tides and Earth's Motion >Lesson 2, Earth's Movement in Space>Inquiry Warm-Up Lab: Patterns: Day and Night;>Video: Earth's Movement in Space;>uInvestigate Lab: Lighten Up!;>Interactivity: What Keeps Objects in Motion?;>Interactivity: Seasons on Earth;>Interactivity: Patterns in Earth's Rotation and Revolution;>Quest Check-In>Interactivity: Tides and the Moon's Gravity

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(Continued)	**(Continued)** >Lesson 3, Phases and Eclipses>Interactivity: Why Can You See the Moon During the Day?;>uInvestigate Lab: How Does the Moon Move?;>Interactivity: Our View of the New Moon;>Video: Phases and Eclipses; Interactivity: Moon Phases and Eclipses;>Interactivity: Eclipses;>Virtual Lab: Shadows in Space;>Quest Check-In Lab: The Moon's Revolution and Tides >Topic Close>Quest Findings>Interactivity: Reflect on It's as Sure as the Tides