

**6th Grade Science Curriculum Map: 2015-2016
Downs**

Month	Concepts	Skills/Activities	Assessments	Standards
<p align="center">August / September</p> <p><i>Interactive Science- book 1: Earth's Structure</i></p>	<p>Chapter 1: Introducing Earth * Lesson 1-The Earth System * Lesson 2- Earth's Interior * Lesson 3- Convection and the Mantle Chapter 2: Minerals and Rocks * Lesson 1-Properties of Minerals * Lesson 6- The Rock Cycle * Lesson 2-Classifying Rocks * Lesson 3- Igneous Rocks * Lesson 4- Sedimentary Rocks * Lesson 5- Metamorphic Rocks</p>	<p>Nature of Science Activity -Daily Inquiry Based Questions -Identify & describe main components of the Earth system -Summarize constructive vs. destructive forces -Explain the discovery of Earth's inner structures -Describe how temperature and pressure change within Earth -Explain how heat is transferred through convection currents -Define & Identify Minerals -Explain how minerals form -List characteristics and identify three major groups of rocks -Describe the rock cycle -Observation vs. Inference -Scientific Method -Read a Line Graph -Testing Volume of Objects -Calculate Density -Construct crystals -Changes in matter and density -Labs conducted throughout each chapter -Worksheets from curriculum</p>	<p>-Periodic Formative Assessment- assess your understanding every few pages -Periodic Review Day -Ongoing assessment- lesson quiz after each lesson to assess progress -Interactive notebook entries. -Mineral powerpoint -Earth layer foldable</p>	<p>NGSS Standards: MS-ESS2-1.; MS-ESS2-4.; MS-ESS3-1; MS-ESS3; MS.PS1.A PS1.B</p> <p>CCSS: RST.6-8.1 ELA-LITERACY RST.6-8.7</p>
<p>October / November/ December</p> <p><i>Interactive Science- book 1: Earth's Structure cont.</i></p>	<p>Chapter 3: Plate tectonics * Lesson 1- Drifting Continents * Lesson 3 – The Theory of Plate Tectonics Chapter 4: Earthquakes * Lesson 1- Forces in Earth's Crust * Lesson 2-Earthquakes and Seismic waves</p>	<p>-Explain Wegener's hypothesis of continental drift w/ evidence -Explain the theory of plate tectonics -Explain how stress in the crust changes Earth's surface -Describe 3 major types of faults</p>	<p>-Periodic Formative Assessment- assess your understanding every few pages -Periodic Review Day -Ongoing assessment lesson quiz after each lesson to assess progress</p>	<p>NGSS Standards: MS-ESS2-1.; MS-ESS2-4.; MS-ESS3-1; MS-ESS3; MS.PS1.A PS1.B</p>

	<ul style="list-style-type: none"> * Lesson 3-Monitoring Earthquakes Chapter 5: Volcanoes * Lesson 1-Volcanoes and Plate tectonics * Lesson 2- Volcanic Eruptions * Lesson 3- volcanic landforms 	<ul style="list-style-type: none"> -Compare and contrast the land features from plate movement -Describe how energy from earthquakes travels in Earth -Identify scales used to measure earthquakes -Explain how scientists locate the epicenter of an earthquake -Explain how seismographs work -Explain the patterns that seismographic data reveals -Calculating Density and its effect on matter -Identify volcanic activity/hot spots and reasons for its origin -Explain volcanic eruptions -Describe stages of volcanic activity -List landforms from lava/ash -Explain how magma hardens beneath Earth to create land -Labs conducted throughout each chapter -Project- Volcano project- researching the effects on people and the environment 		<p>CCSS: RST.6-8.1 ELA-LITERACY RST.6-8.7</p>
<p>January/February</p> <p><i>Interactive Science- book 2: Cells and Heredity</i></p>	<p>Chapter 1: Introduction to Cells</p> <ul style="list-style-type: none"> * Lesson 1-Discovering Cells * Lesson 2- Looking inside cells * Lesson 3- Cells in its environment <p>Chapter 2: Cell Processes and Energy</p> <ul style="list-style-type: none"> * Lesson 3- Cell Division 	<p>Tell what cells are</p> <ul style="list-style-type: none"> -Describe how scientists first observed cells and developed cell theory -Describe how microscopes produce magnified images -Using a Microscope -Describe the function of cell structures and organelles 	<ul style="list-style-type: none"> -Periodic Formative Assessment- assess your understanding every few pages -Periodic Review Day -Ongoing assessment lesson 	<p>NGSS Standards:</p> <p>MS-LS1-1:</p> <p>Conduct an investigation to provide evidence that living things are made of cells; either one cell or many different</p>

		<ul style="list-style-type: none"> -Describe how cells are organized in multicellular organisms -Define elements & compounds -Identify the main compounds important in cells -Describe how material move into and out of cells -Explain how living things get energy from the sun -Describe what happens during photosynthesis -Describe the events that occur during cellular respiration -Explain fermentation -Summarize the functions of cell division -Identify the events that take place during the three stages of the cell cycle -Gelatin Cell Model Projects -Labs conducted throughout each chapter 	<p>quiz after each lesson to assess progress</p>	<p>numbers and types of cells.</p> <p>MS-LS1-2: Develop and use a model to describe the function of a cell as a whole and ways parts of cells contribute to the function.</p> <p>LS1.A: Structure and Function</p> <p>Common Core Standards:</p> <p>RST.6-8.1: Cite specific textual evidence to support analysis of science and technical texts.</p> <p>SL.8.5: Integrate multimedia and visual displays into presentation to clarify information, strengthen claims, evidence and add interest.</p>
<p>February/March</p>	<p>Chapter 3: Genetics: The Science of Heredity * Lesson 1-What is Heredity * Lesson 2- Probability and Heredity</p>	<ul style="list-style-type: none"> -Identify the role of alleles in inheritance of traits -Define probability and how it helps explain genetic crosses -Explain 	<p>-Periodic Formative Assessment- assess your</p>	

<p><i>Interactive Science- book 2: Cells and Heredity continued</i></p>	<ul style="list-style-type: none"> * Lesson 3- Patterns and Inheritance * Lesson 4- Chromosomes and Inheritance Chapter 4: DNA: The Code of Life * Lesson 1-The Genetic Code * Lesson 3 Mutations Chapter 5: Human Genetics and Genetic Technology * Lesson 1- Human Inheritance * Lesson 2- Human Genetic Disorders * Lesson 3- Advances in Genetics 	<p>phenotype & genotype -Describe at least 3 patterns of inheritance -Discuss how characteristics result from inheritance and environmental factors -Describe the role chromosomes and genes play in inheritance -Identify events occurring in meiosis and fertilization -Explain what forms the genetic code -Identify how mutations can affect an organism -Identify cause of genetic disorders, and how they are treated -Explain natural selection leads to evolution -State evidence for evolution -Project-researching endangered animals -Adaptation in birds activity -Labs conducted throughout each chapter</p>	<p>understanding every few pages -Periodic Review Day -Ongoing assessment lesson quiz after each lesson to assess progress</p>	<p>NGSS Standards:</p> <p>MS.Growth, Development, and Reproduction of Organisms</p> <p>LS1.B: Growth and Development of Organisms</p> <p>LS3.A: Inheritance of Traits</p> <p>LS3.B: Variation of Traits</p> <p>Common Core Standards:</p> <p>RST.6-8.1: Cite specific textual evidence to support analysis of science and technical texts.</p> <p>SL.8.5: Integrate multimedia and visual displays into presentation to clarify information, strengthen claims, evidence and add interest.</p> <p>MP.4: Model with mathematics</p>
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<p style="text-align: center;">April / May Interactive</p> <p style="text-align: center;"><i>Science-book 3: Water and the Atmosphere</i></p>	<p>* Chapter 1: Fresh Water *</p> <p>Lesson 1- Water On Earth</p> <p>* Lesson 2- Surface Water *</p> <p>Lesson 3- Water Underground</p> <p>* Lesson 4- Wetland Environments</p> <p>*Chapter 2: The Oceans</p> <p>* Lesson 1- Exploring the Ocean</p> <p>* Lesson 2- Wave Action</p> <p>* Lesson 3- Currents and Climate</p> <p>* Lesson 4- Ocean Habitats *</p> <p>Chapter 3: The Atmosphere *</p> <p>Lesson 1- The Air Around You</p> <p>* Lesson 2- Air Pressure *</p> <p>Lesson 3- Layers of the Atmosphere * Lesson 4- Energy in Earth's Atmosphere</p> <p>* Chapter 4: Weather *</p> <p>Lesson 1- Water in the Atmosphere</p>	<p>State how people and other living things use water</p> <p>-Describe how Earth's water is distributed -Explain how Earth's water moves through the water cycle -Tell what a river system is -Explain how ponds and lakes form -Describe the changes that occur in ponds and lakes</p> <p>-Describe how water moves through underground layers of soil and rock</p> <p>-Explain how people obtain water from an aquifer -Describe the common types of freshwater wetlands -Explain important functions that wetlands serve</p> <p>-Identify characteristics of the ocean and ocean water</p> <p>-Identify the features and main sections of the ocean floor</p> <p>-Explain how waves form and change and describe the characteristics of waves -Describe how waves affect shorelines and beaches -Identify what causes surface currents and explain how surface currents affect climate</p>	<p>-Periodic Formative Assessment- assess your understanding every few pages</p> <p>-Periodic Review Day</p> <p>-Ongoing assessment lesson quiz after each lesson to assess progress</p>	<p>NGSS Standards:</p> <p>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.</p> <p>MS-ESS2-5: Collect data to provide evidence for how the motions and complex interactions of air masses results in changes in weather conditions.</p> <p>MS-ESS2-6: Develop and use a model to describe how unequal heating and rotation of the Earth cause patterns of</p>
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				<p>atmospheric and oceanic circulation that determine regional climates.</p> <p>ESS2.C: The Roles of Water in Earth's Surface Processes</p> <p>ESS2.D: Weather and Climate</p>
<p>April / May Interactive</p> <p><i>Science-book 3: Water and the Atmosphere Cont.</i></p>	<p>* Lesson 2- Clouds * Lesson 3- Precipitation * Lesson 5- Storms * Lesson 6- Predicting Weather * Chapter 4: Climate and Climate Change * Lesson 1- What Causes Climate? * Lesson 2- Climate Regions * Lesson 3- Changes in Climate * Lesson 4- Human Activities and Climate Change</p>			<p>Common Core Standards:</p> <p>RST.6-8.1: Cite specific textual evidence to support analysis of science and technical texts.</p> <p>SL.8.5: Integrate multimedia and visual displays into presentation to clarify information, strengthen claims, evidence and add interest.</p> <p>6.NS.C.5: Underst and that positive and negative numbers are used</p>

				<p>together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.</p>
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