

## Readorium Alignment with Oklahoma Academic Standards for Science: Grade 6

Readorium Content: In Readorium, students choose science books that interest them or teachers may lock or unlock specific books for classes, groups, or individuals. All students can understand the same rich content because the readability levels of the chapters, and the supports students receive, automatically adjust to their individual needs as they read. Once students receive tokens for completing books, they may select magazine articles or National Science Foundation videos. They may also participate in game-like activities based on the concepts and vocabulary they just learned. Teachers can log into the Teacher Resource Center to view student data and download resources and lessons based on this data. The following chart shows the content available for students by Oklahoma Science Standards. Some content applies to more than one standard.

<b>Readorium Alignment with Oklahoma Academic Standards for Science: Grade 6</b>			
Oklahoma Science Standards	Readorium Books By Standard	Magazine Articles (A) and Science Alive Videos (V) By Standard	Teacher Resource Center Classroom Strategy Lessons (CL) with Articles (A) by Standard
<b>MS-PS: Matter and Its Interactions</b>			
<b>MS-PS1-4.</b> Develop a model that predicts and describes changes in particle motion, temperature, and state of a pure substance when thermal energy is added or removed.	<ul style="list-style-type: none"> <li>• Chemistry 1</li> <li>• Chemistry 2</li> <li>• Formation of Volcanoes</li> <li>• Lights Sound Action</li> <li>• Plate Tectonics</li> <li>• Weather</li> </ul>	<ul style="list-style-type: none"> <li>• Splash (A)</li> <li>• The Water Cycle (A)</li> </ul>	
<b>MS-PS: Motion and Stability: Forces and Interactions</b>			
<b>MS-PS2-3-3.</b> Ask questions about data to determine the factors that affect the strength of electric and magnetic forces.	<ul style="list-style-type: none"> <li>• Sea Floor Spreading</li> </ul>	<ul style="list-style-type: none"> <li>• The Many Uses of Submarines (A)</li> </ul>	
<b>MS-PS2-5</b> 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.	<ul style="list-style-type: none"> <li>• Sea Floor Spreading</li> <li>• Total Lunacy</li> <li>• Scientific Method</li> </ul>		
<b>MS-PS Energy</b>			
<b>MS-PS3-1.</b> Construct and interpret graphical displays of data to describe the relationships of kinetic energy to the mass and speed of an object.	<ul style="list-style-type: none"> <li>• Lights Sound Action</li> <li>• Sports Physics</li> <li>• Newton's Laws</li> </ul>	<ul style="list-style-type: none"> <li>• 25 Fascinating Facts About Humans (A)</li> <li>• Science Rhymes-Riddles (A)</li> <li>• 25 Food Facts (A)</li> <li>• 50 Animal Facts (A)</li> <li>• 50 Fun Facts (A)</li> </ul>	

<b>MS-PS- Continued Energy</b>			
Oklahoma Science Standards	Readorium Books By Standard	Magazine Articles (A) and Science Alive Videos (V) By Standard	Teacher Resource Center Classroom Strategy Lessons (CL) with Articles (A) by Standard
<b>MS-PS3-2.</b> 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.	<ul style="list-style-type: none"> <li>• Sports Physics</li> </ul>	<ul style="list-style-type: none"> <li>• Weapons Older than Dirt (A)</li> <li>• Things That Go BOOM!: •The History and Chemistry of Explosives (A)</li> </ul>	
<b>MS-PS3-3.</b> Apply scientific principles to design, construct, and test a device that either minimizes or maximizes thermal energy transfer.	<ul style="list-style-type: none"> <li>• Lights Sound Action</li> </ul>	<ul style="list-style-type: none"> <li>• Hot Stuff: Heat on the Move (A)</li> </ul>	
<b>MS-PS3-4.</b> Plan an investigation to determine the relationships among the energy transferred, the type of matter, the mass, and the change in the average kinetic energy of the particles as measured by the temperature of the sample.	<ul style="list-style-type: none"> <li>• Lights Sound Action</li> </ul>	<ul style="list-style-type: none"> <li>• Space Junk: Are We Trashing our Solar System? (A)</li> </ul>	
<b>MS-LS From Molecules to Organisms: Structures and Processes</b>			
<b>MS-LS1-1.</b> Conduct an investigation to provide evidence that living things are made of cells; either one cell or many different numbers and types of cells.	<ul style="list-style-type: none"> <li>• Microscopes Seeing the Tiny World</li> <li>• Nature's Weird Surprises</li> <li>• Our Bodies</li> <li>• Genetics</li> <li>• -Mitosis and Meiosis</li> </ul>	<ul style="list-style-type: none"> <li>• Biotechnology (A)</li> <li>• The Brain.. (A)</li> <li>• Cancer: Cells Out of Control (A)</li> <li>• Twin Fascination (A)</li> <li>• Tiny World of Cells (A)</li> <li>• Cells and Smells (A)</li> </ul>	<ul style="list-style-type: none"> <li>• Making Connections &amp; Synthesizing (CL-1, A-2 The Warrior Gene)</li> </ul>
<b>MS-LS1-2.</b> Develop and use a model to describe the function of a cell as a whole and ways parts of cells contribute to the function.	<ul style="list-style-type: none"> <li>• Genetics: Why We Look the Way We Do</li> <li>• Microscopes: Seeing the Tiny World</li> </ul>	<ul style="list-style-type: none"> <li>• I'm Squished (An Argument by Cell Organelles) (A)</li> </ul>	
<b>MS-LS1-3.</b> Use arguments supported by evidence for how the body is a system of interacting subsystems composed of groups of cells.	<ul style="list-style-type: none"> <li>• Nature's Weird Surprises</li> <li>• Our Bodies</li> <li>• Becoming Healthy</li> </ul>	<ul style="list-style-type: none"> <li>• Hair Time (A)</li> <li>• Raise Your Voice A)</li> <li>• Cells and Smells (A)</li> </ul>	

<b>MS-PS- Continued Energy</b>			
Oklahoma Science Standards	Readorium Books By Standard	Magazine Articles (A) and Science Alive Videos (V) By Standard	Teacher Resource Center Classroom Strategy Lessons (CL) with Articles (A) by Standard
<b>MS-LS1-6.</b> Construct a scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms.	<ul style="list-style-type: none"> <li>Chemical and Physical Properties of Matter</li> <li>Coral Reefs</li> <li>Life Research Ship</li> </ul>	<ul style="list-style-type: none"> <li>Artificial Reefs: How and Why We Build Them (A)</li> <li>Wonder Fabrics, Things that can't get wet (A)</li> </ul>	<ul style="list-style-type: none"> <li>Determining Importance (CL-1, A-1, A Place with Many Levels)</li> <li>Monitor for Meaning CL-3 A-1 Sharing the Sun)</li> </ul>
<b>MS-LS: Ecosystems: Interactions, Energy, and Dynamics</b>			
<b>MS-LS2-1:</b> Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem.	<ul style="list-style-type: none"> <li>Coral Reefs</li> <li>Desert Biomes</li> <li>Life in the Tundra</li> <li>Prairie Ecosystems</li> <li>Scientific Method</li> </ul>	<ul style="list-style-type: none"> <li>Why do Some Animals Eat their Own Kind? (A)</li> <li>Invasive Species (A)</li> <li>Pirate Spiders (A)</li> <li>Animal Cannibals (A)</li> <li>Spider with Deadly Aim (A)</li> <li>Spitting Spiders (A)</li> <li>Looks like an Ant... Or Does It? (A)</li> <li>Venomous Sea Wasp (A)</li> <li>World's Most Disgusting Animal: The Hagfish (A)</li> <li>The Adventure of Keeping an Aquarium} (A)</li> <li>A Weird Animal: The Binturong (A)</li> <li>Carnivorous Dinosaurs (A) Bones Tell the Story (A)</li> <li>Getting DNA Out of Ancient Fossils (A)</li> <li>Selective Breeding, Genetic Engineering, and Pedigrees (A)</li> <li>Ant Activists (V)</li> <li>Birds Strut their Stuff (V)</li> <li>Make Way for Ducklings (V)</li> <li>Orangutans See, Orangutans Do? (V)</li> <li>Snaking Around (V)</li> <li>Squid: Underwater Masters of Disguise (V)</li> <li>Taking the Bite Out of Mosquito Bites (V)</li> <li>Totally Batty (V)</li> </ul>	<ul style="list-style-type: none"> <li>Coral Reefs</li> <li>Desert Biomes</li> <li>Life in the Tundra</li> <li>Prairie Ecosystems</li> <li>Scientific Method</li> </ul>

**MS-LS-Continued: Ecosystems: Interactions, Energy, and Dynamics**

Oklahoma Science Standards	Readorium Books By Standard	Magazine Articles (A) and Science Alive Videos (V) By Standard	Teacher Resource Center Classroom Strategy Lessons (CL) with Articles (A) by Standard
<b>MS-LS2-2.</b> Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.	<ul style="list-style-type: none"> <li>• Life in the Tundra</li> <li>• Prairie Ecosystems</li> <li>• Surviving in Nature</li> </ul>		<ul style="list-style-type: none"> <li>• Print Features (CL-1, A-1 Symbiosis: Living Together and Loving It)</li> <li>• Monitor for Meaning CL-2, A-1 Great • Barrier Reef)</li> <li>• Monitor for Meaning (CL-2, A-2 Is that Popcorn? No, it's a Binturong!</li> </ul>
<b>MS-LS2-3.</b> Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem.	<ul style="list-style-type: none"> <li>• Prairie Ecosystems</li> </ul>	<ul style="list-style-type: none"> <li>• Artificial Reefs: How and Why We Build Them (A)</li> <li>Garbage Island (A)</li> </ul>	<ul style="list-style-type: none"> <li>• Determining Importance (CL-2, A-2 Garbage Island)</li> <li>• Monitor for Meaning (CL-1, A-2 Reflections on Dead Wood)</li> </ul>
<b>MS-LS2-4.</b> Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.	<ul style="list-style-type: none"> <li>• Desert Biomes</li> <li>• Prairie Ecosystems</li> <li>• Rainforests</li> </ul>	<ul style="list-style-type: none"> <li>• Artificial Reefs: How and Why We Build Them (A)</li> <li>• Crime-Solving Insects (A)</li> <li>• Garbage Island (A)</li> <li>• How Plants Trick Animals (A)</li> <li>• Life Inside Deep Caves (A)</li> <li>Parasites: Nature's Thieves (A)</li> <li>• The Illegal Wildlife Trade (A)</li> <li>• What Happens When Something Goes Extinct? (A)</li> <li>• Shrimp Farming: A Shocking Environment (A)</li> <li>• Evolution of the Peppered Moth (A)</li> </ul>	<ul style="list-style-type: none"> <li>• Context Clues (CL-1, A-1 Life Inside Deep Caves)</li> <li>• Context Clues CL-3 A-2 When Something Goes Extinct)</li> <li>• Determining Importance (CL-2, A-2 Garbage Island)</li> <li>• Graphic Features (CL-1, A-1 What is Happening to the Bluefin Tuna?)</li> <li>• Making Connections &amp; Synthesizing (CL-3, A-1 The Lynx and the Hare: Predator-Prey Relationships)</li> <li>• Monitor for Meaning (CL-3 A-2 A Wildlife Trade)</li> <li>• Print Features CL-2, A-1 Bats)</li> <li>• Print Features (CL-2, A-2 Plants that Trick Animals!) (CL-2, A-2 Garbage Island)</li> </ul>
<b>MS-LS2-5.</b> Evaluate competing design solutions for maintaining biodiversity and ecosystem services.	<ul style="list-style-type: none"> <li>• Surviving in Nature</li> </ul>	<ul style="list-style-type: none"> <li>• Artificial Reefs: How and Why We Build Them (A)</li> <li>• All About Recycling (A)</li> </ul>	

<b>MS-ESS: Earth's Systems</b>			
Oklahoma Science Standards	Readorium Books By Standard	Magazine Articles (A) and Science Alive Videos (V) By Standard	Teacher Resource Center Classroom Strategy Lessons (CL) with Articles (A) by Standard
<b>MS-ESS2-4.</b> Develop a model to describe the cycling of water through Earth's systems driven by energy from the sun and the force of gravity.	<ul style="list-style-type: none"> <li>• Weather</li> <li>• Total Lunacy</li> </ul>		
<b>MS-ESS: Earth and Human Activity</b>			
<b>MS-ESS3-3.</b> Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.	<ul style="list-style-type: none"> <li>• Pollution</li> <li>• Prairie Ecosystems</li> <li>• Rainforests</li> <li>• Scientific Method</li> </ul>	<ul style="list-style-type: none"> <li>• Bones Tell the Story (A)</li> <li>• Greenhouse Gases (A)</li> <li>• Global Temperatures (A)</li> <li>• Let's Save Our Planet! (A)</li> </ul>	<ul style="list-style-type: none"> <li>• Graphic Features • • (CL-1, A-2 What Happened to the Blue Whale?)</li> </ul>

**Readorium Alignment with Oklahoma Academic Standards for Science: Grade 7**

Readorium Content: In Readorium, students choose science books that interest them or teachers may lock or unlock specific books for classes, groups, or individuals. All students can understand the same rich content because the readability levels of the chapters, and the supports students receive, automatically adjust to their individual needs as they read. Once students receive tokens for completing books, they may select magazine articles or National Science Foundation videos. They may also participate in game-like activities based on the concepts and vocabulary they just learned. Teachers can log into the Teacher Resource Center to view student data and download resources and lessons based on this data. The following chart shows the content available for students by Oklahoma Science Standards. Some content applies to more than one standard.

<b>Readorium Alignment with Oklahoma Academic Standards for Science: Grade 7</b>			
<b>MS-PS: Matter and Its Interactions</b>			
<b>Oklahoma Science Standards</b>	<b>Readorium Books By Standard</b>	<b>Magazine Articles (A) and Science Alive Videos (V) By Standard</b>	<b>Teacher Resource Center Classroom Strategy Lessons (CL) with Articles (A) by Standard</b>
<b>MS-PS1-1.</b> Develop models to describe the atomic composition of simple molecules and extended structures.	<ul style="list-style-type: none"> <li>• Chemistry 1</li> <li>• Chemistry 2</li> </ul>	<ul style="list-style-type: none"> <li>• Matter Matters(A)</li> <li>• Crime Scene Science(A)</li> </ul>	<ul style="list-style-type: none"> <li>• Determining Importance (CL-3, A-2 Crystals)</li> </ul>
<b>MS-PS1-2.</b> Analyze and interpret data on the properties of substances before and after they interact to determine if a chemical change has occurred.	<ul style="list-style-type: none"> <li>• Chemistry 1</li> <li>• Chemistry 2</li> </ul>	<ul style="list-style-type: none"> <li>• Cafeteria Chemistry(A)</li> <li>• Crystals (A)</li> <li>• Kitchen Chemistry (A)</li> <li>• Cool World of Chem (A)</li> <li>•Excuse me, but Burping is Natural (A)</li> </ul>	<ul style="list-style-type: none"> <li>• Creating Sensory Images (CL-1, A-2 Kitchen Chemistry)</li> <li>• Determining Importance (CL-3, A-2 Crystals)</li> </ul>
<b>MS-PS: Motion and Stability: Forces and Interactions</b>			
<b>MS-PS2-4</b> Construct & present arguments using evidence to support the claim that gravitational interactions are attractive and depend on the masses of interacting objects.	<ul style="list-style-type: none"> <li>• Lives of Stars</li> <li>• Scientists who Changed the World</li> <li>• Total Lunacy</li> </ul>	<ul style="list-style-type: none"> <li>• Gravity – The Evil Basketball Player (A)</li> </ul>	
<b>MS-PS: Energy</b>			
<b>MS-PS3-6.</b> 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.	<ul style="list-style-type: none"> <li>• Lights Sound Action</li> <li>• Sports Physics</li> </ul>	<ul style="list-style-type: none"> <li>• Weapons Older than Dirt: (A)</li> <li>• Machines of Ancient War: The Physics and History of Siege Engines (A)</li> </ul>	

<b>Readorium Alignment with Oklahoma Academic Standards for Science: Grade 7</b>			
<b>MS-LS: From Molecules to Organisms: Structure and Processes</b>			
<b>Oklahoma Science Standards</b>	<b>Readorium Books By Standard</b>	<b>Magazine Articles (A) and Science Alive Videos (V) By Standard</b>	<b>Teacher Resource Center Classroom Strategy Lessons (CL) with Articles (A) by Standard</b>
<p><b>MS-LS1-4.</b> Use arguments based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors and specialized plant structures affect the probability of successful reproduction of animals and plants respectively.</p>	<ul style="list-style-type: none"> <li>• Desert Biomes</li> <li>• Life in the Tundra</li> <li>• Nature’s Weird Surprises</li> <li>• Prairie Ecosystems</li> <li>• Scientists who Changed the World</li> <li>• Surviving in Nature</li> </ul>	<ul style="list-style-type: none"> <li>• Bones Tell the Story (A)</li> <li>• How Plants Trick Animals (A)</li> <li>• Rocks Rock (A)</li> <li>• Animal Magnetism! (V)</li> </ul>	<ul style="list-style-type: none"> <li>• Creating Sensory Images (CL-1, A-1 The Rainforest Awakens My Senses)</li> <li>• Creating Sensory Images (CL-3 A-2, An Afternoon Rain)</li> <li>• Determining Importance (CL-2, A-1 Dragonflies: Flying Aces)</li> <li>• Determining Importance (CL-3, A-1 An Anchor in the Storm)</li> <li>• Making Connections/ Synthesizing (CL-3, A-1 The Lynx and the Hare: Predator-Prey Relationships)</li> <li>• Print Features (CL-2, A-2 Plants that Trick Animals!)</li> <li>• Print Features CL-2, A-1 Bats)</li> <li>• Inferring (CL-2, A-1 Sloth Stories)</li> <li>• Print Features CL-3 A-1 Home Sweet Home: Dens and Other Shelters)</li> <li>• Monitor for Meaning CL-3 A-1 Sharing the Sun)</li> </ul>
<p><b>MS-LS1-5</b> Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms.</p>	<ul style="list-style-type: none"> <li>• Formation of Growth: Mitosis and Meiosis</li> <li>• Genetics</li> <li>• Scientists who Changed the World</li> <li>• Surviving in Nature</li> </ul>	<ul style="list-style-type: none"> <li>• The Teenage Brain - Why Teens Act so Twisted! (A)</li> <li>• The Tiniest Killers (A)</li> <li>• How Video Games Affect Your Personality (A)</li> <li>• Pimples, Whiteheads, and Blackheads, Oh No! (A)</li> <li>• The Warrior Gene (A)</li> <li>• The Brain!...What's in There? (A)</li> <li>• Strange Medical Conditions (A)</li> <li>• The Black Death (A)</li> <li>• Life Near Undersea Vents (A)</li> <li>• Cloning: The More the Merrier (A)</li> </ul>	<ul style="list-style-type: none"> <li>• Determining Importance (CL-1, A-1, A Place with Many Levels)</li> <li>• Graphic Features (CL-1, A-1 What is Happening to the Bluefin Tuna?)</li> <li>• Making Connections &amp; Synthesizing (CL-1, A-1 A Marsupial for Every Occasion)</li> <li>• Making Connections/ Synthesizing (CL-3, A-2 The Limits of the Human Body)</li> <li>• Print Features CL-2, A-1 Bats)</li> </ul>

		<ul style="list-style-type: none"> <li>• Animal Magnetism! (V)</li> <li>• Bird Brains (V)</li> <li>• Fascinating Flights (V)</li> <li>• Insects &amp; Team Work (V)</li> <li>• Mysteries of The Common Cold (A)</li> <li>• Understanding Asthma (A)</li> <li>• How Do We Think? (A)</li> <li>• Evolution of the Peppered Moth (A)</li> </ul>	
<p><b>MS-LS1-8</b> Gather and synthesize information that sensory receptors respond to stimuli by sending messages to the brain for immediate behavior or storage as memories.</p>	<ul style="list-style-type: none"> <li>• Our Bodies: The Most Marvelous Machines</li> </ul>		<ul style="list-style-type: none"> <li>• Making Connections/ Synthesizing (CL-3, A-2 The Limits of the Human Body)</li> <li>• Context Clues (CL-1, A-2 Making Memories)</li> <li>• Creating Sensory Images (CL-2, A-1 The Call of the Tinamou)</li> <li>• Inferring (CL-2, A-2 Video Games)</li> </ul>
<b>MS-LS: Heredity: Inheritance and Variation of Traits</b>			
<b>Oklahoma Science Standards</b>	<b>Readorium Books By Standard</b>	<b>Magazine Articles (A) and Science Alive Videos (V) By Standard</b>	<b>Teacher Resource Center Classroom Strategy Lessons (CL) with Articles (A) by Standard</b>
<p><b>MS-LS3-1.</b> 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.</p>	<ul style="list-style-type: none"> <li>• Desert Biomes</li> <li>• Surviving in Nature</li> </ul>	<ul style="list-style-type: none"> <li>• How Video Games Affect Your Personality (A)</li> <li>• Strange Medical Conditions (A)</li> <li>• Why Are Some Hands more “Handy”(A)</li> </ul>	
<p><b>MS-LS3-2</b> Develop and use a model to describe why asexual reproduction results in offspring with identical genetic information and sexual reproduction results in offspring with genetic variation.</p>	<ul style="list-style-type: none"> <li>• Formation of Growth: Mitosis and Meiosis</li> <li>• Genetics</li> </ul>		





**MS-LS: Biological Unity and Diversity**

Oklahoma Science Standards	Readorium Books By Standard	Magazine Articles (A) and Science Alive Videos (V) By Standard	Teacher Resource Center Classroom Strategy Lessons (CL) with Articles (A) by Standard
<b>MS-LS4-3</b> 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.	<ul style="list-style-type: none"> <li>Surviving in Nature</li> </ul>	<ul style="list-style-type: none"> <li>The Very Peculiar Anglerfish (A)</li> </ul>	
<b>MS-LS4-4</b> 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.	<ul style="list-style-type: none"> <li>Caves</li> <li>Desert Biomes</li> <li>Life in the Tundra</li> <li>Prairie Ecosystems</li> <li>Scientists who Changed the World</li> <li>Surviving in Nature</li> </ul>	<ul style="list-style-type: none"> <li>Teeth (A)</li> <li>The Limits of the Human Body (A)</li> <li>Girls in Science: Part 1 (A)</li> <li>Girls in Science: Part 2 (A)</li> <li>Girls in Science Part 3 (A)</li> <li>Girls in Science: Part 4 (A)</li> <li>Girls in Science Part 5 (A)</li> <li>Girl Powered Science (V)</li> </ul>	<ul style="list-style-type: none"> <li>Context Clues (CL-1, A-1 Life Inside Deep Caves)</li> <li>Making Connections/ Synthesizing (CL-1, A-1, A Marsupial for Every Occasion)</li> <li>Making Connections/ Synthesizing (CL-2, A-1 Tamarins Make a Great Day in the Forest)</li> </ul>
<b>MS-LS4-5.</b> Gather and synthesize information about the technologies that have changed the way humans influence the inheritance of desired traits in organisms.		<ul style="list-style-type: none"> <li>Designer Dogs (A)</li> </ul>	
<b>MS-LS4-6</b> Use mathematical representations to support explanations of how natural selection may lead to increases and decreases of specific traits in populations over time.	<ul style="list-style-type: none"> <li>Scientists who Changed the World</li> <li>Surviving in Nature</li> </ul>	<ul style="list-style-type: none"> <li>Survival Of The Fittest (A)</li> </ul>	<ul style="list-style-type: none"> <li>Context Clues (CL-1, A-1 Life Inside Deep Caves)</li> </ul>



<b>MS-ESS Earth's Place in the Universe</b>			
<b>Oklahoma Science Standards</b>	<b>Readorium Books By Standard</b>	<b>Magazine Articles (A) and Science Alive Videos (V) By Standard</b>	<b>Teacher Resource Center Classroom Strategy Lessons (CL) with Articles (A) by Standard</b>
<b>MS-ESS1-1.</b> 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.	<ul style="list-style-type: none"> <li>• Total Lunacy</li> <li>• Earth in Motion</li> <li>• Inner and Outer Planets</li> </ul>	<ul style="list-style-type: none"> <li>• The Surface and Eclipses of the Moon (A)</li> </ul>	
<b>MS-ESS1-2.</b> Develop and use a model to describe the role of gravity in the motions within galaxies and the solar system.	<ul style="list-style-type: none"> <li>• Total Lunacy</li> <li>• Lives of Stars</li> <li>• Space Rocks!</li> </ul>	<ul style="list-style-type: none"> <li>• Space Junk: Are We Trashing our Solar System? (A)</li> <li>• The Deep Mystery of Black Holes (A)</li> <li>• Sparkling Sunspots (V)</li> <li>• Gaps in the Galaxies (V)</li> </ul>	
<b>MS-ESS1-3.</b> Analyze and interpret data to determine scale properties of objects in the solar system	<ul style="list-style-type: none"> <li>• Inner and Outer Planets</li> </ul>	<ul style="list-style-type: none"> <li>• Let's Save Our Planet! (A)</li> </ul>	<ul style="list-style-type: none"> <li>• Context Clues (CL-2, A-2, The Search for Life on Mars)</li> </ul>
<b>MS-ESS: Earth's Systems</b>			
<b>MS-ESS2-5.</b> Collect data to provide evidence for how the motions and complex interactions of air masses results in changes in weather conditions.	<ul style="list-style-type: none"> <li>• Weather</li> <li>• Formation of Mountains and Deserts</li> </ul>	MS-ESS2-5. Collect data to provide evidence for how the motions and complex interactions of air masses results in changes in weather conditions.	<ul style="list-style-type: none"> <li>•</li> </ul>
<b>MS-ESS3-6.</b> Develop and use a model to describe how unequal heating and rotation of the Earth causes patterns of atmospheric and oceanic circulation that determine regional climates.	<ul style="list-style-type: none"> <li>• Desert Biomes</li> <li>• Earth in Motion</li> <li>• Life in the Tundra</li> <li>• Rainforests</li> <li>• Weather</li> </ul>		

**Readorium Alignment with Oklahoma Academic Standards for Science: Grade 8**

**Readorium Content:** In Readorium, students choose **science books** that interest them or teachers may lock or unlock specific books for classes, groups, or individuals. All students can understand the same rich content because the readability levels of the chapters and the supports students receive automatically adjust to their individual needs as they read. Once students receive tokens for completing books, they may select magazine articles or National Science Foundation videos. They may also participate in game-like activities based on the concepts and vocabulary they just learned. Teachers can log into the **Teacher Resource Center** to view student data and download resources and lessons based on this data. The following chart shows the content available for students by Oklahoma Science Standard. Some content applies to more than one standard.

<b>Readorium Alignment with Oklahoma Science Standards: Grade 8</b>			
<b>Oklahoma Science Standards</b>	<b>Readorium Books By Standard</b>	<b>Magazine Articles (A) and Science Alive Videos (V) By Standard</b>	<b>Teacher Resource Center Classroom Strategy Lessons (CL) with Articles (A) by Standard</b>
<b>MS-PS: Matter and Its Interactions</b>			
<b>MS-PS1-3.</b> Gather and make sense of information to describe that synthetic materials come from natural resources and impact society.		<ul style="list-style-type: none"> <li>• Wonder Fabrics – Things that Can't Get Wet (A)</li> </ul>	
<b>MS-PS1-5.</b> Develop and use a a model to describe how the total number of atoms does not change in chemical reaction and thus mass is conserved	<ul style="list-style-type: none"> <li>• Chemistry 1</li> <li>• Chemistry 2</li> </ul>	<ul style="list-style-type: none"> <li>• Matter Matters (A)</li> <li>• Crime Scene Science (A)</li> </ul>	<ul style="list-style-type: none"> <li>• Determining Importance (CL-3, A-2 Crystals)</li> </ul>
<b>MS-PS1-6.</b> Undertake a design project to construct, test, and modify a device that either releases or absorbs thermal energy by chemical processes	<ul style="list-style-type: none"> <li>• The Formation of Volcanoes</li> </ul>	<ul style="list-style-type: none"> <li>• The Science of Movie Stunts (A)</li> </ul>	
<b>MS-PS: Motion and Stability: Forces and Interaction</b>			
<b>MS-PS2-1.</b> Apply Newton's Third Law to design a solution to a problem involving the motion of two colliding objects.	<ul style="list-style-type: none"> <li>• Newton's Laws</li> <li>• Scientists who Changed the World</li> <li>• Sports Physics</li> </ul>	<ul style="list-style-type: none"> <li>• A Titanic Collision: The Science Behind the Sunken Ship (A)</li> </ul>	
<b>MS-PS2-2.</b> 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.	<ul style="list-style-type: none"> <li>• Newton's Laws</li> <li>• Scientists who Changed the World</li> <li>• Space Rocks!</li> </ul>	<ul style="list-style-type: none"> <li>• A Titanic Collision: The Science Behind the Sunken Ship (A)</li> </ul>	

**MS-PS Continued: Motion and Stability: Forces and Interaction**

Oklahoma Science Standards	Readorium Books By Standard	Magazine Articles (A) and Science Alive Videos (V) By Standard	Teacher Resource Center Classroom Strategy Lessons (CL) with Articles (A) by Standard
<b>MS-PS4-1.</b> 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.		<ul style="list-style-type: none"> <li>• Sounds and Hearing (A)</li> <li>• Safe from Tsunamis (V)</li> </ul>	
<b>MS-PS4-2.</b> Develop and use a model to describe that waves are reflected, absorbed, or transmitted through various materials.	<ul style="list-style-type: none"> <li>• Lights Sound Action</li> <li>• Space Rocks!</li> </ul>	<ul style="list-style-type: none"> <li>• Look, A Rainbow! Where Did That Come From (A)</li> <li>• Cool Beams (A)</li> </ul>	
<b>MS-PS4-3</b> Integrate qualitative scientific and technical information to support the claim that digitized signals (sent as wave pulses) are a more reliable way to encode & transmit info.	No Readorium books match this standard.		
<b>MS-LS: From Molecules to Organisms: Structure and Processes</b>			
<b>MS-LS1-7</b> Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and/or release energy as this matter moves through an organism.	<ul style="list-style-type: none"> <li>• Chemical and Physical Properties of Matter 1</li> <li>• Our Bodies</li> </ul>	<ul style="list-style-type: none"> <li>• Artificial Blood! (A)</li> <li>• Deadly Mushrooms (A)</li> <li>• Science of Jelly Beans (A)</li> <li>• All About Recycling (A)</li> <li>• A Sweet Treat (A)</li> </ul>	
<b>MS-LS: Biological Unity and Diversity</b>			
<b>MS-LS4-1</b> Analyze and interpret data for patterns in the fossil record that document 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.	<ul style="list-style-type: none"> <li>• Surviving in Nature</li> </ul>		<ul style="list-style-type: none"> <li>• Context Clues (CL-1, A-1 Life Inside Deep Caves)</li> <li>• Context Clues CL-2, A-1 Life at the Top)</li> <li>• Context Clues CL-3 A-2, What Happens When Something Goes Extinct)</li> <li>• Creating Sensory Images (CL-2, A-1 Call of Tinamou)</li> </ul>
<b>MS-LS4-2</b> Apply scientific ideas to construct an explanation for the anatomical similarities and differences among modern organisms and between modern and fossil organisms to infer ancestral relationships.	<ul style="list-style-type: none"> <li>• Desert Biomes</li> <li>• Nature’s Weird Surprises</li> <li>• Scientists who Changed the World</li> <li>• Surviving in Nature</li> </ul>	<ul style="list-style-type: none"> <li>• From Blinking to Thinking: The Amazing Human Brain (A)</li> </ul>	<ul style="list-style-type: none"> <li>• Context Clues (CL-1, A-1 Life Inside Deep Caves)</li> </ul>

<b>MS-ESS Earth's Place in the Universe</b>			
Oklahoma Science Standards	Readorium Books By Standard	Magazine Articles (A) and Science Alive Videos (V) By Standard	Teacher Resource Center Classroom Strategy Lessons (CL) with Articles (A) by Standard
<b>MS-ESS1-4</b> Construct a scientific explanation based on evidence from rock strata for how the geologic time scale is used to organize Earth's geologic history.	<ul style="list-style-type: none"> <li>• Big Delicious Earth</li> </ul>		
<b>MS-ESS Earth's Systems</b>			
<b>MS-ESS2-1.</b> Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process.	<ul style="list-style-type: none"> <li>• Food Chemistry</li> <li>• Solving Crimes with Forensics</li> </ul>	<ul style="list-style-type: none"> <li>• Burping is Natural (A)</li> <li>• Make Potato Battery (A)</li> <li>• Make Rock Candy (A)</li> <li>• Make Elephant Toothpaste (A)</li> <li>• Movie Stunts Science (A)</li> <li>• Make Volcanoes</li> <li>• Make Slime (A)</li> </ul>	<ul style="list-style-type: none"> <li>• Inferring (CL-2, A-3 Cafeteria Chemistry)</li> </ul>
<b>MS-ESS2-2.</b> Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales.	<ul style="list-style-type: none"> <li>• Big Delicious Earth</li> <li>• Formation of Volcanoes</li> </ul>		
<b>MS-ESS2-3.</b> Analyze and interpret data on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of past plate motions.	<ul style="list-style-type: none"> <li>• Prairie Ecosystems</li> <li>• Rainforests</li> <li>• Weather</li> </ul>	<ul style="list-style-type: none"> <li>• Crazy Careers in Science (garbologist) (A)</li> <li>• Inventor of the Toughest Stuff (A)</li> <li>• Icy Evidence in Core (V)</li> </ul>	
<b>MS-ESS3- Earth and Human Activity</b>			
<b>MS-ESS3-1.</b> Construct a scientific explanation based on evidence for how the uneven distributions of Earth's mineral, energy, and groundwater resources are result of past & current geoscience processes.	<ul style="list-style-type: none"> <li>• Big Delicious Earth</li> <li>• Formation of Volcanoes</li> </ul>		
<b>MS-ESS3-2.</b> Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate effects.	<ul style="list-style-type: none"> <li>• Coral Reefs</li> <li>• Learning from Natural Disasters</li> <li>• Weather</li> </ul>	<ul style="list-style-type: none"> <li>• Space Junk: Are We Trashing our Solar System? (A)</li> </ul>	<ul style="list-style-type: none"> <li>• Print Features CL-3 A-2</li> <li>• Flying Into a Hurricane)</li> </ul>
<b>MS-ESS3-3-4.</b> Construct an argument with evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems.	<ul style="list-style-type: none"> <li>• Coral Reefs</li> <li>• Pollution</li> <li>• Prairie Ecosystems</li> <li>• Rainforests</li> </ul>	<ul style="list-style-type: none"> <li>• Global Temperatures (A)</li> </ul>	