

Correlation with National Science Standards

Use the chart below to find Science A–Z units that best support the Next Generation Science Standards* at grade 5, and several featured resources from those units that provide strong connections. Each Performance Expectation in the chart represents all three dimensions: Science and Engineering Practices, Disciplinary Core Ideas, and Crosscutting Concepts.

Fifth Grade Topics: “When matter changes, does its weight change? How much water can be found in different places on Earth? Can new substances be created by combining other substances? How does matter cycle through ecosystems? Where does the energy in food come from and what is it used for? How do lengths and directions of shadows or relative lengths of day and night change from day to day, and how does the appearance of some stars change in different seasons?”

5. Structure and Properties of Matter		
Performance Expectations	Disciplinary Core Ideas	Science A–Z Units (Featured Resources)
5-PS1-1. Develop a model to describe that matter is made of particles too small to be seen.	PS1.A: Structure and Properties of Matter	5–6 Mixing Matter (Nonfiction Books; <i>Dmitri’s Table</i> FOCUS Book; <i>What Is Matter Made Of?</i> Interactive Science Lesson) 3–4 Solids, Liquids, and Gases (Nonfiction Books; <i>Changing States of Matter</i> Interactive Science Lesson; <i>Plasma: The Fourth State</i> FOCUS Book; <i>Changing States</i> FOCUS Book)
5-PS1-2. Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved.	PS1.A: Structure and Properties of Matter	5–6 Mixing Matter (Nonfiction Books)
	PS1.B: Chemical Reactions	5–6 Mixing Matter (<i>Mixtures, Solutions, and Suspensions</i> Process Activity)
5-PS1-3. Make observations and measurements to identify materials based on their properties.	PS1.A: Structure and Properties of Matter	3–4 Solids, Liquids, and Gases (Nonfiction Books; <i>Properties of Liquids</i> Investigation Pack; <i>Gases in Your World</i> FOCUS Book; <i>Metallurgy</i> FOCUS Book)
5-PS1-4. Conduct an investigation to determine whether the mixing of two or more substances results in new substances.	PS1.B: Chemical Reactions	5–6 Mixing Matter (<i>Chemical Changes</i> Investigation Pack; <i>Mixtures, Solutions, and Suspensions</i> Process Activity; <i>The Science of Baking</i> FOCUS Book; <i>The Science of Lemonade</i> FOCUS Book)
		3–4 Solids, Liquids, and Gases (<i>Strange Fluids</i> FOCUS Book)

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5. Matter and Energy in Organisms and Ecosystems		
Performance Expectations	Disciplinary Core Ideas	Science A-Z Units (Featured Resources)
5-PS3-1. Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.	PS3.D: Energy in Chemical Processes and Everyday Life	5-6 Food Chains (Nonfiction Books; <i>Plants vs. Animals</i> FOCUS Book; <i>Food Chain</i> Science Diagram)
	LS1.C: Organization for Matter and Energy Flow in Organisms	5-6 Food Chains (Nonfiction Books; <i>Paper Food Chains and Food Web</i> Process Activity) 5-6 Inside Living Things (<i>Body Systems for Moving</i> Investigation Pack)
5-LS1-1. Support an argument that plants get the materials they need for growth chiefly from air and water.	LS1.C: Organization for Matter and Energy Flow in Organisms	5-6 Food and Nutrition (Nonfiction Books; <i>Photosynthesis</i> Science Diagram) 3-4 Plant Life (<i>Succulents</i> FOCUS Book, <i>Air Plants</i> FOCUS Book)
5-LS2-1. Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.	LS2.A: Interdependent Relationships in Ecosystems	5-6 Food Chains (Nonfiction Books; <i>Apex Predators</i> FOCUS Book; <i>Paper Food Chains and Food Web</i> Process Activity; <i>Broken Chains</i> FOCUS Book; <i>How Environmental Changes Affect Food Webs</i> Project-Based Learning Pack; <i>Invasion of the Zebra Mussels</i> Quick Reads)
	LS2.B: Cycles of Matter and Energy Transfer in Ecosystems	5-6 Food Chains (<i>Properties of Food Chains</i> Investigation Pack; <i>Micro Food Chains</i> FOCUS Book; <i>Forest Food Web</i> Science Diagram; <i>Ocean Food Web</i> Science Diagram)

5. Earth's Systems		
Performance Expectations	Disciplinary Core Ideas	Science A-Z Units (Featured Resources)
5-ESS2-1. Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.	ESS2.A: Earth Materials and Systems	<p>5-6 Atmosphere and Climate (Nonfiction Books ; <i>Climate Change</i> FOCUS Book; <i>El Niño and La Niña</i> FOCUS Book)</p> <p>5-6 Changing Landforms (<i>Erosion Investigation Pack</i>; <i>Erosion Process Activity</i>)</p> <p>5-6 Water (Nonfiction Books; <i>The Water Cycle</i> Science Diagram; <i>The Water Cycle</i> Interactive Science Lesson)</p>
5-ESS2-2. Describe and graph the amounts and percentages of water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth.	ESS2.C: The Roles of Water in Earth's Surface Processes	<p>5-6 Water (Nonfiction Books; <i>Water for the People</i> FOCUS Book; <i>The Cryosphere</i> FOCUS Book)</p>
5-ESS3-1. Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.	ESS3.C: Human Impacts on Earth Systems	<p>5-6 Water (<i>Water Pollution Quick Reads</i>, <i>Water Rationing Debate</i>)</p> <p>5-6 Atmosphere and Climate (<i>Emissions Testing Debate</i>; <i>Keeping up with Carbon</i> Science Video)</p> <p>5-6 Energy Resources (<i>Renewable Energy Investigation Pack</i>; <i>Oil Spills: Causes, Effects, and Solutions</i> Science Video)</p>

5. Space Systems: Stars and the Solar System		
Performance Expectations	Disciplinary Core Ideas	Science A-Z Units (Featured Resources)
5-PS2-1. Support an argument that the gravitational force exerted by Earth on objects is directed down.	PS2.B: Types of Interactions	<p>5-6 Force and Motion (Nonfiction Books; <i>Gravity in the Solar System</i> FOCUS Book; <i>Direction of Gravity's Pull on Earth</i> Science Diagram)</p> <p>3-4 The Solar System (Nonfiction Books; <i>Orbital Paths</i> Process Activity)</p>
5-ESS1-1. Support an argument that differences in the apparent brightness of the sun compared to other stars is due to their relative distances from Earth.	ESS1.A: The Universe and its Stars	<p>5-6 Outside the Solar System (Nonfiction Books; <i>Properties of Stars</i> Investigation Pack; <i>Powerful Telescope</i> FOCUS Book)</p>
5-ESS1-2. Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.	ESS1.B: Earth and the Solar System	<p>5-6 Atmosphere and Climate (<i>Seasons and Climate</i> FOCUS Book; <i>Daylight Throughout the Year</i> Science Diagram; <i>Earth's Seasons</i> Science Diagram)</p> <p>5-6 Outside the Solar System (<i>Seasonal and Circumpolar Constellations</i> Quick Reads)</p> <p>3-4 The Solar System (<i>Orbital Paths</i> Process Activity)</p>