

**Chicago Ridge District 127.5
6th Science Scope and Sequence**

Unit	Disciplinary Core Ideas	Performance Expectations	SEP	CCC
<p>MS. Structure and Properties of Matter</p> <p>Unit 1: The Composition of Matter</p> <p>Unit 2: States of Matter</p>	<p>PS1.A: Structure and Properties of Matter (MS-PS1-1), (MS-PS1-4), (MS-PS1-4), (MS-PS1-1), (MS-PS1-4)</p> <p>PS1.B: Chemical Reactions (MS-PS1-3)</p> <p>PS3.A: Definitions of Energy (MS-PS1-4), (MS-PS1-4)</p>	<p>Develop models to describe the atomic composition of simple molecules and extended structures. MS-PS1-1</p> <p>Gather and make sense of information to describe that synthetic materials come from natural resources and impact society. MS-PS1-3</p> <p>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. MS-PS1-4</p>	<p>Developing and Using Models (MS-PS1-1), (MS-PS1-4)</p> <p>Obtaining, Evaluating, and Communicating Information (MS-PS1-3)</p>	<p>Cause and Effect (MS-PS1-4)</p> <p>Scale, Proportion, and Quantity (MS-PS1-1)</p> <p>Structure and Function (MS-PS1-3)(MS-PS1-3)</p> <p>Interdependence of Science, Engineering, and Technology (MS-PS1-3)</p>
Unit	Disciplinary Core Ideas	Performance Expectations	SEP	CCC
<p>MS. Chemical Reactions</p> <p>Unit 3: Chemical Reactions</p>	<p>PS1.A: Structure and Properties of Matter (MS-PS1-2), (MS-PS1-3)</p> <p>PS1.B: Chemical Reactions</p>	<p>Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical</p>	<p>Developing and Using Models (MS-PS1-5)</p>	<p>Patterns (MS-PS1-2)</p> <p>Energy and Matter (MS-PS1-5), (MS-PS1-6)</p>

	<p>(MS-PS1-2), (MS-PS1-5), (MS-PS1-3), (MS-PS1-5), (MS-PS1-6)</p> <p>ETS1.B: Developing Possible Solutions (secondary to MS-PS1-6)</p> <p>ETS1.C: Optimizing the Design Solution (secondary to MS-PS1-6)(secondary to MS-PS1-6)</p>	<p>reaction has occurred. MS-PS1-2</p> <p>Develop and use a model to describe how the total number of atoms does not change in a chemical reaction and thus mass is conserved. MS-PS1-5</p> <p>Undertake a design project to construct, test, and modify a device that either releases or absorbs thermal energy by chemical processes. MS-PS1-6</p>	<p>Analyzing and Interpreting Data (MS-PS1-2)</p> <p>Constructing Explanations and Designing Solutions (MS-PS1-6)</p> <p>Science Knowledge Is Based on Empirical Evidence (MS-PS1-2)</p> <p>Science Models, Laws, Mechanisms, and Theories Explain Natural Phenomena (MS-PS1-5)</p>	
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<p>MS. Earth's Systems</p> <p>Unit 1: Earth Systems</p> <p>Unit 2: Processes that Shape Earth</p> <p>Unit 3: Earth Processes Through Geologic Time</p> <p>Unit 4: Earth's Natural Hazards</p>	<p>SS2.A: Earth Materials and Systems (MS-ESS2-1)</p> <p>ESS2.C: The Roles of Water in Earth's Surface Processes (MS-ESS2-4), (MS-ESS2-4)</p> <p>ESS3.A: Natural Resources (MS-ESS3-1)</p>	<p>Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process. MS-ESS2-1</p> <p>Develop a model to describe the cycling of water through Earth's systems driven by energy from the sun and the force of gravity. MS-ESS2-4</p> <p>Construct a scientific explanation based on evidence for how the uneven distributions of Earth's</p>	<p>Developing and Using Models (MS-ESS2-1), (MS-ESS2-4)</p> <p>Constructing Explanations and Designing Solutions (MS-ESS3-1)</p>	<p>Cause and Effect (MS-ESS3-1)</p> <p>Energy and Matter (MS-ESS2-4)</p> <p>Stability and Change (MS-ESS2-1)</p> <p>Influence of Science, Engineering, and Technology on Society and the Natural World (MS-ESS3-1)</p>

		mineral, energy, and groundwater resources are the result of past and current geoscience processes. MS-ESS3-1		
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MS. History of Earth	ESS1.C: The History of Planet Earth <i>(MS-ESS1-4), (secondary to MS-ESS2-3)</i>	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. MS-ESS1-4	Analyzing and Interpreting Data <i>(MS-ESS2-3)</i>	Patterns <i>(MS-ESS2-3)</i>
Unit 1: Earth Systems	ESS2.A: Earth Materials and Systems <i>(MS-ESS2-2)</i>	Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales. MS-ESS2-2	Constructing Explanations and Designing Solutions <i>(MS-ESS1-4), (MS-ESS2-2)</i>	Scale, Proportion, and Quantity <i>(MS-ESS1-4), (MS-ESS2-2)</i>
Unit 2: Processes that Shape Earth	ESS2.B: Plate Tectonics and Large-Scale System Interactions <i>(MS-ESS2-3)</i>	Analyze and interpret data on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of the past plate motions. MS-ESS2-3	Connections to Nature of Science <i>(MS-ESS2-3)</i>	
Unit 3: Earth Processes Through Geologic Time	ESS2.C: The Roles of Water in Earth's Surface Processes <i>(MS-ESS2-2)</i>			
Unit 4: Earth's Natural Hazards				
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<p>MS. Interdependent Relationships in Ecosystems</p> <p>Unit 1: Resources in Living Things</p> <p>Unit 2: Humans and Changing Ecosystems</p>	<p>LS2.A: Interdependent Relationships in Ecosystems (MS-LS2-2)</p> <p>LS2.C: Ecosystem Dynamics, Functioning, and Resilience (MS-LS2-5)</p> <p>LS4.D: Biodiversity and Humans (secondary to MS-LS2-5)</p> <p>ETS1.B: Developing Possible Solutions (secondary to MS-LS2-5)</p>	<p>Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems. MS-LS2-2</p> <p>Evaluate competing design solutions for maintaining biodiversity and ecosystem services. MS-LS2-5</p>	<p>Constructing Explanations and Designing Solutions (MS-LS2-2)</p> <p>Engaging in Argument from Evidence (MS-LS2-5)</p>	<p>Patterns (MS-LS2-2)</p> <p>Stability and Change (MS-LS2-5)</p> <p>Influence of Science, Engineering, and Technology on Society and the Natural World (MS-LS2-5)</p> <p>Science Addresses Questions About the Natural and Material World (MS-LS2-5)</p>
<p>Unit</p>	<p>Disciplinary Core Ideas</p>	<p>Performance Expectations</p>	<p>SEP</p>	<p>CCC</p>
<p>MS. Matter and Energy in Organisms and Ecosystems</p> <p>Unit 2: Energy and Matter in Ecosystems</p>	<p>PS3.D: Energy in Chemical Processes and Everyday Life (secondary to MS-LS1-6), (secondary to MS-LS1-7)</p> <p>LS1.C: Organization for Matter and Energy Flow in Organisms (MS-LS1-6), (MS-LS1-7)</p> <p>LS2.A: Interdependent Relationships in Ecosystems (MS-LS2-1), (MS-LS2-1), (MS-LS2-1)</p> <p>LS2.B: Cycles of Matter and Energy Transfer in Ecosystems (MS-LS2-3)</p> <p>LS2.C: Ecosystem</p>	<p>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. MS-LS1-6</p> <p>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. MS-LS1-7</p> <p>Analyze and interpret data to provide evidence for the effects of resource</p>	<p>Developing and Using Models (MS-LS2-3), (MS-LS1-7)</p> <p>Analyzing and Interpreting Data (MS-LS2-1)</p> <p>Constructing Explanations and Designing Solutions (MS-LS1-6)</p> <p>Engaging in Argument from Evidence (MS-LS2-4)</p> <p>Science Knowledge Is Based on Empirical Evidence (MS-LS1-6), (MS-LS2-4)</p>	<p>Cause and Effect (MS-LS2-1)</p> <p>Energy and Matter (MS-LS1-7), (MS-LS1-6), (MS-LS2-3)</p> <p>Stability and Change (MS-LS2-4)</p>

	<p>Dynamics, Functioning, and Resilience (MS-LS2-4)</p>	<p>availability on organisms and populations of organisms in an ecosystem. MS-LS2-1</p> <p>Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem. MS-LS2-3</p> <p>Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations. MS-LS2-4</p>		
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