
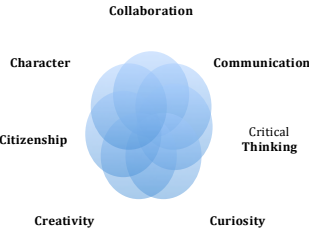


<b>Content Area: Science</b>	Course: Grade 5 Science	<b>Grade Level: Fifth</b>
	<b>R14 The Seven Cs of Learning</b> 	
<b>Unit Titles</b>	<b>Length of Unit</b>	
<ul style="list-style-type: none"> <li>• Structure and Properties of Matter</li> </ul>	<ul style="list-style-type: none"> <li>• 6-8 weeks</li> </ul>	
<ul style="list-style-type: none"> <li>• Matter and Energy in Organisms and Ecosystems</li> </ul>	<ul style="list-style-type: none"> <li>• 6-8 weeks</li> </ul>	
<ul style="list-style-type: none"> <li>• Earth's Systems</li> </ul>	<ul style="list-style-type: none"> <li>• 6-8 weeks</li> </ul>	
<ul style="list-style-type: none"> <li>• Space Systems</li> </ul>	<ul style="list-style-type: none"> <li>• 6-8 weeks</li> </ul>	



Strands	Course Level Expectations
<b>Physical Sciences</b>	<ul style="list-style-type: none"> <li>• Develop a model to describe that matter is made of particles too small to be seen.</li> <li>• 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.</li> <li>• Make observations and measurements to identify materials based on their properties.</li> <li>• Conduct an investigation to determine whether the mixing of two or more substances results in new substances.</li> <li>• Support an argument that the gravitational force exerted by Earth on objects is directed down</li> </ul>
<b>Life Sciences</b>	<ul style="list-style-type: none"> <li>• 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</li> <li>• Support an argument that plants get the materials they need for growth chiefly from air and water.</li> <li>• Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.</li> </ul>
<b>Earth and Space Sciences</b>	<ul style="list-style-type: none"> <li>• Support an argument that differences in the apparent brightness of the sun compared to other stars is due to their relative distances from Earth.</li> <li>• 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.</li> <li>• Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.</li> <li>• Describe and graph the amounts of salt water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth. [</li> <li>• Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.</li> </ul>

<b>Unit Title</b>	Structure and Properties of Matter	<b>Length of Unit</b>	6-8 weeks
<b>Inquiry Questions (Engaging &amp; Debatable)</b>	<ul style="list-style-type: none"> <li>• When matter changes, does its weight change?</li> <li>• What happens when substances are combined?</li> <li>• If something is too small to be seen, how can it be detected and measured?</li> </ul>		
<b>Standards*</b>	5-PS1-1, 5-PS1-2, 5-PS1-3. 5-PS1-4, ETS1-3		
<b>Unit Strands &amp; Concepts</b>	<p><b>DISCIPLINARY CORE IDEAS (DCI):</b></p> <ul style="list-style-type: none"> <li>• Structure and Properties of Matter</li> <li>• Chemical Reactions</li> </ul> <p><b>Cross Cutting Concepts (CCC)</b></p> <ul style="list-style-type: none"> <li>• Scale, Proportion, and Quantity</li> <li>• Cause and Effect</li> </ul>		
<b>Key Vocabulary</b>	Matter, Properties, Weight, Particles, Substance, Reactions, Data, Observations		

\*Standards based on the Next Generation Science Standards (NGSS) and the National Research Council (NRC)  
For more information visit: <http://portal.ct.gov/SDE/Science/Science-Standards-and-Resources>

<b>Unit Title</b>	Structure and Properties of Matter	<b>Length of Unit</b>	6-8 Weeks
-------------------	------------------------------------	-----------------------	-----------

<b>Critical Content: My students will Know...</b>	<b>Key Skills: My students will be able to (Do)...</b>
<ul style="list-style-type: none"> <li>• Matter of any type can be subdivided into particles that are too small to see, but even then the matter still exists and can be detected by other means.</li> <li>• Gases are made from matter particles that are too small to see and are moving freely around in space</li> <li>• The amount (weight) of matter is conserved when it changes form, even in transitions in which it seems to vanish</li> <li>• Measurements of a variety of properties can be used to identify materials.</li> <li>• When two or more different substances are mixed, a new substance with different properties may be formed.</li> <li>• No matter what reaction or change in properties occurs, the total weight of the substances does not change.</li> </ul>	<ul style="list-style-type: none"> <li>• Develop a model to describe that matter is made of particles too small to be seen.</li> <li>• Measure, and graph quantities and analyze the data 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.</li> <li>• Make observations and measurements to identify and classify materials based on their properties.</li> <li>• Conduct an investigation to determine whether the mixing of two or more substances results in new substances.</li> </ul>

<b>Assessments:</b>	Performance Task(s) focused on demonstrating an understanding of the properties of matter and conservation of matter
<b>Teacher Resources:</b>	NGSS Frameworks, Region 14 Science Implementation Guide, Model Based Inquiry Investigations, Foss Kits, NGSS Phenomenon Resources, Stem Teaching Tools

<b>Unit Title</b>	Matter and Energy in Organisms and Ecosystems	<b>Length of Unit</b>	6-8 weeks
<b>Inquiry Questions (Engaging &amp; Debatable)</b>	<ul style="list-style-type: none"> <li>• How does matter and energy cycle through the ecosystem?</li> <li>• How do the structures of organisms enable them to survive and interact in their environments (ecosystem)?</li> <li>• What role do humans play in ecosystem?</li> </ul>		
<b>Standards</b>	5-PS3-1, 5-LS1-1, 5-LS2-1, ETS1-2		
<b>Unit Strands &amp; Concepts</b>	<p><b>DISCIPLINARY CORE IDEAS (DCI):</b></p> <ul style="list-style-type: none"> <li>• Energy in Chemical Processes</li> <li>• Matter and Energy Flow in Organisms</li> <li>• Interdependent Relationships in Ecosystems</li> <li>• Cycles of Matter and Energy Transfer in Ecosystems</li> </ul> <p><b>Cross Cutting Concepts (CCC)</b></p> <ul style="list-style-type: none"> <li>• Systems and System Models</li> <li>• Energy and Matter</li> </ul>		
	Organism, Ecosystem, Matter, Energy, Decompose, Energy, Food Web, Species, Data, Observations		

\*Standards based on the Next Generation Science Standards (NGSS) and the National Research Council (NRC)  
For more information visit: <http://portal.ct.gov/SDE/Science/Science-Standards-and-Resources>

<b>Unit Title</b>	Matter and Energy in Organisms and Ecosystems	<b>Length of Unit</b>	6-8 weeks
-------------------	---	-----------------------	-----------

<b>Critical Content: My students will Know...</b>	<b>Key Skills: My students will be able to (Do)...</b>
<ul style="list-style-type: none"> <li>• The energy released [from] food was once energy from the sun that was captured by plants in the chemical process that forms plant matter</li> <li>• Food provides animals with the materials they need for body repair and growth and the energy they need to maintain body warmth and for motion</li> <li>• Plants acquire their material for growth chiefly from air and water.</li> <li>• The food of almost any kind of animal can be traced back to plants.</li> <li>• Organisms are related in food webs in which some animals eat plants for food and other animals eat the animals that eat plants.</li> <li>• Some organisms, such as fungi and bacteria, break down dead organisms (both plants or plants parts and animals) and therefore operate as “decomposers.”</li> <li>• Decomposition eventually restores (recycles) some materials back to the soil.</li> <li>• Organisms can survive only in environments in which their particular needs are met.</li> <li>• A healthy ecosystem is one in which multiple species of different types are each able to meet their needs in a relatively stable web of life.</li> <li>• Newly introduced species can damage the balance of an ecosystem.</li> </ul>	<ul style="list-style-type: none"> <li>• Develop a model to describe that energy in animals’ food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.</li> <li>• Construct an argument supporting that plants get the materials they need for growth chiefly from air and water.</li> <li>• Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.</li> </ul>

<b>Assessments:</b>	Performance Task(s) focused on demonstrating an understanding of the energy cycle between the sun and an animal's food, How plants acquire the materials they need for growth, and the movement of matter within an ecosystem
<b>Teacher Resources:</b>	NGSS Frameworks, Region 14 Science Implementation Guide, Model Based Inquiry Investigations, Foss Kits, NGSS Phenomenon Resources, Stem Teaching Tools

<b>Unit Title</b>	Earth's Systems	<b>Length of Unit</b>	6-8 weeks
<b>Inquiry Questions (Engaging &amp; Debatable)</b>	<ul style="list-style-type: none"> <li>• How do the different systems of the Earth interact with each other?</li> <li>• How do these interactions affect the Earth's surface?</li> </ul>		
<b>Standards*</b>	5-ESS2-1, 5-ESS2-2. 5-ESS3-1 ETS1-1,		
<b>Unit Strands &amp; Concepts</b>	<p><b>DISCIPLINARY CORE IDEAS (DCI):</b></p> <ul style="list-style-type: none"> <li>• Earth Materials and Systems</li> <li>• The Roles of Water in Earth's Surface Processes</li> <li>• Human Impacts on Earth's Systems</li> </ul> <p><b>Cross Cutting Concepts (CCC)</b></p> <ul style="list-style-type: none"> <li>• Systems and System Models</li> <li>• Scale, Proportion, and Quantity</li> </ul>		
<b>Key Vocabulary</b>	Geosphere, Biosphere, Hydrosphere, Resources, Landforms, Climate, Atmosphere, Data, Observations		

\*Standards based on the Next Generation Science Standards (NGSS) and the National Research Council (NRC)

For more information visit: <http://portal.ct.gov/SDE/Science/Science-Standards-and-Resources>



<b>Unit Title</b>	Earth's Systems	<b>Length of Unit</b>	6-8 weeks
-------------------	-----------------	-----------------------	-----------

<b>Critical Content: My students will Know...</b>	<b>Key Skills: My students will be able to (Do)...</b>
<ul style="list-style-type: none"> <li>• Earth's major systems are the geosphere (solid and molten rock, soil, and sediments), the hydrosphere (water and ice), the atmosphere (air), and the biosphere (living things, including humans). These systems interact in multiple ways to affect Earth's surface materials and processes.</li> <li>• The ocean supports a variety of ecosystems and organisms, shapes landforms, and influences climate.</li> <li>• Winds and clouds in the atmosphere interact with the landforms to determine patterns of weather.</li> <li>• Nearly all of Earth's available water is in the ocean.</li> <li>• Most fresh water is in glaciers or underground; only a tiny fraction is in streams, lakes, wetlands, and the atmosphere</li> <li>• Human activities in agriculture, industry, and everyday life have had major effects on the land, vegetation, streams, ocean, air, and even outer space.</li> <li>• Individuals and communities are doing things to help protect Earth's resources and environments</li> </ul>	<ul style="list-style-type: none"> <li>• Construct a model to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.</li> <li>• Describe and graph the amounts of salt water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth.</li> <li>• Compare and contrast information about ways individual communities use science ideas to protect the Earth's resources and environment</li> </ul>

<b>Assessments:</b>	Performance Task(s) focused on demonstrating an understanding of how the geosphere, biosphere, hydrosphere, and/or atmosphere interact, the distribution of water on earth, the importance of conserving earth's resources
<b>Teacher Resources:</b>	NGSS Frameworks, Region 14 Science Implementation Guide, Model Based Inquiry Investigations, Foss Kits, NGSS Phenomenon Resources, Stem Teaching Tools

<b>Unit Title</b>	Space Systems	<b>Length of Unit</b>	6-8 weeks
-------------------	---------------	-----------------------	-----------

<b>Inquiry Questions (Engaging &amp; Debatable)</b>	<ul style="list-style-type: none"> <li>• How do the different systems of the Earth and space interact with each other?</li> <li>• What effect does gravity have on Earth?</li> </ul>
<b>Standards*</b>	5-PS2-1, 5-ESS1-1. 5-ESS1-2. ETS1-1,
<b>Unit Strands &amp; Concepts</b>	<p><b>DISCIPLINARY CORE IDEAS (DCI):</b></p> <ul style="list-style-type: none"> <li>• Types of Interactions</li> <li>• The Universe and its Stars</li> <li>• Earth and the Solar System</li> </ul> <p><b>Cross Cutting Concepts (CCC)</b></p> <ul style="list-style-type: none"> <li>• Patterns</li> <li>• Cause and Effect</li> <li>• Scale, Proportion, and Quantity</li> </ul>
<b>Key Vocabulary</b>	Gravity, Gravitational Force, Relative Distance, Orbit, Rotation, Axis, Data, Observations

\*Standards based on the Next Generation Science Standards (NGSS) and the National Research Council (NRC)  
For more information visit: <http://portal.ct.gov/SDE/Science/Science-Standards-and-Resources>

<b>Unit Title</b>	Space Systems	<b>Length of Unit</b>	6-8 weeks
-------------------	---------------	-----------------------	-----------

<b>Critical Content:</b> <b>My students will Know...</b>	<b>Key Skills:</b> <b>My students will be able to (Do)...</b>
<ul style="list-style-type: none"> <li>• The gravitational force of Earth acting on an object near Earth’s surface pulls that object toward the planet’s center.</li> <li>• The sun is a star that appears larger and brighter than other stars because it is closer. Stars range greatly in their distance from Earth.</li> <li>• The orbits of Earth around the sun and of the moon around Earth, together with the rotation of Earth about an axis between its North and South poles, cause observable patterns. These include day and night; daily changes in the length and direction of shadows; and different positions of the sun, moon, and stars at different times of the day, month, and year.</li> </ul>	<ul style="list-style-type: none"> <li>• Construct and support an argument that the gravitational force exerted by Earth on objects is directed down.</li> <li>• Construct and support an argument that that differences in the apparent brightness of the sun compared to other stars is due to their relative distances from Earth.</li> <li>• Represent and interpret 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.</li> </ul>

<b>Assessments:</b>	Performance Task(s) focused on demonstrating an understanding of gravitational force and patterns that occur due to the orbit of the Earth and moon.
<b>Teacher Resources:</b>	NGSS Frameworks, Region 14 Science Implementation Guide, Model Based Inquiry Investigations, Foss Kits, NGSS Phenomenon Resources, Stem Teaching Tools