



Course Description
<p>In grade 5, students model, provide evidence to support arguments, and obtain and display data about relationships and interactions among observable components of different systems. By studying systems, grade 5 students learn that objects and organisms do not exist in isolation and that animals, plants and their environments are connected to, interact with, and are influenced by each other. They study the relationships between Earth and other nearby objects in the solar system and the impact of those relationships on patterns of events as seen from Earth. They learn about the relationship among elements of Earth's systems through the cycling of water and human practices and processes with Earth's resources. They also learn about the connections and relationships among plants and animals, and the ecosystems within which they live, to show how matter and energy are cycled through these (building on the theme of grade 4). An ability to describe, analyze, and model connections and relationships of observable components of different systems is key to understanding the natural and designed world.</p> <p>In grade 5, student scientists:</p> <ul style="list-style-type: none"> • Model, use evidence to support arguments, and utilize data about relationships and interactions of systems. • Learn that objects and organisms are connected to, interact with, and are influenced by each other and their environments. They learn about how matter and energy are cycled through these relationships. • Study the relationships between Earth and nearby objects in the solar system. • Learn about the relationship among Earth's systems including the water cycle and human practices with Earth's resources. • Build their ability to describe, analyze, and model connections and relationships of observable components of Earth's systems.
Content Standards
<p>Grade 5 Massachusetts Curriculum Framework - Science</p>



Subject: 5th Grade Science

Units	Essential Questions	Key Activities May Include:
TERM 1 Inquiry and Discovery Observations & Inferences Scientific Method Ecosystems MA Standards: 5.MS-PS3 5.MS-LS1 5.MS-LS2	<ul style="list-style-type: none"> How could you build a model to show the movement of matter in an ecosystem? How would you design a compost to encourage decomposition? 	<ul style="list-style-type: none"> Observation and Inference Activity. Vertebrate vs. Invertebrate Activity. Ecosystems Scavenger Hunt. Food Chain Project. Interactive Compost Activity.
TERM 2 Physical Science Matter and Its Interactions 5.MS-PS1 Earth & Space Science The Water Cycle & Water Distribution MA Standards: 5.MS-ESS2	<ul style="list-style-type: none"> How would you create a model to show phase changes between solid, liquid, and gas? What impact do phase changes or reactions have on the mass of matter? How can you test to see if mixing two or more substances results in new substances or not? How can you display the relative amounts of salt water and fresh water across Earth's biosphere? 	<ul style="list-style-type: none"> Electric Tea Kettle Demonstration. Chemistry in a Bag. Matter Webquest. A series of demonstrations and experiments relating to matter & energy. Water Cycle Observation and Activity.
TERM 3 Physical Science Gravitational Force 5.MS-PS2 Earth & Space Science Earth's Place in the Universe MA Standards: 5.MS-ESS1	<p>How is the gravitational force exerted by earth directed? What evidence do you have?</p> <ul style="list-style-type: none"> Why does the sun appear larger and brighter than other stars? How can you use a model to explain: (1) day and night, (2) shadow patterns, (3) appeared changes in the position of the sun, moon, and stars? 	<p>Gravitational Pull Demonstration</p> <ul style="list-style-type: none"> Exploratorium. Model of the Earth in relation to the sun and moon. A Day in Barrow, Alaska Demonstration. Interactive Digital Slideshows.