



SCHOOL DISTRICT OF MONROE

Preparing for the Future, One Child at a Time

Science (2nd)

Course Description:

The curriculum for this required course is developed from the <http://www.nextgenscience.org/>.

Students will be exposed to and practice skills related to Science and Engineering practices, crosscutting concepts, and core ideas in science that all students in K-12 should master in order to prepare for success in college or 21st century careers. The standards are organized by the four disciplinary core ideas: Life Science, Physical Science, Earth and Space, and Engineering, Technology and the Application of Science. The information in this course overview outlines what students should understand and be able to do by the end of the year.

Mastery Standards:

Life Science

Students use science and engineering practices, crosscutting concepts, and an understanding of the **interactions, energy, and dynamics within ecosystems** to make sense of phenomena and solve problems. SCI.LS2

Students use science and engineering practices, crosscutting concepts, and an understanding of **biological evolution** to make sense of phenomena and solve problems. SCI.LS4

Physical Science

Students use science and engineering practices, crosscutting concepts, and an understanding of **matter and its interactions** to make sense of phenomena and solve problems. SCI.PS1

Earth & Space

Students use science and engineering practices, crosscutting concepts, and an understanding of **Earth's place in the universe** to make sense of phenomena and solve problems. SCI.ESS1

Students use science and engineering practices, crosscutting concepts, and an understanding of **Earth's systems** to make sense of phenomena and solve problems. SCI.ESS2

Engineering, Technology and the Application of Science

Students use science and engineering practices, crosscutting concepts, and an understanding of **engineering design** to make sense of phenomena and solve problems. SCI.ETS1

Students use science and engineering practices, crosscutting concepts, and an understanding of **the links among Engineering, Technology, Science, and Society** to make sense of phenomena and solve problems. SCI.ETS2

Students use science and engineering practices, crosscutting concepts, and an understanding of **the nature of science and engineering** to make sense of phenomena and solve problems. SCI.ETS3

Unit	Description of Unit and Learning Targets
<p>Unit Title: Interdependent Relationships in Ecosystems</p> <p>Mystery Science: Plant Adventures Mystery Science: Animal Adventures</p> <p><u>Essential Questions:</u></p>	<p>Students will.....</p> <p><u>Learning Targets:</u></p> <ul style="list-style-type: none"> I can plan and conduct an investigation to determine if plants need sunlight and water to grow. M2, M3, M4 I can develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants. M1

<ul style="list-style-type: none"> • What do plants need to grow? • How many types of living things live in a place? 	<ul style="list-style-type: none"> • I can make observations of plants and animals to compare the diversity of life in different habitats. M4, M5, M1, M2, M3
<p>Unit Title: Structure and Properties of Matter</p> <p>Mystery Science: Material Magic</p> <p><u>Essential Questions:</u></p> <ul style="list-style-type: none"> • How are materials similar and different from one another, and how do the properties of the materials relate to their use? 	<p>Students will...</p> <p><u>Learning Targets:</u></p> <ul style="list-style-type: none"> • I can plan and conduct an investigation to describe and classify different kinds of materials by their observable properties. M1 • I can analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose. M2 • I can make observations to construct an evidence-based account of how an object made of a small set of pieces can be disassembled and made into a new object. M4, M5 • I can construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot. M3
<p>Unit Title: Earth's Systems: Processes that Shape the Earth</p> <p>Mystery Science: Work of Water</p> <p><u>Essential Questions:</u></p> <ul style="list-style-type: none"> • How does land change and what are some things that cause it to change? • What are the different kinds of land and bodies of water? 	<p>Students will...</p> <p><u>Learning Targets:</u></p> <ul style="list-style-type: none"> • I can use information from several sources to provide evidence that Earth events can occur quickly or slowly. M2, M3, M4 • I can compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land. M4 • I can develop a model to represent the shapes and kinds of land and bodies of water in an area. M1 • I can obtain information to identify where water is found on Earth, and that it can be a solid or liquid. M1