

Science/STEAM Curriculum Overview & Calendar- Grade 1

Earth Science- Mrs. Cooney	Life Science- Mrs. Cooney	Physical Science- Mrs. Riter	STEAM- Mrs. Riter
<p><i>Beginning of Year (BOY) - Christmas Break</i> <u>Overview:</u> The anchor phenomena are the air that surrounds us and the natural objects that we see in the sky. Students explore the phenomenon that objects in the sky change position in predictable ways. They explore the natural world by using simple instruments and calendars to observe and monitor change. They use new tools and methods to build on their understanding of the weather and to find out about properties of air by exploring how objects interact with air. The driving question for the module is what is all around us and what do we observe in the sky above us?</p>	<p><i>New Year (January) - End of Year (EOY)</i> <u>Overview:</u> This module engages students with the anchor phenomenon that young plants and animals (offspring) have structures and behaviors that help them grow and survive. The driving question for the module is how do young plants and animals survive in their habitat? Students observe firsthand the structures of plants and discover ways to propagate new plants from mature plants (from seeds, bulbs, roots, and stem cuttings). They observe and describe changes that occur as young plants grow, and compare classroom plants to those in the schoolyard. They design terrariums (habitat systems) and provide for the needs of both plants and animals living together in the classroom.</p>	<p><i>New Year (January) - End of Year (EOY)</i> <u>Overview:</u> This module provides experiences that help students develop an understanding of how to observe and manipulate the phenomena of sound and light. They explore these dimensions of the natural world using simple tools and musical instruments. The driving question for the module is how do sound and light interact with objects?</p>	<p><i>Beginning of Year (BOY) - Christmas Break</i> STEAM Centers, Coding, Robotics, Engineering Tasks</p> <p><i>*The New York State K-12 Computer Science and Digital Fluency Learning Standards were adopted by the Board of Regents in December 2020. The new standards focus on five key concepts:</i></p> <ul style="list-style-type: none"> ● <i>Impacts of Computing</i> ● <i>Computational Thinking</i> ● <i>Networks & System Design</i> ● <i>Cybersecurity</i> ● <i>Digital Literacy</i> <p><i>For more information, you can go to this website.</i></p> <p><i>http://www.nysed.gov/common/nysed/files/programs/curriculum-instruction/computer-science-digital-fluency-standards-k-1.pdf</i></p>

Science/STEAM Curriculum Overview & Calendar- Grade 2

Earth Science- Mrs. Cooney	Life Science- Mrs. Cooney	Physical Science- Mrs. Riter	STEAM- Mrs. Riter
<p><i>Beginning of Year (BOY) - Christmas Break</i> <u>Overview:</u> Students engage with the anchor phenomenon of earth materials that cover the planet’s surface. They observe the properties of rocks of various sizes and study the components of soil, study the results of weathering and erosion, locate natural sources of water, and determine how to represent the shapes and kinds of land and bodies of water on Earth. The driving questions are what are the properties of earth materials? and how do they interact and change?</p>	<p><i>New Year (January) - End of Year (EOY)</i> <u>Overview:</u> In order to provide young students with in-depth opportunities to experience the biodiversity on Earth, they will become naturalists and study insects and plants in and out of their classroom. The anchor phenomenon for this module is the natural history of common insects and their interactions with plants. The driving question for this module is what is the natural history of some plants and animals in different habitats?</p>	<p><i>New Year (January) - End of Year (EOY)</i> <u>Overview:</u> This module provides grade 2 students with physical sciences core ideas dealing with matter and its interactions and engineering design. The anchor phenomenon for this module is matter in two of its phases—solid and liquid. The driving questions for the module are how are solid and liquid materials similar and different? and how do the properties of solid and liquid materials relate to how they can be used and how they can change?</p>	<p><i>Beginning of Year (BOY) - Christmas Break</i> STEAM Centers, Coding, Robotics, Engineering Tasks</p> <p><i>*The New York State K-12 Computer Science and Digital Fluency Learning Standards were adopted by the Board of Regents in December 2020. The new standards focus on five key concepts:</i></p> <ul style="list-style-type: none"> ● <i>Impacts of Computing</i> ● <i>Computational Thinking</i> ● <i>Networks & System Design</i> ● <i>Cybersecurity</i> ● <i>Digital Literacy</i> <p><i>For more information, you can go to this website.</i></p> <p><i>http://www.nysed.gov/common/nysed/files/programs/curriculum-instruction/computer-science-digital-fluency-standards-2-3.pdf</i></p>

Science/STEAM Curriculum Overview & Calendar- Grade 3

Earth Science- Mrs. Cooney	Life Science- Mrs. Cooney	Physical Science- Mrs. Riter	STEAM- Mrs. Riter
<p><i>Beginning of Year (BOY) - Christmas Break</i> <u>Overview:</u> Water is the most important substance on Earth. Water dominates the surface of our planet, changes the face of the land, and defines life. Weather is driven by the Sun and involves the movement of water over the earth through evaporation, condensation, precipitation, and runoff—the water cycle. Climate is determined in part by the amount of precipitation in a region and by temperature fluctuations. Human societies depend on water, and new technologies are being engineered to conserve and protect this natural resource, to provide for the needs of people around the world.</p>	<p><i>New Year (January) - End of Year (EOY)</i> <u>Overview:</u> The anchor phenomenon is the diversity of plants and animals we observe in our world. Students experience that organisms exhibit a variety of strategies for life, have a variety of observable structures and behaviors, have varied but predictable life cycles, and reproduce their own kind by passing inherited characteristics to offspring. Students explore how individual organisms have variations in their traits that may provide an advantage in surviving in a particular environment. The driving questions for the module are where do organisms come from, how do they survive, and how are all the different kinds of plants and animals able to continue to exist on Earth?</p>	<p><i>New Year (January) - End of Year (EOY)</i> <u>Overview:</u> Motion and Matter provides grade 3 students with experiences around physical sciences core ideas dealing with forces and interactions, matter and its interactions, and with engineering design. The anchor phenomenon for the first three investigations is motion. Magnetism and gravity are the phenomena investigated as students look for patterns of motion to predict future motion. The driving question is what causes objects to move? Students work with magnets and paper clips, wheel-and-axle systems, paper air twirlers, and rotating tops. Students use their knowledge of science to enter the engineering design process and through the process refine their science understanding.</p>	<p><i>Beginning of Year (BOY) - Christmas Break</i> STEAM Centers, Coding, Robotics, Engineering Tasks</p> <p><i>*The New York State K-12 Computer Science and Digital Fluency Learning Standards were adopted by the Board of Regents in December 2020. The new standards focus on five key concepts:</i></p> <ul style="list-style-type: none"> ● <i>Impacts of Computing</i> ● <i>Computational Thinking</i> ● <i>Networks & System Design</i> ● <i>Cybersecurity</i> ● <i>Digital Literacy</i> <p><i>For more information, you can go to this website.</i></p> <p><i>http://www.nysed.gov/common/nysed/files/programs/curriculum-instruction/computer-science-digital-fluency-standards-2-3.pdf</i></p>

Science/STEAM Curriculum Overview & Calendar- Grade 4

Earth Science- Mrs. Cooney	Life Science- Mrs. Cooney	Physical Science- Mrs. Riter	STEAM- Mrs. Riter
<p><i>Beginning of Year (BOY) - Christmas Break</i> <u>Overview:</u> Geology is the study of our planet’s earth materials and natural resources. Because they are so ubiquitous and abundant, they are often taken for granted. The Soils, Rocks, and Landforms Module provides students with firsthand experiences with soils and rocks and modeling experiences using tools such as topographic maps and stream tables to engage with the anchor phenomenon of the surface of Earth’s landscape—the shape and the composition of landforms. The driving questions for the module are What are Earth’s land surface made of? and Why are landforms not the same everywhere?</p>	<p><i>New Year (January) - End of Year (EOY)</i> <u>Overview:</u> The Environments Module has four investigations that focus on the anchor phenomenon that animals and plants interact with their environment and with each other. The driving question for the module deals with structure and function—How do the structures of an organism allow it to survive in its environment? Students explore how animals use their sense of hearing and develop models for detecting and interpreting sound. Students gain experiences that will contribute to the understanding of crosscutting concepts of patterns; cause and effect; scale, proportion, and quantity; systems and system models; energy and matter; structure and function; and stability and change.</p>	<p><i>New Year (January) - End of Year (EOY)</i> <u>Overview:</u> The Energy Module provides first hand experiences in physical science dealing with the anchor phenomenon of energy. The five investigations focus on the concepts that energy is present whenever there is motion, electric current, sound, light, or heat, and that energy can transfer from one place to other. The driving question for the module is how does energy transfer between systems? Students investigate electricity and magnetism as related effects and engage in engineering design while learning useful applications of electromagnetism in everyday life.</p>	<p><i>Beginning of Year (BOY) - Christmas Break</i> STEAM Centers, Coding, Robotics, Engineering Tasks</p> <p><i>*The New York State K-12 Computer Science and Digital Fluency Learning Standards were adopted by the Board of Regents in December 2020. The new standards focus on five key concepts:</i></p> <ul style="list-style-type: none"> ● <i>Impacts of Computing</i> ● <i>Computational Thinking</i> ● <i>Networks & System Design</i> ● <i>Cybersecurity</i> ● <i>Digital Literacy</i> <p><i>For more information, you can go to this website.</i></p> <p><i>http://www.nysed.gov/common/nysed/files/programs/curriculum-instruction/computer-science-digital-fluency-standards-4-6.pdf</i></p>

Science/STEAM Curriculum Overview & Calendar- Grade 5

Earth Science- Mrs. Cooney	Life Science- Mrs. Cooney	Physical Science- Mrs. Riter	STEAM- Mrs. Riter
<p><i>Beginning of Year (BOY) - Christmas Break</i> <u>Overview:</u> The anchor phenomena students investigate in the Earth and Sun Module are the patterns observed in the sky over a day, a month, a year, and more, and their effect on Earth. The driving question for the module is how do Earth’s geosphere, hydrosphere, atmosphere, and biosphere interact to create a sustainable environment for life?</p>	<p><i>New Year (January) - End of Year (EOY)</i> <u>Overview:</u> In the Living Systems Module, students start by looking at Earth as the interaction of four Earth systems or subsystems—the geosphere, the atmosphere, the hydrosphere, and the biosphere. In this module, students think about systems on different scales—nutrient and transport systems within an organism that moves matter and provides energy to the individual organism, and feeding relationships in ecosystems that move matter among plants, animals, decomposers, and the environment. Students come to understand through a variety of experiences that plants get the materials they need for growth primarily from water and air, and that energy in animals’ food was once energy from the Sun.</p>	<p><i>New Year (January) - End of Year (EOY)</i> <u>Overview:</u> The Mixtures and Solutions Module has five investigations that engage students with the phenomena of matter and its interactions in our everyday life—mixtures, solutions, solubility, concentration, and chemical reactions. The driving question is what is matter and what happens when samples of matter interact? Students come to know that matter is made of particles too small to be seen and develop the understanding that matter is conserved when it changes state—from solid to liquid to gas—when it dissolves in another substance, and when it is part of a chemical reaction.</p>	<p><i>Beginning of Year (BOY) - Christmas Break</i> STEAM Centers, Coding, Robotics, Engineering Tasks</p> <p><i>*The New York State K-12 Computer Science and Digital Fluency Learning Standards were adopted by the Board of Regents in December 2020. The new standards focus on five key concepts:</i></p> <ul style="list-style-type: none"> ● <i>Impacts of Computing</i> ● <i>Computational Thinking</i> ● <i>Networks & System Design</i> ● <i>Cybersecurity</i> ● <i>Digital Literacy</i> <p><i>For more information, you can go to this website.</i></p> <p><i>http://www.nysed.gov/common/nysed/files/programs/curriculum-instruction/computer-science-digital-fluency-standards-4-6.pdf</i></p>

