PLTW Launch Standards Guide

2019 Minnesota Academic Standards in Science (Draft)

PLTW Launch (PreK-5) is designed to support your science learning needs. The modules are developed to ensure an unmatched experience, combining three-dimensional learning; unique, problem-based instructional approach; real-world applied learning; as well as Spanish language options – all in one program.

This Standards Guide shows how each PLTW Launch module supports the 2019 Minnesota Academic Standards in Science (draft). Because schools need the flexibility to implement the curriculum in the way that best meets their students' needs, PLTW Launch is designed to support a wide range of implementations. Whether the modules are offered in all classrooms, as a specials rotation, as grade level rotations, as an after-school program, or even as a summer learning implementation, PLTW Launch offers the flexibility to meet your needs.

This Standards Guide is based on the draft version of the standards that is current as of 5/22. We will update this resource when new standards information is finalized and released.

The module charts below provide a single-grade, up or down shift in the grade level recommendations to represent the range of school needs across the country

Use this Standards Guide in combination with the Module Descriptions PDF as planning tools to explore how you can implement PLTW Launch as your elementary learning solution.

PLTW LAUNCH

Kindergarten

Standard	Content Area	Benchmark	PLTW Launch Modules
1.1.1 Students will be able to ask questions about aspects of the phenomena they observe, the conclusions they draw from their models or scientific investigations, each other's ideas, and the information they read.	Earth and Space Sciences	0E.1.1.1.1 Ask questions to obtain information from weather forecasts to prepare for and respond to severe weather.* (P: 1, CC: 7, CI: ESS3, ETS2)	Sunlight and Weather (K)
	Earth and Space Sciences	0E.1.1.1.2 Ask questions about how a person may reduce the amount of natural resources the individual uses.* (P: 1, CC: 2, CI: ESS3)	Living Things: Needs and Impacts (K)
1.2.1 Students will be able to design and conduct investigations in the classroom, laboratory, and/or field to test students' ideas and questions, and will organize and collect data to provide evidence to support claims the students make about phenomena.	Physical Science	0P.1.2.1.1 Collect and organize observational data to determine the effect of sunlight on Earth's surface. (P: 3, CC: 2, CI: PS3, ETS2)	Sunlight and Weather (K)
	Life Science	0L.1.2.1.2 Make observations of plants and animals to compare the diversity of life in different habitats. (P: 3, CC: 1, CI: LS4)	Benchmark not currently supported
2.1.1 Students will be able to represent observations and data in order to recognize patterns in the data, the meaning of those patterns, and possible relationships between variables.	Physical Science	0P.2.1.1.1 Sort objects in terms of natural/human-made, color, size, shape, and texture, then communicate the reasoning for the sorting system. (P: 4, CC: 2, CI: PS1)	Structure and Function: Exploring Design (K)
	Earth and Space Science	0E.2.1.1.2 Make daily and seasonal observations of local weather conditions to describe patterns over time.** (P: 4, CC: 1, CI: ESS2)	Sunlight and Weather (K)
	Life Science	0L.2.1.1.3 Record and use observations to describe patterns of what plants and animals (including humans) need to survive.** (P: 4, CC: 1, CI: LS1)	Living Things: Needs and Impacts (K)
2.2.1 Students will be able to use mathematics to represent physical variables and their relationships; compare mathematical expressions to the real world; and engage in computational thinking as they use or develop algorithms to describe the natural or designed worlds.	Physical Science	0P.2.2.1.1 Identify and describe patterns that emerge from the effects of different strengths or different directions of pushes and pulls on the motion of an object.** (P: 5, CC: 2, CI: PS2)	Pushes and Pulls (K)
3.1.1 Students will be able to develop, revise, and use models to represent the students' understanding of phenomena or systems as they develop questions, predictions and/or explanations, and communicate ideas to others.	Life Science	0L.3.1.1.1 Develop a simple model to represent the relationship between the needs of different plants and animals (including humans) and the places they live. (P: 2, CC: 4, CI: LS2)	Living Things: Needs and Impacts (K)
3.2.2 Students will be able to use their understanding of scientific principles and the engineering design process to design solutions that meet established criteria and constraints.*	Physical Science	0P.3.2.2.1 Design and build a structure to reduce the warming effect of sunlight on Earth's surface.* (P: 6, CC: 2, CI: PS3, ETS1)	Sunlight and Weather (K)
4.1.1 Students will be able to engage in argument from evidence for the explanations the students construct, defend and revise their interpretations when presented with new evidence, critically evaluate the scientific arguments of others, and present counter arguments.	Physical Science	0P.4.1.1.1 Construct an argument supported by evidence for whether a design solution works as intended to change the speed or direction of an object with a push or a pull.* (P: 7, CC: 2, CI: PS2, ETS1)	Pushes and Pulls (K)
4.2.1 Students will be able to read and interpret multiple sources to obtain information, evaluate the merit and validity of claims and design solutions, and communicate information, ideas, and evidence in a variety of formats.	Physical Science	0P.4.2.2.1 Communicate design ideas for a structure that reduces the warming effect of sunlight on Earth's surface.* (P: 8, CC: 2, CI: PS3, ETS1)	Sunlight and Weather (K)

First Grade

Standard	Content Area		PLTW Launch Modules
1.1.1 Students will be able to ask questions about aspects of the phenomena they observe, the conclusions they draw from their models or scientific investigations, each other's ideas, and the information they read.	Life Science	1L.1.1.1.1 Ask questions based on observations about the similarities and differences between young plants and animals and their parents. (P: 1, CC: 2, CI: LS3)	Designs Inspired by Nature (1)
1.2.1 Students will be able to design and conduct investigations in the classroom, laboratory, and/or field to test students' ideas and questions, and will organize and collect data to provide evidence to support claims the students make about phenomena.	Physical Science	1P.1.2.1.1 Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate. (P: 3, CC: 2, CI: PS4)	Light and Sound (1)
2.1.1 Students will be able to represent observations and data in order to recognize patterns in the data, the meaning of those patterns, and possible relationships between variables.	Physical Science	1P.2.1.1.1 Identify and describe patterns obtained from testing different materials and determine which materials have the properties that are best suited for producing and/or transmitting sound.* (P: 4, CC: 1, CI: PS1, ETS1)	Light and Sound (1)
2.2.1 Students will be able to use mathematics to represent physical variables and their relationships; compare mathematical expressions to the real world; and engage in computational thinking as they use or develop algorithms to describe the natural or designed worlds.	Earth and Space Science	1E.2.2.1.1 Use quantitative data to identify and describe patterns in the amount of time it takes for Earth processes to occur and determine whether they occur quickly or slowly. (P: 5, CC: 7, CI: ESS1)	The Changing Earth (2)
3.1.1 Students will be able to develop, revise, and use models to represent the students' understanding of phenomena or systems as they develop questions, predictions and/or explanations, and communicate ideas to others.	Life Science	1L.3.1.1.1 Develop a simple model based on evidence to represent how plants or animals use their external parts to help them survive, grow, and meet their needs. (P: 2, CC: 6, CI: LS1)	Animal Adaptations (1)
3.2.2 Students will be able to use their understanding of scientific principles and the engineering design process to design solutions that meet established criteria and constraints.*	Physical Science	1P.3.2.2.1 Design and build a device that uses light or sound to solve the problem of communicating over a distance.* (P: 6, CC: 6, CI: PS4, ETS1, ETS2)	Light and Sound (1)
	Life Science	1L.3.2.2.2 Plan and design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.* (P: 6, CC: 6, CI: LS1, ETS2)	Animal Adaptations (1)
4.1.1 Students will be able to engage in argument from evidence for the explanations the students construct, defend and revise their interpretations when presented with new evidence, critically evaluate the scientific arguments of others, and present counter arguments.	Earth and Space Science	1E.4.1.1.1 Construct an argument based on observational evidence for how plants and animals (including humans) can change the non-living aspects of the environment to meet their needs. (P: 7, CC: 4, CI: ESS2)	Living Things: Needs and Impacts (K)
4.1.2 Students will be able to argue from evidence to justify the best solution to a problem or to compare and evaluate competing designs, ideas, or methods.*	Earth and Space Science	1E.4.1.2.1 Construct an argument with evidence to evaluate multiple solutions designed to slow or prevent wind or water from changing the shape of the land.* (P: 7, CC: 7, CI: ESS2, ETS2)	The Changing Earth (2)
4.2.1 Students will be able to read and interpret multiple sources to obtain information, evaluate the merit and validity of claims and design solutions, and communicate information, ideas, and evidence in a variety of formats.	Earth and Space Science	1E.4.2.1.1 Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.* (P: 8, CC: 4, CI: ESS3)	Living Things: Needs and Impacts (K)
	Life Science	1L.4.2.1.2 Obtain information using various features of texts and other media to determine patterns in the behavior of parents and offspring that help offspring survive. (P: 8, CC: 1, CI: LS1)	Designs Inspired by Nature (1)
4.2.2 Students will be able to gather information about and communicate the methods that are used by various cultures, especially those of Minnesota American Indian Tribes and communities, to develop explanations of phenomena and design solutions to problems.	Physical Science	1P.4.2.2.1 Communicate solutions that use materials to provide shelter, food, or warmth needs for communities including Minnesota American Indian tribes and communities.* (P: 8, CC: 2, CI: PS1, ETS2)	Benchmark not currently supported

Second Grade

Standard	Content Area	Benchmark	PLTW Launch Modules
1.1.1 Students will be able to ask questions about aspects of the phenomena they observe, the conclusions they draw from their models or scientific investigations, each other's ideas, and the information they read.	Physical Science	2P.1.1.1.1 Ask questions about an object's motion based on observation, that can be answered by an investigation. (P: 1, CC: 1, CI: PS2)	Stability and Motion: Science of Flight (3)
1.2.1 Students will be able to design and conduct investigations in the classroom, laboratory, and/or field to test students' ideas and questions, and will organize and collect data to provide evidence to support claims the students make about phenomena.	Physical Science	2P.1.2.1.1 Plan and conduct an investigation to describe how heating and cooling affects different kinds of materials based upon their observable properties. (P: 3, CC: 1, CI: PS1)	Materials Science: Properties of Matter (2)
2.1.1 Students will be able to represent observations and data in order to recognize patterns in the data, the meaning of those patterns, and possible relationships between variables.	Earth and Space Science	2E.2.1.1.1 Represent data to describe typical weather conditions expected during a particular season. (P: 4, CC: 1, CI: ESS2)	Weather: Factors and Hazards (3)
		2E.2.1.1.2 Analyze data from tests of objects designed to reduce the impacts of a weather-related hazards and compare the strengths and weaknesses of how each performs.* (P: 4, CC: 2, CI: ESS3, ETS1)	
2.2.1 Students will be able to use mathematics to represent physical variables and their relationships; compare mathematical expressions to the real world; and engage in computational thinking as they use or develop algorithms to describe the natural or designed worlds.	Physical Science	2P.2.2.1.1 Identify and predict quantitative patterns of the effects of balanced and unbalanced forces on the motion of an object.** (P: 5, CC: F412, CI: PS2)	Stability and Motion: Science of Flight (3) Stability Motion: Forces and Interactions (3)
3.1.1 Students will be able to develop, revise, and use models to represent the students' understanding of phenomena or systems as they develop questions, predictions and/or explanations, and communicate ideas to others.	Physical Science	2P.3.1.1.1 Develop a simple diagram or physical model to illustrate how some changes caused by heating or cooling can be reversed and some cannot.** (P: 2, CC: 2, CI: PS3)	Materials Science: Properties of Matter (2)
3.2.2 Students will be able to use their understanding of scientific principles and the engineering design process to design solutions that meet established criteria and constraints.*	Life Science	2L.3.2.2.1 Engineer a device that mimics the structures and functions of plants or animals in seed dispersal.* (P: 6, CC: 6, CI: LS2, ETS1)	Materials Science: Form and Function (2)
4.1.1 Students will be able to engage in argument from evidence for the explanations the students construct, defend and revise their interpretations when presented with new evidence, critically evaluate the scientific arguments of others, and present counter arguments.	Life Science	2L.4.1.1.1 Construct an argument with evidence that evaluates how in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all. (P: 7, CC: 2, CI: LS4, ETS2)	Environmental Changes (3)
4.2.1 Students will be able to read and interpret multiple sources to obtain information, evaluate the merit and validity of claims and design solutions, and communicate information, ideas, and evidence in a variety of formats.	Earth and Space Science	2E.4.2.1.1 Obtain and use information from multiple sources to identify where water is found on Earth. (P: 8, CC: 1, CI: ESS2)	The Changing Earth (2)
		2E.4.2.1.2 Obtain and use information from multiple sources, including electronic sources, to describe climates in different regions of the world.** (P: 8, CC: 1, CI: ESS2)	Weather: Factors and Hazards (3)
4.2.2 Students will be able to gather information about and communicate the methods that are used by various cultures, especially those of Minnesota American Indian Tribes and communities, to develop explanations of phenomena and design solutions to problems.	Physical Science	2P.4.2.2.1 Obtain information and communicate how Minnesota American Indian Tribes and communities and other cultures apply knowledge of the natural world in determining which materials have the properties that are best suited for an intended purpose.* (P: 8, CC: 2, CI: PS1, ETS1)	Benchmark not currently supported

Third Grade

Standard	Content Area	Benchmark	PLTW Launch Modules
1.1.1 Students will be able to ask questions about aspects of the phenomena they observe, the conclusions they draw from their models or scientific investigations, each other's ideas, and the information they read.	Physical Science	3P.1.1.1.1 Ask questions based on observations about why objects in darkness can be seen only when illuminated. (P: 1, CC: 2, CI: PS4)	Benchmark not currently supported
1.2.1 Students will be able to design and conduct investigations in the classroom, laboratory, and/or field to test students' ideas and questions, and will organize and collect data to provide evidence to support claims the students make about phenomena.	Physical Science	3P.1.2.1 1 Plan and conduct a controlled investigation to determine the effect of placing objects made with different materials in the path of a beam of light. (P: 3, CC: 2, CI: PS4)	Waves and the Properties of Light (4)
	Life Science	3L.1.2.1.2 Plan and conduct an investigation to determine how amounts of sunlight and water impact the growth of a plant. (P: 3, CC:2, CI: LS2)	Living Things: Diversity of Life (2)
2.1.1 Students will be able to represent observations and data in order to recognize patterns in the data, the meaning of those patterns, and possible relationships between variables.	Earth and Space Science	3E.2.1.1.1 Record observations of the sun, moon, and stars and use them to describe patterns that can be predicted.** (P: 4, CC: 1, CI: ESS1)	Benchmark not currently supported
2.2.1 Students will be able to use mathematics to represent physical variables and their relationships; compare mathematical expressions to the real world; and engage in computational thinking as they use or develop algorithms to describe the natural or designed worlds.	Earth and Space Science	3E.2.2.1.1 Organize and electronically present collected data to identify and describe patterns in the amount of daylight in the different times of the year.** (P: 5, CC: 1, CI: ESS1)	Benchmark not currently supported
3.1.1 Students will be able to develop, revise, and use models to represent the students' understanding of phenomena or systems as they develop questions, predictions and/or explanations, and communicate ideas to others.	Physical Science	3P.3.1.1.1 Develop a model to describe that light reflecting from objects and entering the eye allows objects to be seen. (P: 2, CC: 2, CI: PS4)	Waves and the Properties of Light (4)
	Life Science	3L.3.1.1.2 Develop multiple models to describe how organisms have unique and diverse life cycles but all have birth, growth, reproduction, and death in common. (P: 2, CC: 4, CI: LS1)	Life Cycles and Survival (3)
3.2.1 Students will be able to apply scientific principles and empirical evidence (primary or secondary) to explain the causes of phenomena or identify weaknesses in explanations developed by the students or others.	Life Science	3L.3.2.1.1 Construct an explanation using evidence from various sources for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing. (P: 6, CC: 2. CI: LS4)	Variation of Traits (3)
4.1.1 Students will be able to engage in argument from evidence for the explanations the students construct, defend and revise their interpretations when presented with new evidence, critically evaluate the scientific arguments of others, and present counter arguments.	Life Science	3L.4.1.1.1 Construct an argument about strategies animals use to survive. (P: 7, CC: 2, CI: LS2)	Living Things: Diversity of Life (2)
4.2.1 Students will be able to read and interpret multiple sources to obtain information, evaluate the merit and validity of claims and design solutions, and communicate information, ideas, and evidence in a variety of formats.	Life Science	3L.4.2.1.1 Obtain information from various types of media to support an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.** (P: 8, CC: 4, CI: LS1)	Organisms: Structure and Function (4)
4.2.2 Students will be able to gather information about and communicate the methods that are used by various cultures, especially those of Minnesota American Indian Tribes and communities, to develop explanations of phenomena and design solutions to problems.	Earth and Space Science	3E.4.2.2.1 Gather information and communicate how Minnesota American Indian Tribes and communities and other cultures use patterns in stars to make predictions and plans. (P 8, CC: 1, CI: ESS1)	Benchmark not currently supported

Fourth Grade

Standard	Content Area	Benchmark	PLTW Launch Modules
1.1.1 Students will be able to ask questions about aspects of the phenomena they observe, the conclusions they draw from their models or scientific investigations, each other's ideas, and the information they read.	Physical Science	4P.1.1.1.1 Ask questions to determine cause and effect relationships of electric and magnetic interactions between two objects not in contact with each other. (P: 1, CC: 2, CI:PS2)	Stability and Motion: Forces and Interactions (3)
	Earth and Space Science	4E.1.1.1.2 Ask questions about how water moves through the Earth system and identify the type of question. (P: 1, CC: 5, CI: ESS2)	Earth's Water and Interconnected Systems (5)
1.1.2 Students will be able to ask questions about a problem to be solved so they can define constraints and specifications for possible solutions.*	Physical Science	4P.1.1.2.1 Define a simple design problem that can be solved by applying scientific ideas about magnets.* (P: 1, CC: 2, CI: PS2, ETS2)	Stability and Motion: Forces and Interactions (3)
1.2.1 Students will be able to design and conduct investigations in the classroom, laboratory, and/or field to test students' ideas and questions, and will organize and collect data to provide evidence to support claims the students make about phenomena.	Earth and Space Science	4E.1.2.1.1 Make observations and measurements to provide evidence of the effects of weathering or the rate of erosion by the forces of water, ice, wind, or vegetation.* (P: 3, CC: 2, CI: ESS2)	Earth: Past, Present and Future (4)
		4E.1.2.1.2 Plan and carry out fair tests in which variables are controlled and failure points are considered to improve a model or prototype to prevent erosion.* (P: 3, CC: 2, CI: ESS2, ETS1; ETS2)	Benchmark not currently supported
2.2.1 Students will be able to use mathematics to represent physical variables and their relationships; compare mathematical expressions to the real world; and engage in computational thinking as they use or develop algorithms to describe the natural or designed worlds.	Earth and Space Science	4E.2.2.1.1 Interpret charts, maps and/or graphs of the amounts of salt water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth.** (P: 5, CC: 4, CI: ESS2)	Earth's Water and Interconnected Systems (5)
3.1.1 Students will be able to develop, revise, and use models to represent the students' understanding of phenomena or systems as they develop questions, predictions and/or explanations, and communicate ideas to others.	Earth and Space Science	4E.3.1.1.1 Develop a model based in part on student observations or data to describe ways the geosphere, biosphere, hydrosphere, and atmosphere interact. (P: 2, CC: 4, CI: ESS2)	Earth's Water and Interconnected Systems (5)
3.2.1 Students will be able to apply scientific principles and empirical evidence (primary or secondary) to explain the causes of phenomena or identify weaknesses in explanations developed by the students or others.	Earth and Space Science	4E.3.2.1 1 Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in a landscape over time. (P: 6, CC: 1, CI: ESS1)	Earth: Past, Present and Future (4)
3.2.2 Students will be able to use their understanding of scientific principles and the engineering design process to design solutions that meet established criteria and constraints.*	Earth and Space Science	4E.3.2.2.1 Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.* (P: 6, CC: 2, CI: ESS3, ETS1)	Earth: Human Impact and Natural Disasters (4)
4.1.1 Students will be able to engage in argument from evidence for the explanations the students construct, defend and revise their interpretations when presented with new evidence, critically evaluate the scientific arguments of others, and present counter arguments.	Life Science	4L.4.1.1.1 Construct or support an argument that traits can be influenced by different environments. (P: 7, CC: 2, CI: LS3)	Variation of Traits (3)
4.2.1 Students will be able to read and interpret multiple sources to obtain information, evaluate the merit and validity of claims and design solutions, and communicate information, ideas, and evidence in a variety of formats.	Earth and Space Science	4E.4.2.1.1 Read and comprehend grade appropriate complex texts and/or other reliable media to describe that energy and fuels are derived from natural resources and their uses affect the environment. (P: 8, CC: 2, CI: ESS3, ETS2)	Earth: Human Impact and Natural Disasters (4)
	Life Science	4L.4.2.1.2 Obtain information from various media sources to determine that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms.** (P: 8, CC: 1, CI: LS3)	Variation of Traits (3)
4.2.2 Students will be able to gather information about and communicate the methods that are used by various cultures, especially those of Minnesota American Indian Tribes and communities, to develop explanations of phenomena and design solutions to problems.	Earth and Space Science	4E.4.2.2.1 Obtain and combine multiple sources of information about ways individual communities, including Minnesota American Indian Tribes and communities and other cultures use evidence and scientific principles to make decisions about the uses of Earth's resources.* (P: 8, CC: 4, CI: ESS3, ETS1)	Earth's Water and Interconnected Systems (5)

Fifth Grade

Standard	Content Area	Benchmark	PLTW Launch Modules
1.1.1 Students will be able to ask questions about aspects of the phenomena they observe, the conclusions they draw from their models or scientific investigations, each other's ideas, and the information they read.	Physical Science	5P.1.1.1.1 Ask investigatable questions and predict reasonable outcomes about the changes in energy, related to speed, that occur when objects interact. (P: 1, CC: 5, CI: PS3)	Energy Exploration (4)
1.2.1 Students will be able to design and conduct investigations in the classroom, laboratory, and/or field to test students' ideas and questions, and will organize and collect data to provide evidence to support claims the students make about phenomena.	Physical Science	5P.1.2.1.2 Conduct an investigation to determine whether the mixing of two or more substances results in new substances. (P: 3, CC: 2, CI: PS1)	Matter: Properties and Reactions (5)
	Physical Science	5P.1.2.1.3 Evaluate appropriate methods and tools to identify materials based on their properties prior to investigation. (P: 3, CC: 3, CI: PS1)	Matter: Properties and Reactions (5)
	Life Science	5L.1.2.1.4 Plan and conduct an investigation to obtain evidence that plants get the materials they need for growth chiefly from air and water. (P: 3, CC: 5, CI: LS1)	Ecosystems: Flow of Matter and Energy (5)
2.1.1 Students will be able to represent observations and data in order to recognize patterns in the data, the meaning of those patterns, and possible relationships between variables.	Physical Science	5P.2.1.1.1 Analyze and interpret data to show that energy can be transferred from place to place by sound, light, heat, and electric currents. (P: 4, CC: 5, CI: PS3)	Energy Exploration (4)
2.2.1 Students will be able to use mathematics to represent physical variables and their relationships; compare mathematical expressions to the real world; and engage in computational thinking as they use or develop algorithms to describe the natural or designed worlds.	Physical Science	5P.2.2.1.1 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. (P: 5, CC: 3, CI: PS1)	Matter: Properties and Reactions (5)
	Earth and Space Science	5E.2.2.1.2 Use data to describe patterns in the daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.** (P: 5, CC: 1, CI: ESS1)	Patterns in the Universe (5)
3.1.1 Students will be able to develop, revise, and use models to represent their understanding of phenomena or systems as they develop questions, predictions and/or explanations and communicate ideas to others.	Physical Science	5P.3.1.1.1 1 Develop and refine a model to describe that matter is made of particles too small to be seen. (P: 2, CC: 3, CI: PS1)	Matter: Properties and Reactions (5)
	Physical Science	5P.3.1.1.2 Use models to describe that energy in animals' food (used for body repair, growth, and motion and to maintain body warmth) was once energy from the sun. (P: 2, CC: 5, CI: PS3)	Ecosystems: Flow of Matter and Energy (5)
	Life Science	5L.3.1.1.3 Create an electronic visualization of the movement of matter among plants, animals, decomposers, and the environment.** (P: 2, CC: 4, CI: LS2)	Ecosystems: Flow of Matter and Energy (5)
3.2.1 Students will be able to apply scientific principles and empirical evidence (primary or secondary) to explain the causes of phenomena or identify weaknesses in explanations developed by the students or others.	Physical Science	5P.3.2.1.1 Construct an explanation based on evidence relating the speed of an object to the energy of that object. (P: 6, CC: 5, CI: PS3).	Energy Exploration (4)
3.2.2 Students will be able to use their understanding of scientific principles and the engineering design process to design solutions that meet established criteria and constraints.*	Physical Science	5P.3.2.2 1 Apply scientific ideas to design, test, and refine a device that converts energy from one form to another.* (P: 6, CC: 5, CI: PS3, ETS1, ETS2)	Energy Exploration (4)
4.1.1 Students will be able to engage in argument from evidence for the explanations the students construct, defend and revise their interpretations when presented with new evidence, critically evaluate the scientific arguments of others, and present counter arguments.	Earth and Space Science	5E.4.1.1.1 Use evidence to support an argument that the apparent brightness of the sun and stars is due to their relative distances from Earth. (P: 7, CC: 3, CI: ESS1)	Patterns in the Universe (5)
4.1.2 Students will be able to argue from evidence to justify the best solution to a problem or to compare and evaluate competing designs, ideas, or methods.*	Life Science	5L.4.1.2.1 Evaluate the merit of a solution to a problem caused by changes in plant and animal populations as a result of environmental changes.* (P: 7, CC: 4, CI: LS4, ETS1)	Ecosystems: Flow of Matter and Energy (5)