K-5 Science with Math Connections
Missouri Learning Standards: Grade-Level Expectations

Missouri Department of Elementary and Secondary Education Spring 2016
Updated January 2019

	PS1 - Matter and Its Interactions					
	Grade K	**Grade 1**	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**
A **Structure and Properties of Matter**	K.PS1.A.1 Make qualitative observations of the physical properties of objects (i.e., size, shape, color, mass). *MLS Connections:* *Math - None*		2. PS1.A.1 Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties. [Clarification Statement: Observations could include color, texture, hardness, and flexibility. Patterns could include the similar properties that different materials share.] *MLS Connections:* *Math - 2.DS.A.3, 2.DS.A.4 , 2.DS.A.5* 2.PS1.A.2 Analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose. [Clarification Statement: Examples of properties could include, strength, flexibility, hardness, texture, and absorbency.] *MLS Connections:* *Math - 2.DS.A.3, 2.DS.A.4 , 2.DS.A.5*	3.PS1.A.1 Predict and investigate that water can change from a liquid to a solid (freeze), and back again (melt), or from a liquid to a gas (evaporation), and back again (condensation) as the result of temperature changes. *MLS Connections:* *Math - None*		5. PS1.A.1 Develop a model to describe that matter is made of particles too small to be seen. [Clarification Statement: Examples of evidence supporting a model could include adding air to expand a basketball, compressing air in a syringe, dissolving sugar in water, and evaporating salt water.] *MLS Connections:* *Math - 5.NBT.A.3, 5.NF.B.8, 5.GM.B.4* 5. PS1.A.2 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.[Clarification Statement: Examples of reactions or changes could include phase changes, dissolving, and mixing that form new substances.] *MLS Connections:* *Math - 5.GM.D.8, 5.GM.D.9*

	PS1 - Matter and Its Interactions					
	Grade K	**Grade 1**	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**
B **Types of Interactions of Matter**				3.PS1.B.1 Construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot. *MLS Connections:* *Math - None*		5. PS1.B.1 Plan and conduct investigations to separate the components of a mixture/solution by their physical properties (i.e., sorting, filtration, magnets, screening). *MLS Connections:* *Math - None* 5. PS1.B.2 Conduct an investigation to determine whether the combining of two or more substances results in new substances. *MLS Connections:* *Math - None*

	PS2 - Motion and Stability: Forces and Interactions					
	Grade K	**Grade 1**	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**
A **Forces and Motion**	K.PS2.A.1 Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object. [Clarification Statement: Examples of pushes or pulls could include a string attached to an object being pulled, a person pushing an object, a person stopping a rolling ball, and two objects colliding and pushing on each other.] *MLS Connections:* *Math- K.GM.A.1 & K.GM.A.2* K.PS2.A.2 Describe ways to change the motion of an object (i.e., how to cause an object to go slower, go faster, go farther, change direction, stop). *MLS Connections:* *Math - None*		2.PS2.A.1 Analyze data to determine how the motion of an object changed by an applied force or the mass of an object. *MLS Connections:* *Math - None*		4.PS2.A.1 Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion. *MLS Connections:* *Math - None* 4.PS2.A.2 Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.[Clarification Statement: Examples could include an unbalanced force on one side of a ball can make it start moving; and, balanced forces pushing on a box from both sides will not produce any motion at all.] *MLS Connections:* *Math - 3.GM.B.7, 3.GM.B.8*	

	PS2 - Motion and Stability: Forces and Interactions					
	Grade K	**Grade 1**	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**
B				3.PS2.B.1 Plan and conduct investigations to determine the cause and effect relationship of electric or magnetic interactions between two objects not in contact with each other. [Clarification Statement: Examples of an electric force could include the force on hair from an electrically charged balloon and the electrical forces between a charged rod and pieces of paper; examples of a magnetic force could include the force between two permanent magnets, the force between an electromagnet and steel paperclips, and the force exerted by one magnet versus the force exerted by two magnets. Examples of cause and effect relationships could include how the distance between objects affects strength of the force and how the orientation of magnets affects the direction of the magnetic force.] *MLS Connections:* *Math - None*	4.PS2.B.1 Plan and conduct a fair test to compare and contrast the forces (measured by a spring scale in Newtons) required to overcome friction when an object moves over different surfaces (i.e., rough/smooth). *MLS Connections:* *Math - None* 4.PS2.B.2 Predict how changes in either the amount of force applied to an object or the mass of the object affects the motion (speed and direction) of the object. *MLS Connections:* *Math - None*	5. PS2.B.1 Support an argument that the gravitational force exerted by Earth on objects is directed toward the planet's center. [Clarification Statement: "Down" is a local description of the direction that points toward the center of the spherical Earth.] *MLS Connections:* *Math - None*
Types of Interaction						

	PS3 - Energy					
	Grade K	**Grade 1**	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**
A **Definitions of Energy**	K.PS3.A.1 Make observations to determine the effect of sunlight on Earth's surface. *MLS Connections: Math - K.GM.A.2*	1.PS3.A.1 Identify the source of energy that causes an increase in the temperature of an object (e.g., Sun, stove, flame, light bulb). *MLS Connections: Math - None*			4.PS3.A.1 Use evidence to construct an explanation relating the speed of an object to the energy of that object. *MLS Connections: Math - None*	

	PS3 - Energy					
	Grade K	**Grade 1**	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**
B **Conservation of Energy and Energy Transfer**	K.PS3.B.1 With prompting and support, use tools and materials to design and build a structure that will reduce the warming effect of sunlight on an area *MLS Connections:* *Math - K.GM.A.2*				4.PS3.B.1 Provide evidence to construct an explanation of an energy transformation(e.g. temperature change, light, sound, motion, and magnetic effects) *MLS Connections:* *Math - None* 4.PS3.B.2 Apply scientific ideas to design, test, and refine a device that converts energy from one form to another. [Clarification Statement: Examples of devices could include electric circuits that convert electrical energy into motion energy of a vehicle, light, or sound; and, a passive solar heater that converts light into heat. Examples of constraints could include the materials, cost, or time to design the device.] *MLS Connections:* *Math - 4.RA.A.2, 4.RA.A.3*	

	PS3 - Energy					
	Grade K	**Grade 1**	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**
C **Relationship Between Energy and Forces**					4.PS3.C.1 Use models to explain that simple machines change the amount of effort force and/or direction of force. [Clarification Statement: memorization of a simple machine is not the focus, concept builds on the application of force and motion .] *MLS Connections:* *Math - None*	

	PS3 - Energy					
	Grade K	**Grade 1**	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**
D						5. PS3.D.1 Use models to describe that energy stored in food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun. [Clarification Statement: Examples of models could include diagrams, and flow charts.] *MLS Connections: Math - None*
Energy in Chemical Process and Everyday						

	PS4 - Waves and Their Applications in technologies for Information Transfer					
	Grade K	**Grade 1**	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**
A **Wave Properties**		1.PS4.A.1 Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate. [Clarification Statement: Examples of vibrating materials that make sound could include tuning forks and plucking a stretched string. Examples of how sound can make matter vibrate could include holding a piece of paper near a speaker making sound and holding an object near a vibrating tuning fork.] *MLS Connections:* *Math - None*	2.PS4.A.1 Plan and conduct investigations to provide evidence that changes in vibration create change in sound. *MLS Connections:* *Math - None*		4.PS4.A.1 Develop a model of waves to describe patterns in terms of amplitude or wavelength and that waves can cause objects to move. (Boundary: The terms amplitude and wavelength should not be assessed.) [Clarification Statement: Examples of models could include diagrams, analogies, and physical models using wire to illustrate wavelength and amplitude of waves.] *MLS Connections:* *Math - 4.GM.A.1*	5. PS4.A.1 Develop a model to describe that objects can be seen only when light is reflected off them or when they produce their own light. *MLS Connections:* *Math - 4.GM.A.1*

	PS4 - Waves and Their Applications in technologies for Information Transfer					
	Grade K	**Grade 1**	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**
B						
Electromagnetic Radiation						

	PS4 - Waves and Their Applications in technologies for Information Transfer					
	Grade K	**Grade 1**	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**
C		1.PS4.C.1 Use tools and materials to design and build a device that uses light or sound to solve the problem of communicating over a distance. [Clarification Statement: Examples of devices could include a light source to send signals, paper cup and string "telephones," and a pattern of drum beats.] *MLS Connections:* *Math - 1.GM.B*				
Information Technologies and Instrumentation						

	LS1 - From Molecules to Organisms: Structure and Processes					
	Grade K	**Grade 1**	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**
A		1.LS1.A.1 Use materials to 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. [Clarification Statement: Examples of human problems that can be solved by mimicking plant or animal solutions could include designing clothing or equipment to protect bicyclists by mimicking turtle shells, acorn shells, and animal scales; stabilizing structures by mimicking animal tails and roots on plants; keeping out intruders by mimicking thorns on branches and animal quills; and, detecting intruders by mimicking eyes and ears.] *MLS Connections:* *Math - None*			4.LS1.A.1 Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and plant reproduction. [Clarification Statement: Examples of structures could include thorns, stems, roots, colored petals, heart, stomach, lung, brain, and skin.] *MLS Connections:* *Math - 4.GM.A.3*	5. LS1.A.1 Compare and contrast the major organs/organ systems (e.g. support, reproductive, digestive, transport/circulatory, excretory, response) that perform similar functions for animals belonging to different vertebrate classes. *MLS Connections:* *Math - None*
Structure and Function						

	LS1 - From Molecules to Organisms: Structure and Processes					
	Grade K	**Grade 1**	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**
B **Growth and Development of Organisms**				3.LS1.B.1 Develop a model to compare and contrast observations on the life cycle of different plants and animals. *MLS Connections:* *Math - 3.NBT.A, 3.NF.A*		

	LS1 - From Molecules to Organisms: Structure and Processes					
	Grade K	**Grade 1**	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**
C **Organization for Matter and Energy Flow in Organisms**	K.LS1.C.1 Use observations to describe patterns of what plants and animals (including humans) need to survive. [Clarification Statement: Examples of patterns could include that animals need to take in food but plants do not; the different kinds of food needed by different types of animals; the requirement of plants to have light; and, that all living things need water.] *MLS Connections:* *Math - K.GM.A.2*					5. LS1.C.1 Support an argument that plants get the materials (i.e. carbon dioxide, water, sunlight) they need for growth chiefly from air and water. [Clarification Statement: Emphasis is on the idea that plant matter comes mostly from air and water, not from the soil. Clarification Statement: [Do not assess photosynthesis.] *MLS Connections:* *Math - 5.GM.D.8, 5.GM.D.9*

	LS1 - From Molecules to Organisms: Structure and Processes					
	Grade K	**Grade 1**	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**
D					4.LS1.D.1 Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways. [Clarification Statement: Emphasis is on systems of information transfer.] *MLS Connections:* *Math - None*	
Information Processing						

	LS2 - Ecosystems: Interactions, Energy, and Dynamics					
	Grade K	**Grade 1**	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**
A			2.LS2.A.1 Plan and conduct investigations on the growth of plants when growing conditions are altered (e.g., dark vs. light, water vs. no water). *MLS Connections:* *Math - None* 2.LS2.A.2 Develop a simple model that mimics the function of an animal in dispersing seeds or pollinating plants. *MLS Connections:* *Math - 2.DS.A.3, 2.DS.A.4 , 2.DS.A.5*			
Interdependent Relationships in Ecosystems						

	LS2 - Ecosystems: Interactions, Energy, and Dynamics					
	Grade K	**Grade 1**	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**
B						5. LS2.B.1 Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment. [Clarification Statement: Emphasis is on the idea that matter that is not food (air, water, decomposed materials in soil) is changed by plants into matter that is food.

Cycles of matter and Energy Transfer in Ecosystems						Examples of systems could include organisms, ecosystems, and the Earth.] *MLS Connections:* *Math - None*

	LS3 - Heredity: Inheritance and Variation of Traits					
	Grade K	**Grade 1**	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**
A **Inheritance of Traits**		1.LS3.A.1 Make observations to construct an evidence based account that young plants and animals are like, but not exactly like, their parents. [Clarification Statement: Examples of patterns could include features plants or animals share. Examples of observations could include leaves from the same kind of plant are the same shape but can differ in size; and, a particular breed of dog looks like its parents but is not exactly the same.] *MLS Connections:* *Math - 1.GM.B*		3.LS3.A.1 Construct scientific arguments to support claims that some characteristics of organisms are inherited from parents and some are influenced by the environment. [Clarification Statement: Examples of the environment affecting a trait could include normally tall plants grown with insufficient water are stunted; and, a pet dog that is given too much food and little exercise may become overweight.] *MLS Connections:* *Math - None*		

	LS3 - Heredity: Inheritance and Variation of Traits					
	Grade K	**Grade 1**	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**
B **Natural Selection**				3.LS3.B.1 Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving and finding mates. [Clarification Statement: Examples of cause and effect relationships could be plants that have larger thorns than other plants may be less likely to be eaten by predators; and, animals that have better camouflage coloration than other animals may be more likely to survive and therefore more likely to leave offspring.] *MLS Connections:* *Math - 3.DS.A.1, 3.DS.A.2*		

	LS3 - Heredity: Inheritance and Variation of Traits					
	Grade K	**Grade 1**	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**
C **Adaptation**				3.LS3.C.1 Construct an argument with evidence that in a particular ecosystem some organisms --based on structural adaptations or behaviors -- can survive well, some survive less well, and some cannot. [Clarification Statement: Examples of evidence could include needs and characteristics of the organisms and habitats involved. The organisms and their habitat make up a system in which the parts depend on each other.] *MLS Connections:* *Math - 3.DS.A.1, 3.DS.A.2*		

	LS3 - Heredity: Inheritance and Variation of Traits					
	Grade K	**Grade 1**	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**
D **Biodiversity and Humans**				3.LS3.D.1 Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change. [Clarification Statement: Examples of environmental changes could include changes in land characteristics, water distribution, temperature, food, and other organisms.] *MLS Connections:* *Math - None*		

	ESS1 - Earth's Place in the Universe					
	Grade K	**Grade 1**	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**
A **The Universe and its Stars**		1.ESS1.A.1 Describe the presence of the Sun, Moon, and stars in the sky over time. *MLS Connections:* *Math - 1.RA.A.1, 1.DS.A* 1.ESS1.A.2 Use observations of the sun, moon, and stars to describe patterns that can be predicted. [Clarification Statement: Examples of patterns could include that the sun and moon appear to rise in one part of the sky, move across the sky, and set; and stars other than our sun are visible at night but not during the day.] *MLS Connections:* *Math - None*				5. ESS1.A.1 Support an argument that relative distances from Earth affects the apparent brightness of the sun compared to other stars. *MLS Connections:* *Math - 5.NBT.A.4*

	ESS1 - Earth's Place in the Universe					
	Grade K	**Grade 1**	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**
B **Earth and the Solar System**	K.ESS1.B.1 Make observations during different seasons to relate the amount of daylight to the time of year. [Clarification Statement: Emphasis is on relative comparisons of the amount of daylight in the winter to the amount in the spring or fall.] *MLS Connections:* *Math - None*					5. ESS1.B.1 Make observations during different seasons to relate the amount of daylight to the time of year. [Clarification Statement: Emphasis is on relative comparisons of the amount of daylight in the winter to the amount in the spring or fall.] *MLS Connections:* *Math - None* 5. ESS1.B.2 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. [Clarification Statement: Examples of patterns could include the position and motion of Earth with respect to the sun and selected stars that are visible only in particular months.] *MLS Connections:* *Math - 5.GM.C.7*

	ESS1 - Earth's Place in the Universe					
	Grade K	**Grade 1**	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**
C **The History of Planet Earth**			2.ESS1.C.1 Use information from several sources to provide evidence that Earth events can occur quickly or slowly. [Clarification Statement: Examples of events and timescales could include volcanic explosions and earthquakes, which happen quickly and erosion of rocks, which occurs slowly.] *MLS Connections:* *Math - 2.NBT.A*		4.ESS1.C.1 Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in a landscape over time. [Clarification Statement: Examples of evidence from patterns could include rock layers with marine shell fossils above rock layers with plant fossils and no shells, indicating a change from land to water over time; and, a canyon with different rock layers in the walls and a river in the bottom, indicating that over time a river cut through the rock.] *MLS Connections:* *Math - 4.GM.C.6*	

	ESS2 - Earth's Systems					
	Grade K	**Grade 1**	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**
A			2.ESS2.A.1 Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land. [Clarification Statement: Examples of solutions could include different designs of dikes and windbreaks to hold back wind and water, and different designs for using shrubs, grass, and trees to hold back the land.] *MLS Connections:* *Math - 2.GM.C.8*		4.ESS2.A.1 Plan and conduct scientific investigations or simulations to provide evidence how natural processes (e.g. weathering and erosion) shape Earth's surfaces. *MLS Connections:* *Math - None*	5. ESS2.A.1 Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact. [Clarification Statement: Examples could include the influence of the ocean on ecosystems, landform shape, and climate; the influence of the atmosphere on landforms and ecosystems through weather and climate; and the influence of mountain ranges on winds and clouds in the atmosphere. The geosphere, hydrosphere, atmosphere, and biosphere are each a system.] *MLS Connections:* *Math - 5.GM.C.7*
Earth Materials and Systems						

	ESS2 - Earth's Systems					
	Grade K	**Grade 1**	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**
B **Plate Tectonics and Large-Scale Systems**			2.ESS2.B.1 Develop a model to represent the shapes and kinds of land and bodies of water in an area. *MLS Connections:* *Math - 2.NBT.A.4*		4.ESS2.B.1 Analyze and interpret data from maps to describe patterns of Earth's features. [Clarification Statement: Maps can include topographic maps of Earth's land and ocean floor, as well as maps of the locations of mountains, continental boundaries, volcanoes, and earthquakes.] *MLS Connections:* *Math - 4.GM.C.7*	

	ESS2 - Earth's Systems					
	Grade K	**Grade 1**	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**
C **The Role of Water in Earth's Surface Processes**			2.ESS2.C.1 Obtain information to identify where water is found on Earth and that it can be solid or liquid. *MLS Connections:* *Math - None*			5. ESS2.C.1 Describe and graph the amounts and percentages of water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth. *MLS Connections:* *Math - None*

	ESS2 - Earth's Systems					
	Grade K	**Grade 1**	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**
D **Weather and Climate**	K.ESS2.D.1 Use and share observations of local weather conditions to describe patterns over time. [Clarification Statement: Examples of qualitative observations could include descriptions of the weather (such as sunny, cloudy, rainy, and warm); examples of quantitative observations could include numbers of sunny, windy, and rainy days in a month. Examples of patterns could include that it is usually cooler in the morning than in the afternoon and the number of sunny days versus cloudy days in different months.] *MLS Connections:* *Math - K.NS.A, K.GM.A.1, K.GM.B.3*	1.ESS2.D.1 Identify patterns indicating relationships between observed weather data and weather phenomena (e.g., temperature and types of precipitation, clouds and amounts of precipitation). *MLS Connections:* *Math - None*		3.ESS2.D.1 Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season. [Clarification Statement: Examples of data could include average temperature, precipitation, and wind direction.] *MLS Connections -* *Math - 3.GM.B.7, 3.GM.B.8, 3.DS.A.1, 3.DS.A.2* 3.ESS2.D.2 Obtain and combine information to describe climates in different regions of the world. *MLS Connections -* *Math - None*		

	ESS2 - Earth's Systems					
	Grade K	**Grade 1**	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**
E **Biogeology**	K.ESS2.E.1 With prompting and support, construct an argument using evidence for how plants and animals (including but not limited to humans) can change the environment to meet their needs. *MLS Connections:* *Math - None*					

	ESS3 - Earth and Human Activity					
	Grade K	**Grade 1**	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**
A **Natural Resources**	K.ESS3.A.1 Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live. *MLS Connections:* *Math - K.NS.A*				4.ESS3.A.1 Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans. [Clarification Statement: Examples of solutions could include designing an earthquake resistant building and improving monitoring of volcanic activity.] *MLS Connections:* *Math - 4.RA.A.1*	
	ESS3 - Earth and Human Activity					
	Grade K	**Grade 1**	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**
B **Natural Hazards**	K.ESS3.B.1 Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment. *MLS Connections:* *Math - None*			3.ESS3.B.1 Make a claim about the merit of an existing design solution (e.g. levies, tornado shelters, sea walls, etc.) that reduces the impacts of a weather-related hazard. [Clarification Statement: Examples of design solutions to weather-related hazards could include barriers to prevent flooding, wind resistant roofs, and lightning rods.] *MLS Connections:* *Math - None*		

	ESS3 - Earth and Human Activity					
	Grade K	**Grade 1**	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**
C **Human Impacts on Earth's Systems**						5. ESS3.C.1 Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment. *MLS Connections:* *Math - None*

	ETS1 - Engineering Design					
	Grade K	**Grade 1**	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**
A **Defining and Delimiting Engineering Problems**	K.ETS1.A.1 Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool. *MLS Connections: Math - 2.DS.A.3, 2.DS.A.4, 2.DS.A.5*	1.ETS1.A.1 Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool. *MLS Connections: Math - 2.DS.A.3, 2.DS.A.4, 2.DS.A.5*	2.ETS1.A.1 Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through the development of a new or improved object or tool. *MLS Connections: Math - 2.DS.A.3, 2.DS.A.4, 2.DS.A.5*	3.ETS1.A.1 Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost. *MLS Connections: Math - 3.RA.A*	4.ETS1.A.1 Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost. *MLS Connections: Math - 4.RA.A*	5.ETS1.A.1 Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost. *MLS Connections: Math - 5.RA.A, 5.RA.B*

	ETS1 - Engineering Design					
	Grade K	**Grade 1**	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**
B **Developing Possible Solutions**	K.ETS1.B.1 Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem. *MLS Connections:* *Math - None*	1.ETS1.B.1 Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem. *MLS Connections:* *Math - None*	2.ETS1.B.1 Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem. *MLS Connections:* *Math - None*	3.ETS1.B.1 Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem. *MLS Connections:* *Math - 3.RA.A*	4.ETS1.B.1 Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem. *MLS Connections:* *Math - 4.RA.A*	5.ETS1.B.1 Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem. *MLS Connections:* *Math - 5.RA.A, 5.RA.B*

	ETS1 - Engineering Design					
	Grade K	**Grade 1**	**Grade 2**	**Grade 3**	**Grade 4**	**Grade 5**
C **Optimizing the Solution Process**	K.ETS1.C.1 Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs. *MLS Connections: Math - 2.DS.A.3, 2.DS.A.4, 2.DS.A.5*	1.ETS1.C.1 Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs. *MLS Connections: Math - 2.DS.A.3, 2.DS.A.4, 2.DS.A.5*	2.ETS1.C.1 Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs. *MLS Connections: Math - 2.DS.A.3, 2.DS.A.4, 2.DS.A.5*	3.ETS1.C.1 Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved. *MLS Connections: Math - 3.RA.A*	4.ETS1.C.1 Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved. *MLS Connections: Math - 4.RA.A*	5.ETS1.C.1 Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved. *MLS Connections: Math - 5.RA.A, 5.RA.B*