Science Scope & Sequence 2019-2020 K-5

Month	Kindergarten	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5
September	**Humans and the Needs of Organisms** (8 weeks) Standards- K-LS1-1, K-ESS2-2, K-ESS3-3, K-2-ETS1-2 Phenomenon- What effect would humans building a hotel have on the plants and animals in the rainforest? Students create a poster to protect the plants and animals in the rainforest from being affected by a hotel being developed.	**Design from Nature** (12 weeks) Standard- 1-LS1-1, **K-2-ETS1-1, K-2-ETS1-3** Phenomenon- How can humans learn from the way plants and animals use their external parts to survive? Students will use what they learn about plant and animal structures to design a new tool.	**Needs and Interactions** (7 weeks) Standards- 2-LS2-1, 2-LS2-2, 2-LS4-1, **K-2-ETS1-1, K-2-ETS1-2, K-2-ETS1-3** Phenomenon- What do plants and animals need to survive, grow, and reproduce? The student's mission is to draw and label a restored habitat that was once destroyed by fire.	**Animal Development and Survival** (5 weeks) Standards- 3-LS1-1, 3-LS2-1 Phenomenon- What information can we display in a visitors' center about our new animal? The student's mission is to research an animal and its environment in order to create a diorama showing the plant and animal life cycles and the benefits of the animal living in a group.	**Organism Structures and Behavior** (4 weeks) Standards- 4-LS1-1, 4-LS1-2, **3-5-ETS1-1, 3-5-ETS1-2** Phenomenon- How can we group organisms by their best sense receptors, and describe how those sense receptors help the animals survive? The student's mission is to design a zoo that is organized by grouping animals with the best sense receptors, and to describe how having those sense receptors helps animals survive. In addition, students will design a scavenger hunt for students who go on field trips to the zoo.	**Human Impact on the Earth's Systems** (6 weeks) Standards- 5-ESS2-1, 5-ESS2-2, 5-ESS3-1, **3-5-ETS1-1, 3-5-ETS1-2** Phenomenon- What role does water play on Earth, and what steps can be taken to conserve it? Students will create a special TV news report about water on Earth and how it can be conserved.
October				**Environments and the Traits of Organisms** (10 weeks) Standards- 3-LS3-1, 3-LS3-2, 3-LS4-3, 3-LS4-4, **3-5-ETS1-2, 3-5-ETS1-1** Phenomenon- How can an animal adapt to a new environment? The student's mission is to write and perform a play about an animal family's	**Changes Over Time to Earth's Surface and Resources** (12 weeks) Standards- 4-ESS1-1, 4-ESS2-1, 4-ESS2-2, 4-ESS3-1, 4-ESS3-2, **3-5-ETS1-1, 3-5-ETS1-2, 3-5-ETS1-3** Phenomenon- What types of changes to Earth's surface have occurred over time, and why?	
November	**Dealing with Weather** (10 weeks) Standards- K-ESS2-1, K-ESS3-2, K-PS3-1, KPS3-2, **K-2-ETS1-1** Phenomenon- How can we respond to different weather conditions and the effects of the sun?		**Dealing with Changes to Earth** (7 weeks) Standards- 2-ESS1-1, 2-ESS2-1, **K-2-ETS1-1, K-2-ETS1-2, K-2-ETS1-3** Phenomenon- How do slow and fast changes to Earth affect the landscape?			**Matter and Energy Flow in an Ecosystem** (9 weeks) Standards- 5-PS3-1, 5-LS1-1, 5-LS2-1 Phenomenon- How can a self-sustaining garden be designed that would provide enough food for the community?

	Students apply knowledge of weather conditions and the effects of the Sun in order to build a playground cover that protects against different types of weather.		Students will determine what slow and fast changes to a landscape are caused by mudslides, and come up with a prevention plan.	struggle to survive in a new environment.	The student's mission is to create an ad to attract new workers to a coal-mining project.	The student's mission is to design a self-sustaining garden that provides food for the community.
December		**Parents and Their Offspring** (7 weeks) Standards- 1-LS1-2, 1-LS3-1 Phenomenon-Do baby animals look exactly like their parents? Do new plants look exactly like the parent plant? Students will apply their knowledge of trait inheritance and variation with plants and animals and of protective behaviors by writing a segment for a wildlife TV show.		**Organisms Change over Time** (8 weeks) Standards- 3-LS4-1, 3-LS4-2 Phenomenon- What can a fossil tell us about its life and the environment in which it lived? The student's mission is to learn about how fossils can identify what the animal looked like, where it lived, how its traits helped it survive, and what might have caused it to die. The student will then design a poster showing what the student learned about a specific fossil.		
January			**Mapping Land and Water** (5 weeks) Standards- 2-ESS2-2, 2-ESS2-3, Phenomenon- How can the shapes and types of landforms and water in an area be presented? The student's mission is to create a map that includes icebergs, the coastline, islands, and any landforms visible from the ocean.			**Interactions in Matter** (8 weeks) Standards- 5-PS1-1, 5-PS1-2, 5-PS1-3, 5-PS1-4 Phenomenon- How can we use the properties of matter to clean up water after a natural disaster? Students will use their knowledge of the properties of matter to design a plan for cleaning up the water supply after a tsunami.
February	**Using Force to Change Motion** (5 weeks) Standards- K-PS2-1, K-PS2-2, **K-2-ETS1-1** Phenomenon-How can we change an object's motion? Students will create a game using pushes and pulls.	**Patterns in the Sky** (5 weeks) Standards- 1-ESS1-1, 1-ESS1-2 Phenomenon- What patterns do we see in the day and night sky? Students will apply their knowledge of the patterns of sunrise, sunset, and the motion of the Sun, Moon, and stars by creating a new		**Dealing with Hazardous Weather Worldwide** (6 weeks) Standards- 3-ESS2-1, 3-ESS2-2, 3-ESS3-1, **3-5-ETS1-1, 3-5-ETS1-2, 3-5-ETS1-3** Phenomenon- What information and suggestions can we give the community to help reduce the impact of	**Using Energy Transformations** (9 weeks) Standards- 4-PS3-1, 4-PS3-2, 4-PS3-3, 4-PS3-4, **3-5-ETS1-1, 3-5-ETS1-2, 3-5-ETS1-3** Phenomenon- Why is a collision dangerous to our ship, and how can we warn the crew?	
March			**Selecting and Using Materials in the Design Process** (8 weeks) Standards- 2-PS1-1, 2-PS1-2, 2-PS1-3, 2-PS1-4, **K-2-ETS1-1, K-2-ETS1-2, K-2-ETS1-3** Phenomenon- Based on their physical properties,			**Observing Our Sky** (7 weeks) Standards- 5-ESS1-1, 5-ESS1-2, 5-PS2-1, **3-5-ETS1-1 , 3-5-ETS1-2** Phenomenon- How can a planetarium be designed in which people learn about space and the effects of

		alarm clock for the Space Museum gift shop.	what materials are best suited to protect food and provide shelter on a rainy-day camping trip? The student's mission is to create lists of materials that have the ability to keep food and drinks cold; foods that do not change their state or shape when heat is added and then when they are recooled; and materials that, along with a backpack, could be used to make a shelter. The student will then create a blueprint of materials that could be taken on a rainy-day camping trip, and that fit in the backpack.	high-risk weather in the area? The student's mission is to develop a presentation for the community on how to reduce the impact of the high-risk weather that could occur in their community.	The student's mission is to develop an electrical warning system to alert astronauts on a spaceship of potential asteroid collisions.	gravity, rotation, and orbiting? The student's mission is to design a planetarium combined with a thrill ride that lets people experience and learn about the Sun, the Moon, Earth, and the stars, as well as the motions of Earth and the Moon.
April **May**	**Living Things and Their Habitats** (7 weeks) Standards- K-ESS2-2, K-ESS3-1, **K-2-ETS1-1, K-2-ETS1-2, K-2-ETS1-3** Phenomenon- How can an animal meet its needs in a human-made habitat? Students will write a story from the perspective of an animal moving into a new exhibit at the zoo.	**Communicating with LIght and Sound** (8 weeks) Standards- 1-PS4-1, 1-PS4-2, 1-PS4-3, 1-PS4-4, **K-2-ETS1-2 , K-2-ETS1-1, K-2-ETS1-2** Phenomenon-How can light and sound be used to communicate? Students will design a device that uses light and sound as a new form of communication.		**Using Magnetic Force** (4 weeks) Standards- 3-PS2-1, 3-PS2-2, 3-PS2-3, 3-PS2-4, **3-5-ETS1-1, 3-5-ETS1-2, 3-5-ETS1-3** Phenomenon- What happens when different objects interact? The students will design a contraption for a new exhibit that will feature a series of balanced, unbalanced, and magnetic forces in order to move an object.	**Communicating Using Wave** (9 weeks) Standards- 4-PS4-1, 4-PS4-2, 4-PS4-3, **3-5-ETS1-1, 3-5-ETS1-2, 3-5-ETS1-3** Phenomenon- What system using light or sound to communicate could reach people over a distance? The student's mission will be to create an emergency signaling system and show how it interacts with the eye or ear.	