CACS Science Kindergarten

Month	Content Standards/Objectives	Instructional Concepts	Assessment	Resources
Timeline of instruction by month.	What will be taught? NJ Student Learning Standards			What materials and resources will be used to achieve the objective?
September - November **Unit 1** *Weather is ongoing through each month* *Teacher should integrate Let Me Learn scope and sequence into science lessons*	**K-ESS2-1** Use and share observations of local weather conditions to describe patterns over time. **K- ESS3-2** Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to severe weather. **K-2 ETS1-1** Ask questions, make observations, and gather information about a situation people want to change to defne a simple problem that can be solved through the development of a new or improved object or tool. **ELA RI.K.1, W.K.2, SL.K.3, SL.K.5** **Math MP. 2, MP.4, K.CC**	**The learners will know that:** ● weather is the combination of sunlight, wind, snow or rain, and temperature in a particular region at a particular time. ● people measure these conditions to describe and record the weather and to notice the patterns over time. ● people look for patterns in the weather data when they organize and order when making observations about the world. ● patterns in the natural world can be observed, used to describe	**Learners who understand the concepts are able to:** ● observe patterns in a weather chart and find evidence of the following: ○ whether there are more sunny or cloudy days ○ the warmest week ○ comparison between current and previous weeks in relationship to how sunny or cloudy each week is. ○ comparison of temperatures	**Unit 1 - Model Curriculum, modifications, and additional resources:** http://www.state.nj.us/education/modelcurriculum/sci/ku1.pdf ● **Scijinks** - ***It's All About the Weather*** https://scijinks.gov ● Local weather report ● Weather Chart ● Mystery Science **Unit 4 - Model Curriculum Modifications, and Additional Resources:** **http://www.state.nj.us/education/modelcurriculum/sci/ku4.pdf**

		phenomena, and used as evidence. ● some kinds of severe weather are more likely than others in a given region. ● weather scientists forecast severe weather so that communities can prepare for and respond to these events. ● events have causes that generate observable patterns. ● people encounter questions about the natural worlds every day. ● people depend on various technologies in their lives; human life would be very different without technology. ● before beginning to design a solution, it is important to clearly understand the problem. ● asking questions, making observations, and gathering information are helpful in thinking about problems.	between current and previous weeks. ● observe patterns in events generated by cause and effect relationships. ● read grade-appropriate texts and/or use media to obtain scientific information to describe patterns in the natural world. ● ask questions based on observations to find more information about the designed world. ● define a simple problem that can be solved through the development of a new or improved object or tool. ● ask questions, make observations and gather information about a situation people want to change in order to development of a new or improved	● Foss Science kit ● Mystery Science ● Monarch Teacher Network binder ● Teacher created materials ● Appropriate literature

Unit 4 **Basic Needs of Living Things** *Teacher should integrate Let Me Learn scope and sequence into science lessons* **Unit 4 continued**	**K-LS1-1** Use observations to describe patterns of what plants and animals (including humans) need to survive. **K-ESS3-1** Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live. **K-ESS2-2.** Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs. **ELA W.K-2, 8, SL. K. 1, 4, 5; L. K.5c** **Math MP. 2, K.CC 1-3, K.MD. 2-3**	● a situation that people want to change or create can be approached as to be a problem to be solved through engineering. **The learners will know that:** ● scientists look for patterns and order when making observations about the world ● patterns in the natural and human designed worlds can be observed and used as evidence ● events have causes that generate observable patterns ● living things need food, water and air and resources from the land, and in the places that have the things they need in order to live and grow. ● animals obtain their food from plants or other animals. ● plants need water and light to live and grow. ● humans use natural	object or tool. **Learners who understand the concepts are able to:** ● analyze data ● use observations (firsthand or from media) to describe patterns in the natural world ● compare and contrast what plants and animals need to survive ● use evidence to support their understanding of the relationship between living things and where they live. ● use evidence to support their position in an argument.	

		resources for everything they do. ● systems in the natural and designed world have parts that work together ● asking questions, making observations, and gathering information are helpful in thinking about problems. ● designs can be conveyed through sketches, drawings or physical models. These representations are useful in communicating ideas for a problem's solution to other people.		
December - February *See September - November for on-going Unit 1 - Weather* **Unit 2**	**K-PS2-1** Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the	**The learners will know that:** ● people use different ways to study the world. ● simple tests can be	**Learners who understand the concepts are able to:** ● with guidance, design simple tests	**Unit 2 - Model Curriculum, Modifications, and Additional Resources:** http://www.state.nj.us/education/modelcurriculum/sci/ku2.

Pushes and Pulls *Teacher should integrate Let Me Learn scope and sequence into science lessons*	motion of an object **K-PS2-2** Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or pull. **K-2 ETS1-3** Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs. **ELA -** RI.K.1, W.K.7, SL.K.3 **Math -** MP.2, MP. 4, MP.5, K. MD.A.1, K.MD.A.2	designed to gather evidence to support or refute student ideas about causes. ● pushes and pulls can have strengths and directions. ● pushing and pulling on an object can change the speed or direction of its motion and can start or stop it. ● when objects touch or collide,they push on one another and can change motion. ● a bigger push or pull makes things speed up or slow down more quickly. ● simple tests can be designed to gather evidence to support or refute student ideas about causes. ● pushes and pulls can have different strengths and directions. ● pushing or pulling on an object can change the speed or direction of its motion and can start or stop it.	to gather evidence to support or refute ideas about cause-and-effect relationships. ● analyze data from tests of an object or tool to determine if it works as intended. ● analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs. ● analyze data to determine whether a design solution works as intended to change the speed or direction of an object with a push or a pull. ● examples of problems requiring a solution could include having a marble or other object move a certain distance, follow a particular	pdf ● Foss Science kits ● Mystery Science ● Teacher created material ● Appropriate literature

		• A situation that people want to change or create can be approached as a problem to be solved through engineering. Such problems may have many acceptable solutions. • because there is always more than one possible solution to a problem, it is useful to compare and test designs.	path, and knock down other objects. • examples of solutions could include tools such as a ramp to increase the speed of the object and a structure that would cause an object such as a marble or ball to turn. *(Assessment does not include friction as a mechanism for change in speed.)*	

March - April *See September - November for on-going Unit 1 - Weather* **Unit 3 Effects of the Sun** *Teacher should integrate Let Me Learn scope and sequence into science lessons*	**K-PS3-1.** Make observations to determine the effect of sunlight on Earth's surface. **K-PS3-2.** Use tools and materials to design and build a structure that will reduce the warming effect of sunlight on an area.* **K-2-ETS1-1.** 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. **K-2-ETS1-2.** 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. **K-2 ETS1-3**. Analyze data from tests of two objects designed to solve the same problem to compare the strengths and weaknesses of how each performs. **ELA -** W.K.7, K.MD.A.2, RI.2.1, W.2.6, SL.2.5 **Math -** K.MD.A.2, MP.2, MP.4,	**The learners will know that:** ● scientists use different ways to study the world. ● events have causes that generate observable patterns. ● sunlight warms Earth's surface. ● Events have causes that generate observable patterns. ● the shape and stability of structures of natural and designed objects are related to their function(s). ● designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to other people. ● because there is always more than one possible solution to a problem, it is useful to compare and test designs. ● sunlight warms Earth's surface.	**Learners who understand the concepts are able to:** ● observe patterns in events generated by cause-and-effect relationships. ● make observations (firsthand or from media) to collect data that can be used to make comparisons. ● make observations to determine the effect of sunlight on Earth's surface. (Assessment of temperature is limited to relative measures such as warmer/cooler.) ● examples of Earth's surface could include: Sand & Soil Rocks & Water ● observe patterns in events generated by cause-and-effect relationships. ● describe how the shape and stability	**Unit 3 Model Curriculum, Modifications, and Additional Resources:** http://www.state.nj.us/education/modelcurriculum/sci/ku3.pdf ● Foss Science Kit ● Mystery Science ● Teacher created materials ● Appropriate literature

	MP.5, 2.MD.D.10		of structures are related to their function. ● use tools and materials provided to design and build a device that solves a specific problem or a solution to a specific problem. ● use tools and materials to design and build a structure (e.g., umbrellas, canopies, tents) that will reduce the warming effect of sunlight on an area.	
May-June **See September -** November for ongoing Unit 1- Weather **Unit 5 Basic Needs of Humans** *Teacher should integrate Let Me Learn scope and sequence into science lessons*	**K-ESS3-3.** Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment. **K-2-ETS1-1.** 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	**The learners will know that:** ● events have causes that generate observable patterns. ● things that people do to live comfortably can affect the world around them. ● people can make choices that reduce their impacts on the land, water, air, and other living things.	**Learners who understand the concepts are able to:** ● observe patterns in events generated due to cause-and-effect relationships. ● communicate solutions with others in oral and/or written forms using models and/or drawings that provide detail about	**Unit 5 - Model Curriculum, Modifications, and Additional Resources:** http://www.state.nj.us/education/modelcurriculum/sci/ku5.pdf ● Foss Science Kit ● Mystery Science ● Teacher created materials ● Appropriate literature

	tool. **ELA** W.K.2, RI.2.1, W.2.6, W.2.8 **Math** MP. 2, MP. 4, MP.5, 2. MD. D. 10	● designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to other people. ● a situation that people want to change or create can be approached as a problem to be solved through engineering. ● asking questions, making observations, and gathering information are helpful in thinking about problems. ● before beginning to design a solution, it is important to clearly understand the problem.	scientific ideas. ● communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment. ● ask questions based on observations to find more information about the natural and/or designed world. ● define a simple problem that can be solved through the development of a new or improved object or tool. ● ask questions, make observations, and gather information about a situation that people want to change in order to define a simple problem that can be solved through the development of a new or improved object or tool.	