Kindergarten Science Curriculum Map 2022

Pacing Guide	Standard Code & Indicator	Sample Learning Activities	Sample Assessments	Additional Standards

August-September Engineering Design	**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.	-How do you make an observation? -Explore the 5 senses. -Participate in observations to gather information about a situation or a problem -Based off of observations, create a solution. -Ask questions in order to make improvements on a solution. -Develop a model to identify how an object can help solve a given problem -Collect and analyze data from testing two objects ability to solve a problem -Discuss strengths/weaknesses of tests -Brainstorm and implement change to solutions based off of tests -A situation that people want to change or create can be approached as a problem to be solved through engineering. -Ask questions, make observations, and gather information about a situation people want to change (e.g., climate change) to define a simple problem that can be solved through the development of a new or improved object or tool. -Before beginning to design a	**Formative Assessments:** Student Participation Classwork Class discussions **Summative Assessments:** "My Solution" Planning & Reflection Page **Benchmark:** BOY Benchmark **Accommodations and Modifications**	**Interdisciplinary Standard:** SL.K.1.A Students will participate in discussions with peers about scientific observations and suggestions for solution revisions **Technology Standard:** 8.2.2.A.5 Collaborate to design a solution to a problem affecting the community.

October-November Motion and Stability: Forces and Interactions	**K-PS2-1.** 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. **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 a pull	Define: Push and Pull Identify pushes and pulls in the environment around us Pushes and pulls can have different strengths and directions. Communicate using position words to tell where objects are located. Investigate how a push or pull can change how objects move. Pushing or pulling on an object can change the speed or direction of its motion and can start or stop it. Compare objects by how fast they move. Investigate effects of different strengths or different directions of pushes and pulls on the motion of an object. Brainstorm, create and revise solutions to change the speed/direction of an object. 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. **Instructional Resources:** *National Geographic Science* **Teacher Technology:** Actiview	**Formative Assessments:** Push and Pull- Car and Ramp Activity Position Words Sort Student Participation Classwork **Summative Assessment:** Push and Pull Activities **Accommodations and Modifications**	**Interdisciplinary Standard** SL.K.3 Ask and answer questions in order to seek help, get information, or clarify something that is not understood. **Technology Standard:** 8.2.2.ED.2: Collaborate to solve a simple problem, or to illustrate how to build a product using the design process.

December-January Energy	**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.	Observe the sun, moon, and clouds can be seen in the sky. Describe patterns that show where the sun is in the sky at different times of day. Communicate that the sun gives us light and can make us warm. Investigate: What melts in the sun? Brainstorm, create and revise a structure that reduce the warming effect of sunlight on an area **Instructional Resources:** *National Geographic Science* **Teacher Technology:** Actiview Promethean Board YouTube Videos BrainPopJr. **Student Technology:** iPad Kahoot!	**Formative Assessments:** Classwork Student Participation Weather Patterns Activity **Summative Assessment:** Sunlight Effect Planning & Reflection Page **Accommodations and Modifications**	**Interdisciplinary Standard:** 8.1.2.DA.4: Make predictions based on data using charts or graphs. **Technology Standard:** 8.1.2.DA.4: Make predictions based on data using charts or graphs.

February-March Earth Systems	**K-ESS2-1** Use and share observations of local weather conditions to describe patterns over time. **K-ESS2-2** Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs. **K-ESS3-2** Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather.	Define weather being 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 patterns over time. Observe and record weather Identify and discuss: weather patterns Understand and practice: weather forecasting How can forecasting weather help us be prepared? Participate in Forecast Preparation Challenge Identify and explore: environmental needs of plants vs animals Discuss and list: ways animals/plants can change their environment Investigate how living things affect where they live **Instructional Resources:** *National Geographic Science* **Teacher Technology:** Actiview Promethean Board YouTube Videos BrainPopJr. **Student Technology:** iPad Kahoot!	**Formative Assessments:** "Find that Shade" Weather Tracker Animal Adventure Activity Classwork Student Participation **Summative Assessment:** What's the Weather? Assessment **Accommodations and Modifications**	**Interdisciplinary Standard:** W K.2 What's the Weather? Forecast Writing **Technology Standard:** 8.1.2.DA.4: Make predictions based on data using charts or graphs.

April-June From Molecules to Organisms: Structures and Processes	**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-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.*	Classify non living things. Obtain information about living things. Conduct investigations to describe the pattern of what plants need. Provide evidence of what animals need. How do they obtain these needs? Create a model to represent the needs of an animal/plant and the place they live Explore and create solutions that can help the environment **Instructional Resources:** *National Geographic Science* **Teacher Technology:** Actiview Promethean Board YouTube Videos BrainPopJr. **Student Technology:** iPad Kahoot!	**Formative Assessments:** Parts of a Plant Picture Sort Human Needs Activity Classwork **Summative:** Animal/Plant Presentation **Benchmark:** EOY Benchmark **Accommodations and Modifications**	**Interdisciplinary Standard:** RL.K.1 With prompting and support, ask and answer questions about key details in a text **Technology Standard:** 8.1.2.DA.4: Make predictions based on data using charts or graphs.

Alternative Assessments: My New Toy; Weather Preparation Kit, Worksheets/Activities
21st Century Standards: 9.2.4.A.4, 9.2.4.A.3
21st Century Skills: Innovation, Communication, Creativity & Critical Thinking
Career Ready Practices: CRP 2, CRP4