

Standards Curriculum Map Bourbon County Schools

Level: 1st

Grade and/or Course: Science

Updated/Created: May 2020

Physical Science Life Science Earth & Space Science **Engineering**

Unit 1: Review Kindergarten Skills

Days:	KAS:	Skills/Targets:	Vocabulary:	Activities/ Strategies:	Resources Used for Implementation of Science/Engineering Practices, Core Ideas and Crosscutting Concepts
1-20 (weeks 1-4)	<p>K-LS1-1 Use observations to describe patterns of what plants and animals (including humans) need to survive.</p> <p>K-ESS2-2 Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.</p> <p>K-ESS3-1 Use a model to represent the relationship between the needs of different plants or animals (including</p>	<p>I can review skills from Kindergarten.</p> <p>I can identify the needs of plants and animals.</p> <p>I can understand how plants and animals can change the environment to meet their needs.</p> <p>I can model the relationship between the needs of plants and animals and where they live.</p>	<p>Living Nonliving Plant Animal Environment Habitat Basic Needs Survive Life Cycle Seed Root Stem Sprout Adaptation Nocturnal Wild</p> <p>Weather</p>	<p>-build habitats</p> <p>-sort animals with the correct habitats</p> <p>-sort recyclable items</p> <p>-observe patterns in local weather conditions</p> <p>-graph local weather</p>	<p>Generation Genius: "Plants Need Water and Light", "Animals Need Food", "Living vs. Non-Living Things", "Living Things Change Their Environment", "Habitats", "Reducing our Impact on Earth", "Natural Resources", "Sunlight Warms the Earth", "Introduction to weather"</p> <p>Brainpop Jr: "Reduce, Reuse, Recycle", "Seasons", "Fall", "Spring", "Summer", "Winter"</p>

<p>humans) and the places they live.</p> <p>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.</p> <p>K-PS3-1 Make observations to determine the effect of sunlight on Earth's surface.</p> <p>K-ESS2-1 Use and share observations of local weather conditions to describe patterns over time.</p> <p>K-ESS3-2 Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather.</p> <p>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.</p> <p>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.</p>	<p>I can identify and share solutions that will reduce the impact of humans on the land, water, air, and/or other living things.</p> <p>I can observe the effect of sunlight on the Earth's surface.</p> <p>I can observe and share weather conditions and describe the patterns over time.</p> <p>I can ask questions to gain information about weather forecasting and preparing and responding to severe weather.</p> <p>I can create a drawing to show how the shape of an object helps it work to solve a problem.</p> <p>I can analyze data from two tests designed to solve a problem to compare the strengths and weaknesses of how they perform</p>	<p>Instruments Patterns Observations Prepare Respond Season Storm</p> <p>Observe Collect data Problem solving Draw a model Illustrate Label Identify Compare Contrast</p>	<p>-sort living and non-living things</p> <p>-create life cycle of different plants/animals</p>	
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	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.	I can ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through a new or improved object or tool.			
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HOT questions: Why do plants and animals (humans) need food? How do plants and animals get their food? How do animals create their homes? How do animals change their environments? How do plants change through the seasons? How do humans change their environment? How do plants change the environment? Describe a habitat for a polar bear. Describe a habitat for a black bear? How are they different and why? How do animals survive in the desert? How does the sun change through the seasons? What are different types of weather that occur throughout the seasons? How can weather change over time? How can you prepare for different weather conditions? How can weather change during each season?

Evidence of Literacy and Writing in Science: **RI.K.1** With prompting and support, ask and answer questions about key details in a text. (K-ESS2-2), (K-ESS3-2) **W.K.1** Use a combination of drawing, dictating, and writing to compose opinion pieces in which they tell a reader the topic or the name of the book they are writing about and state an opinion or preference about the topic or book. (K-ESS2-2) **W.K.2** Use a combination of drawing, dictating, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic.(K-ESS2-2),(K-ESS3-3) **W.K.7** Participate in shared research and writing projects (e.g., explore a number of books by a favorite author and express opinions about them). (K-LS1-1), (K-PS3-1), (K-PS3-2), (K-ESS2-1)

Unit 2: Space Systems: Patterns and Cycles

Days:	KAS:	Skills/Targets:	Vocabulary:	Strategies/ Activities:	Resources Used for Implementation of Science/Engineering Practices, Core Ideas and Crosscutting Concepts
21-60 (weeks 5-12)	<p>1-ESS1-1 Use observations of the sun, moon, and stars to describe patterns that can be predicted.</p> <p>1-ESS1-2 Make observations at different times of the year to relate the amount of daylight to the time of year.</p> <p>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.</p> <p>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.</p> <p>K-2-ETS1-1. Ask questions, make observations, and gather information about a situation people want to change to define a simple problem that</p>	<p>I can observe the sun, moon, and stars and describe patterns that can be predicted.</p> <p>I can make observations on the amount of daylight found at different times of the year.</p> <p>I can analyze data from two tests designed to solve a problem to compare the strengths and weaknesses of how they perform.</p> <p>I can create a drawing to show how the shape of an object helps it work to solve a problem.</p> <p>I can ask questions, make observations, and gather information about a situation people want to change to</p>	Observations Orbit Moon Phases East West Constellation Patterns Predict Sun Moon Stars Visible Day Night Describe Year Daylight Time Breakfast Dinner Morning Evening Winter Spring Fall Observe Collect data	<p>-create moon phases with oreos</p> <p>-virtual reality of the moon</p> <p>-create shadows by using an object and a flashlight (the sun), positioning the flashlight in different ways</p> <p>-model Earth's rotation with a globe and students' own bodies to show day/night</p> <p>-create a sundial to show position of shadows at different times of the day</p> <p>-virtual reality goggles (exploring space/planets etc.)</p> <p>-moon phase sort</p>	<p>Generation Genius: "Patterns in the Sky", "Four Seasons and Day Length"</p> <p>Brainpop Jr: "Earth", "Mars", "Moon", "Solar System", "Sun"</p> <p>Mystery Science: Spinning Sky: Sun, Moon & Stars (6 lessons) https://mysteryscience.com/sky/sun-moon-stars</p>

	can be solved through the development of a new or improved object or tool.	define a simple problem that can be solved through a new or improved object or tool.	Problem solving Draw a model Illustrate Label Identify Compare Contrast	-nightly moon observations	
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HOT questions: How can you make a shadow using what you have learned? How does the sun affect the length of a day? How does a season relate to the length of daylight hours? Can light bend around corners? Why is the sky dark at night?

Evidence of Literacy and Writing in Science: **W.1.7** Participate in shared research and writing projects (e.g., explore a number of “how-to” books on a given topic and use them to write a sequence of instructions). (1-ESS1-1),(1-ESS1-2) **W.1.8** With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. (1-ESS1-1),(1-ESS1-2)

Unit 3: Waves: Light and Sound

Days:	KAS:	Skills/Targets:	Vocabulary:	Strategies/ Activities:	Resources Used for Implementation of Science/Engineering Practices, Core Ideas and Crosscutting Concepts
61-100 (weeks 13-20)	<p>1-PS4-1 Plan and conduct investigations to provide evidence that vibrating materials can make sound and that sound can make materials vibrate.</p> <p>1-PS3-2 Make observations to construct an evidence-based account that objects can be seen only when illuminated.</p> <p>1-PS4-3 Plan and conduct an investigation to determine the effect of placing objects made with different materials in the path of a beaming light.</p> <p>1-PS4-4 Use tools and materials to design and build a device that uses light or sound to solve the problem of communicating over a distance.</p> <p>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</p>	<p>I can plan and conduct investigations to provide evidence that vibrations make sound and sound causes vibrations.</p> <p>I can observe that objects can be seen only when illuminated.</p> <p>I can plan and conduct investigations to determine the effect of placing objects made with different materials in the path of light.</p> <p>I can design and build a device that uses light or sound to communicate over a distance.</p> <p>I can ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be</p>	<p>Plan Investigation Evidence Materials Vibrate Sound Volume Pitch</p> <p>Illuminate Object Light Source</p> <p>Shadow Translucent Transparent Opaque</p> <p>Observe Collect data Problem solving Draw a model Illustrate Label Identify Compare Contrast</p>	<p>-create string phones to represent how sound travels</p> <p>-examples of vibrating objects (ex: plucking a string)</p> <p>-use a flashlight and objects made of different materials that are translucent, transparent, and opaque to observe the effect</p>	<p>Generation Genius: "Introduction to Sound", "Introduction to Light", "Communication Over Distances"</p> <p>Brainpop Jr: "Light", "Sound"</p> <p>Mystery Science: Properties of Lights and Sound (6 Lessons) https://mysteryscience.com/light/properties-of-light-sound</p>

	<p>solved through the development of a new or improved object or tool.</p> <p>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.</p> <p>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.</p>	<p>solved through a new or improved object or tool.</p> <p>I can create a drawing to show How the shape of an object helps it work to solve a problem.</p> <p>I can analyze data from two tests designed to solve a problem to compare the strengths and weaknesses of how they perform.</p>			
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HOT questions: How are sound waves and light waves similar?

Evidence of Literacy and Writing in Science: **W.1.2** Write informative/explanatory texts in which they name a topic, supply some facts about the topic, and provide some sense of closure. (1-PS4-2) **W.1.7** Participate in shared research and writing projects (e.g., explore a number of “how-to” books on a given topic and use them to write a sequence of instructions). (1-PS4-1), (1-PS4-2), (1-PS4-3), (1-PS4-4) **W.1.8** With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. (1-PS4-1),(1-PS4-2),(1-PS4-3)

Unit 4: Structure, Function, and Information Processing: Focus on Animals

Days:	KAS:	Skills/Targets:	Vocabulary:	Strategies/ Activities:	Resources Used for Implementation of Science/Engineering Practices, Core Ideas and Crosscutting Concepts
101-140 (weeks 21-28)	<p>1-LS1-1 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.</p> <p>1-LS1-2 Read texts and use media to determine the patterns in behavior of parents and offspring that help offspring survive.</p> <p>1-LS3-1 Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.</p> <p>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.</p> <p>K-2-ETS1-3. Analyze data from tests of two objects designed to solve the same problem to</p>	<p>I can design a solution to a human problem by mimicking how animals use their external parts to help them survive, grow, and meet their needs.</p> <p>I can identify patterns in behavior of parents and offspring that help offspring survive through texts and media.</p> <p>I can observe and identify ways young animals are similar and different from their parents.</p> <p>I can create a drawing to show How the shape of an object helps it work to solve a problem.</p> <p>I can analyze data from two tests designed to solve a</p>	<p>Materials Design Solution Human Problem Mimicking Animals External Internal Survive Grow Needs</p> <p>Patterns Behavior Offspring Predators Danger</p> <p>Construct Young Parents</p> <p>Observe Collect data Problem solving Draw a model Illustrate Label</p>	<p>-use baby/parent pictures of animals to make observations about similarities and differences</p> <p>-needs of animals sort</p> <p>-virtual reality goggles (animals)</p> <p>-food chain cut/paste</p>	<p>Generation Genius: “Inspired by Nature (Biomimicry)”, “Animals Help Their Babies Survive”, “Introduction to Traits”</p> <p>Brainpop Jr: “Butterflies”, “Camouflage”, “Classifying Animals”, “Fish”, “Food Chain”, “Frogs”, “Hibernation”, “Insects”, “Mammals”, “Migration”</p> <p>Mystery Science: Plant and Animal Superpowers (6 Lessons) https://mysteryscience.com/powers/plant-animal-structures-and-survival</p>

	<p>compare the strengths and weaknesses of how each Performs.</p> <p>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.</p>	<p>problem to compare the strengths and weaknesses of how they perform.</p> <p>I can ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through a new or improved object or tool.</p>	<p>Identify Compare Contrast</p>		
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HOT questions: Why do flying bees buzz? How are baby animals like/different from their parents?

Evidence of Literacy and Writing in Science: **RI.1.1** Ask and answer questions about key details in a text. (1-LS1-2),(1-LS3-1) **RI.1.2** Identify the main topic and retell key details of a text. (1-LS1-2) **RI.1.10** With prompting and support, read informational texts appropriately complex for grade. (1-LS1-2) **W.1.7** Participate in shared research and writing projects (e.g., explore a number of “how-to” books on a given topic and use them to write a sequence of instructions). (1-LS1-1),(1-LS3-1) **W.1.8** With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. (1-LS3-1)

Unit 5: Structure, Function, and Information Processing: Focus on Plants

Days:	KAS:	Skills/Targets:	Vocabulary:	Strategies/ Activities:	Resources Used for Implementation of Science/Engineering Practices, Core Ideas and Crosscutting Concepts
141-180 (weeks 29-36)	<p>1-LS1-1 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.</p> <p>1-LS1-2 Read texts and use media to determine the patterns in behavior of parents and offspring that help offspring survive.</p> <p>1-LS3-1 Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.</p> <p>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.</p> <p>K-2-ETS1-3. Analyze data from tests of two objects designed to solve the same problem to</p>	<p>I can design a solution to a human problem by mimicking how plants use their external parts to help them survive, grow, and meet their needs.</p> <p>I can identify patterns in behavior of parents and offspring that help offspring survive through texts and media.</p> <p>I can observe and identify ways young plants are similar and different from their parents.</p> <p>I can create a drawing to show how the shape of an object helps it work to solve a problem.</p> <p>I can analyze data from two tests designed to solve a problem to</p>	<p>Solution Human Problem Mimicking Plants External Internal Survive Grow Needs</p> <p>Patterns Behavior Offspring Predators Danger</p> <p>Construct Young Parents</p> <p>Observe Collect data Problem solving Draw a model Illustrate Label Identify Compare Contrast</p>	<p>-time lapse videos of plant growth</p> <p>-plant a seed/grow plants and make observations as it grows</p> <p>-plant needs sort</p> <p>-life cycle of plants cut/paste</p> <p>-chlorophyll paintings</p> <p>-"my seed" journal</p> <p>-grow a bean in a bag experiment</p> <p>-the seeds we eat (sensory science)</p>	<p>Generation Genius: "Inspired by Nature (Biomimicry)", "Animals Help Their Babies Survive", "Introduction to Traits"</p> <p>Brainpop Jr: "Parts of a Plant", "Plant Adaptations", "Plant Life Cycle", "Trees"</p> <p>Eric Carle- The Tiny Seed</p>

	<p>compare the strengths and weaknesses of how each Performs.</p> <p>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.</p>	<p>compare the strengths and weaknesses of how they perform.</p> <p>I can ask questions, make observations, and gather information about a situation people want to change to define a simple problem that can be solved through a new or improved object or tool.</p>			
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HOT questions: What does a plant need to survive?

Evidence of Literacy and Writing in Science: **RI.1.1** Ask and answer questions about key details in a text. (1-LS1-2),(1-LS3-1) **RI.1.2** Identify the main topic and retell key details of a text. (1-LS1-2) **RI.1.10** With prompting and support, read informational texts appropriately complex for grade. (1-LS1-2) **W.1.7** Participate in shared research and writing projects (e.g., explore a number of “how-to” books on a given topic and use them to write a sequence of instructions). (1-LS1-1),(1-LS3-1) **W.1.8** With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question. (1-LS3-1)