

# Grade K Curriculum Map – Science

2019-2020

TOPIC & MONTH	CONTENT	SKILLS	ASSESSMENT	Essential Question
<b>Engineering Design</b>  Dates	<ul style="list-style-type: none"> <li>Asking Questions and Defining Problems</li> <li>Developing and Using Models</li> <li>Analyzing and Interpreting Data</li> <li>ETS1.A Defining and Delimiting Engineering Problems</li> <li>ETS1.B Developing Possible Solutions</li> <li>ETS1.C Optimizing the Design Solution</li> <li>readings _“</li> </ul>	<ul style="list-style-type: none"> <li>A situation that people want to change or create can be approached as a problem to be solved through engineering.</li> <li>Asking questions, making observations, and gathering information are helpful in thinking about problems.</li> <li>Before beginning to design a solution, it is important to clearly understand the problem.</li> <li><b>Vocab:</b></li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>
	<b>STANDARDS:</b> <ul style="list-style-type: none"> <li>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.</li> <li>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.</li> <li>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.</li> </ul>			

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<b>Matter and Its Interactions</b>  Dates	<ul style="list-style-type: none"> <li>Planning and Carrying Out Investigations</li> <li>Analyzing and Interpreting Data</li> <li>PS1.A Structure and Properties of Matter</li> <li>readings</li> </ul>	<ul style="list-style-type: none"> <li>Different kinds of matter exist and many of them can be either solid or liquid, depending on temperature. Matter can be described and classified by its observable properties.</li> <li><b>Vocab:</b></li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>
	<b>STANDARDS:</b> <ul style="list-style-type: none"> <li>K-PS1-1. Plan and conduct an investigation to test the claim that different kinds of matter exist as either solid or liquid, depending on temperature.</li> </ul>			

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<p><b>Forces and Interactions: Pushes and Pulls</b></p> <p>Dates</p>	<ul style="list-style-type: none"> <li>Planning and Carrying Out Investigations</li> <li>Analyzing and Interpreting Data</li> <li>PS2.A Forces and Motion</li> <li>PS2.B Types of Interactions</li> <li>PS3.C Relationship Between Energy and Forces</li> <li>ETS1.A Defining Engineering Problems</li> <li>readings _“</li> </ul>	<ul style="list-style-type: none"> <li>Pushes and pulls can have different strengths and directions.</li> <li>Pushing or pulling on an object can change the speed or direction of its motion and can start or stop it.</li> <li>When objects touch or collide, they push on one another and can change motion.</li> <li>(NYSED) A push or a pull may cause stationary objects to move, and a stronger push or pull in the same or opposite direction makes an object in motion speed up or slow down more quickly.</li> <li>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.</li> <li><b>Vocab:</b></li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>
	<p><b>STANDARDS:</b></p> <ul style="list-style-type: none"> <li>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.</li> <li>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.</li> </ul>			

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<b>Interdependent Relationships in Ecosystems: Animals, Plants, and Their Environments</b>  Dates	<ul style="list-style-type: none"> <li>Developing and Using Models</li> <li>Analyzing and Interpreting Data</li> <li>Engaging in Argument from Evidence</li> <li>Obtaining, Evaluating, and Communicating Information</li> <li>Scientific Knowledge is Based on Empirical Evidence</li> <li>LS1.C: Organization for Matter and Energy Flow in Organisms</li> <li>ESS2.E: Biogeology</li> <li>ESS3.A: Natural Resources</li> <li>ESS3.C: Human Impacts on Earth Systems</li> <li>ETS1.B: Developing Possible Solutions</li> <li>readings _“</li> </ul>	<ul style="list-style-type: none"> <li>(NYSED) All animals need food, air, and water in order to live, grow, and thrive. Animals obtain food from plants or from other animals. Plants need water, air, and light to live, grow, and thrive</li> <li>Plants and animals can change their environment.</li> <li>Living things need water, air, and resources from the land, and they live in places that have the things they need. Humans use natural resources for everything they do.</li> <li>Things that people do to live comfortably can affect the world around them. But they can make choices that reduce their impacts on the land, water, air, and other living things.</li> <li>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.</li> <li><b>Vocab:</b></li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>
	<b>STANDARDS:</b> <ul style="list-style-type: none"> <li>K-LS1-1. Use observations to describe patterns of what plants and animals (including humans) need to survive.</li> <li>K-ESS2-2. Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.</li> <li>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.</li> <li>K-ESS3-3. Communicate solutions that will reduce the impact of humans on living organisms and non-living things in the local environment.</li> </ul>			

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<b>Weather and Climate</b>  Dates	<ul style="list-style-type: none"> <li>Asking Questions and Defining Problems</li> <li>Planning and Carrying Out Investigations</li> <li>Analyzing and Interpreting Data</li> <li>Constructing Explanations and Designing Solutions</li> <li>Obtaining, Evaluating, and Communicating Information</li> <li>PS3.B Conservation of Energy and Energy Transfer</li> <li>ESS2.D: Weather and Climate</li> <li>ESS3.B Natural Hazards</li> <li>ETS1.A Defining and Delimiting an Engineering Problem</li> <li>readings _“</li> </ul>	<ul style="list-style-type: none"> <li>Sunlight warms Earth’s surface.</li> <li>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 patterns over time.</li> <li>Some kinds of severe weather are more likely than others in a given region. Weather scientists forecast severe weather so that the communities can prepare for and respond to these events.</li> <li>Asking questions, making observations, and gathering information are helpful in thinking about problems.</li> <li><b>Vocab:</b></li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>
	<b>STANDARDS:</b> <ul style="list-style-type: none"> <li>K-ESS2-1. Use and share observations of local weather conditions to describe patterns over time.</li> <li>K-ESS3-2. Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather.*</li> <li>K-PS3-1. Make observations to determine the effect of sunlight on Earth’s surface.</li> <li>K-PS3-2. Use tools and materials to design and build a structure that will reduce the warming effect of sunlight on an area.</li> </ul>			