



<u>Course Title:</u> <b>Third Grade Science</b>		
<u>Description:</u> In third grade, students use their advancing understanding and skills to study the interactions in Earth systems, environments, humans, and the designed world. They use and develop models and organize data when investigating how different entities and systems interact influencing behaviors, reactions, and traits of various organisms.		
<i>Physical Sciences</i>		
<u>Reporting Topic</u>	<u>Grade Level Standards</u>	<u>Standard Summary</u>
<b><u>Forces and Interactions</u></b>	<ul style="list-style-type: none"> <li>Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object (for example, test the relative, qualitative effects of balanced and unbalanced forces on the motion of an object, such as by pushing on one side of a ball to make it move versus pushing equally on opposite sides of a box to show that the box does not move at all). (3-PS2-1)</li> <li>Make observations and/or measurements of an object’s motion to provide evidence that a pattern can be used to predict future motion (for example, use observations of an object moving in a predictable pattern—such as a child swinging on a swing, a ball rolling back and forth in a bowl, or two children playing on a see-saw—to show that the future motion of the object can be predicted). (3-PS2-2)</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>Carry out an investigation and collect data to measure motion in order to explain the effects of balanced and unbalanced forces.</li> <li>Use evidence to make predictions on patterns of an object’s future movements</li> </ul>
<b><u>Electric and Magnetic Forces</u></b>	<ul style="list-style-type: none"> <li>Ask questions to determine cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other (for example, figure out how the distance between objects affects the strength of an electric force when investigating the static electricity between two objects and how the orientation of magnets affects the direction of the magnetic forces between two objects). (3-PS2-3)</li> <li>Define a simple design problem that can be solved by applying scientific ideas about magnets (for example, generate a design problem that can be solved with magnets, such as constructing a latch to keep a door shut or creating a device to keep two moving objects from touching each other). (3-PS2-4)</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>Ask questions to determine the cause and effect relationship of electric or magnetic interactions between objects.</li> </ul>



## *Life Sciences*

<u>Reporting Topic</u>	<u>Grade Level Standards</u>	<u>Standard Summary</u>
<u><b>Growth and Development of Organisms</b></u>	<ul style="list-style-type: none"> <li>Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death (for example, create models of the life cycles of different organisms, and use them to explain that certain changes organisms go through during their lives form a common pattern). (3-LS1-1)</li> </ul>	Students will: <ul style="list-style-type: none"> <li>Create a detailed model to describe the life cycle of an organism</li> </ul>
<u><b>Inheritance of Traits</b></u>	<ul style="list-style-type: none"> <li>Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms (for example, analyze data and identify patterns in the similarities and differences in traits shared among siblings or between offspring and their parents—particularly of nonhuman organisms—to show that traits are inherited from parents and varied within a group of similar organisms). (3-LS3-1)</li> </ul>	Students will: <ul style="list-style-type: none"> <li>Examine data of different organism and how they vary in how they look and function because of inherited information.</li> </ul>
<u><b>Interdependent Relationships in Ecosystems</b></u>	<ul style="list-style-type: none"> <li>Construct an argument that some animals form groups that help members survive (for example, make and defend the claim that being part of a group helps animals obtain food, defend themselves, and cope with changes). (3-LS2-1)</li> </ul>	Students will: <ul style="list-style-type: none"> <li>Use evidence to argue the purpose of animal groups.</li> </ul>
<u><b>Variation of Traits</b></u>	<ul style="list-style-type: none"> <li>Use evidence to support the explanation that traits can be influenced by the environment (for example, make and defend the claim that the environment can influence the traits of organisms—such as the lack of growth of plants due to insufficient water or the weight gain of a pet dog due to too much food and too little exercise). (3-LS3-2)</li> </ul>	Students will: <ul style="list-style-type: none"> <li>Use evidence to explain the cause and effect relationship of environments on traits of living things.</li> </ul>
	<ul style="list-style-type: none"> <li>Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all (for example, use the needs and characteristics of organisms and habitats to defend the claim that in a particular habitat, some organisms survive well and some do not, and that the organisms and their habitat make up a</li> </ul>	Students will: <ul style="list-style-type: none"> <li>Use evidence to prove that habitats meet the needs of organisms and its ability to survive</li> </ul>



<p><b><u>Adaptation</u></b></p>	<p>system in which the parts depend on each other). (3-LS4-3)</p> <ul style="list-style-type: none"> <li>• Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change (for example, evaluate a solution to a problem caused by an environmental change—such as changes in land, water distribution, temperature, food, and other organisms—and give an opinion about the effectiveness of this solution). (3-LS4-4)</li> </ul>	<ul style="list-style-type: none"> <li>• Use evidence to show how organisms adapt or die when changes to environments occur.</li> </ul>
<p><b><u>Natural Selection</u></b></p>	<ul style="list-style-type: none"> <li>• Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing (for example, use observations and patterns to explain how variations in traits among individuals of the same species may provide advantages in survival and reproduction—such as plants that have larger thorns than other plants may be less likely to be eaten by predators or animals that have better camouflage coloration than other animals may be more likely to survive and produce offspring). (3-LS4-2)</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• Use evidence to explain that some characteristics make it harder or easier for animals to survive and reproduce</li> </ul>
<p><b><u>Fossils</u></b></p>	<ul style="list-style-type: none"> <li>• Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago (for example, analyze and interpret the type, size, and distribution of fossil organisms—such as marine fossils found on dry land or tropical plant fossils found in Arctic areas as well as fossils of extinct organisms—to defend claims about the environments in which the organisms once lived). (3-LS4-1)</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• Demonstrate a clear understanding of fossil interpretation by making inferences using aspect of the given fossil.</li> </ul>
<p><i><b>Earth and Space Science</b></i></p>		
<p><b><u>Reporting Topic</u></b></p>	<p><b><u>Grade Level Standards</u></b></p>	<p><b><u>Standard Summary</u></b></p>
<p><b><u>Weather and Climate</u></b></p>	<ul style="list-style-type: none"> <li>• Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season (for example, represent average temperature, precipitation, and wind direction in pictographs and bar graphs in order to describe typical weather conditions expected during a particular season). (3-ESS2-1)</li> <li>• Obtain and combine information to describe climates in different regions of the world (for example, gather and synthesize information from books and other reliable media to describe the range of typical weather conditions, as well as</li> </ul>	<p>Students will:</p> <ul style="list-style-type: none"> <li>• Use data to represent and describe weather and weather patterns.</li> <li>• Collect data on similarities and</li> </ul>



	the extent to which those conditions vary over time, in different regions of the world). (3-ESS2-2)	differences of climate features
<b><u>Natural Hazards</u></b>	<ul style="list-style-type: none"> <li>Make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard (for example, judge the effectiveness of a design solution to a weather-related hazard, such as flood barriers, wind-resistant roofs, and lightning rods). (3-ESS3-1)</li> </ul>	Students will: <ul style="list-style-type: none"> <li>Explain that a variety of natural hazards result from natural processes</li> </ul>
<i>Engineering</i>		
<b><u>Reporting Topics</u></b>	<b><u>Grade Level Standards</u></b>	<b><u>Standard Summary</u></b>
<b><u>Defining Problems</u></b>	<ul style="list-style-type: none"> <li>Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost (for example, define a simple design problem that includes constraints [available materials and resources that limit possible solutions to a problem] and criteria [the desired features of a solution that determine its success]). (3-ETS1-1)</li> </ul>	Students will: <ul style="list-style-type: none"> <li>Identify a simple design problem that can be solved and include possible constraints</li> </ul>
<b><u>Designing Solutions</u></b>	<ul style="list-style-type: none"> <li>Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem (for example, after researching a problem, test different solutions by investigating how well they perform under a range of likely conditions, and communicate with peers about proposed solutions, understanding that shared ideas can lead to improved designs). (3-ETS1-2)</li> </ul>	Students will: <ul style="list-style-type: none"> <li>Generate possible solutions to a problem including constraints and predict the most effective solutions</li> </ul>
<b><u>Evaluating and Testing Solutions</u></b>	<ul style="list-style-type: none"> <li>Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved (for example, design and conduct tests to identify failure points or difficulties in various design solutions, with the failure points and difficulties identifying the elements of the design that need to be improved and ultimately determining which solution best solves the problem given the criteria and the constraints). (3-ETS1-3)</li> </ul>	Students will: <ul style="list-style-type: none"> <li>Plan and carry out tests using controlled variables while considering possible points of failure to make improvements.</li> </ul>