

Quarter 1	CURRICULUM <i>End Product of Learning, “What You Teach”</i>		INSTRUCTION <i>Means to the End Product of Learning, “What You Teach”</i>		TECHNOLOGY <i>Means to Engage Students and Provide Practice</i>	INTERVENTION and ASSESSMENT
	CONTENT What we want students to “KNOW”	SKILL What we want students to “DO”	LEARNING RESOURCES	TEACHING STRATEGIES	SOFTWARE and ONLINE Sites	Varied Classroom Assessment Strategies
	<p><b>CORE IDEAS</b></p> <p><b>PS2.A Forces and Motion</b></p> <p>Each force acts on one particular object and has both strength and direction. An object at rest typically has multiple forces acting on it, but they add to give zero net force on the object. Forces that do not sum to zero can cause changes in the object’s speed or direction of motion</p> <p>Objects in contact exert forces on each other.</p> <p><b>SCIENCE and ENGINEERING PRACTICES</b></p> <p><b>Planning and Carrying Out Investigations</b></p> <p>Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence, using fair tests in which variables are controlled and the number of trials considered.</p> <p>Make observations and/or measurements to produce data to serve as the basis for evidence for an explanation of a phenomenon or test a design solution</p> <p><b>CROSSCUTTING CONCEPTS</b></p> <p><b>Patterns</b></p> <p>Patterns of change can be used to make predictions</p> <p><b>Cause and Effect</b></p> <p>Cause and effect relationships are routinely identified</p>	<p><b>PERFORMANCE EXPECTATION</b></p> <p><b>3-PS2-1</b></p> <p>Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.</p> <p><b>3-PS2-2</b></p> <p>Make observations and/or measurements of an object’s motion to provide evidence that a pattern can be used to predict future motion.</p>	<p><b>RESOURCES:</b></p> <p><i>Smithsonian Science and Technology Concepts™</i> Motion and Design Unit Lessons 1-17</p> <p><b>SUBCONCEPT 1</b> – The products of technological design must meet certain specifications, which are set forth in technical drawings. <b>Lessons 1-2</b></p> <p><b>SUBCONCEPT 2</b> – The position and motion of an object may be changed by a force, such as pushing or pulling. <b>Lessons 3-5</b></p> <p><b>SUBCONCEPT 3</b> – The forces acting on a vehicle include different forms of energy that act as a driving and resisting force. <b>Lessons 6-12</b></p> <p><b>SUBCONCEPT 4</b> – Technological designs and products may be evaluated in terms of their cost, as well as their scientific and technological efficiency. <b>Lessons 13-17</b></p> <p><i>-Inquiry Investigations</i></p> <p><i>-STC Literacy Series Reading Selections</i></p> <p><i>-Science Notebooking</i></p> <p><i>-Student Investigation Guides</i></p> <p><i>-Hands-on Equipment</i></p> <p><i>-Creating Models</i></p> <p><b>Tigtag</b> <a href="http://www.tigtagcarolina.com">www.tigtagcarolina.com</a></p> <p><b>Action and Reaction Force</b></p>	<p><i>Smithsonian Science and Technology Concepts™</i></p> <p><b>Integrated FERA Cycle Instruction of</b> Crosscutting concepts and science and engineering practices with science core ideas</p> <p><b>FOCUS Strategies include:</b></p> <p>-pre-teaching activities such as brainstorming, KWL charts, anticipation guides, etc.</p> <p>-guiding/focus questions</p> <p><b>EXPLORE Strategies include:</b></p> <p>-inquiry-based discussions and investigations</p> <p>-classroom activities, inquiries and models to help students develop a further understanding of the concepts/core ideas being discussed</p> <p><b>REFLECT Strategies include:</b></p> <p>-Science Notebooking</p> <p>-Key Ideas</p> <p>-Academic Vocabulary</p> <p><b>APPLY Strategies include:</b></p> <p>-Venn diagrams, cause and effect charts, review games, engineering application lessons, etc.</p> <p><b>COMMON CORE</b></p> <p><b>Reading Informational Text RI.1-9:</b></p> <p>RI.1-3 Key Ideas and Details</p> <p>RI.4-6 Craft and Structure</p> <p>RI.7-9 Integration of Knowledge and Ideas</p>	<p><b>RESOURCES:</b></p> <p><a href="http://www.carolinascienceonline.com">www.carolinascienceonline.com</a></p> <ul style="list-style-type: none"><li>Interactive Whiteboard Activities</li><li>STC Literacy Series Motion and Design</li></ul> <p><a href="http://www.tigtagcarolina.com">www.tigtagcarolina.com</a></p> <ul style="list-style-type: none"><li>Video Sets related to Forces, Motion, Speed, Direction, Pushes/Pulls</li></ul> <p><a href="http://www.mysi.edu">www.mysi.edu</a></p> <p>Smithsonian information website</p> <p><b>DEVICES:</b></p> <ul style="list-style-type: none"><li>iPads</li><li>Tablets</li><li>Chromebooks</li><li>ELMO</li><li>SMARTboard</li></ul> <p><b>SOFTWARE:</b></p> <ul style="list-style-type: none"><li>Microsoft Powerpoint</li><li>Microsoft Word</li><li>SMARTboard activities</li></ul>	<p><b>INTERVENTIONS:</b></p> <p><i>Smithsonian Science and Technology Concepts™</i></p> <ul style="list-style-type: none"><li>Science Notebooks</li><li>Extensions</li></ul> <p><b>ASSESSMENTS:</b></p> <p><i>Smithsonian Science and Technology Concepts™</i> Motion and Design Unit</p> <p><b>Lesson 1 Pre-Assessment</b></p> <p><i>Students build vehicles to meet design requirements</i></p> <p><b>Lesson 17 Assessment</b></p> <p><i>Students discuss and reflect on what they have learned</i></p> <p><i>-FORMATIVE</i></p> <p><i>-SUMMATIVE</i></p> <p><b>Science Notebooks</b></p> <p><b>Inquiry Data Sheets</b></p> <p><b>Investigation Follow-up Questions</b></p>
	<p><b>CORE IDEAS</b></p> <p><b>PS2.B Types of Interactions</b></p> <p>Electric and magnetic forces between a pair of objects do not require that the objects be in contact. The sizes of the forces in each situation depend on the properties of the objects and their distances apart and, for forces between two magnets, on their orientation relative to each other</p> <p><b>SCIENCE and ENGINEERING PRACTICES</b></p> <p><b>Asking Questions and Defining Problems</b></p> <p>Ask questions that can be investigated based on patterns such as cause and effect relationships. Define a simple problem that can be solved through the development of a new or improved object or food.</p> <p><b>CROSSCUTTING CONCEPTS</b></p> <p><b>Cause and Effect</b></p> <p>Cause and effect relationships are routinely identified, tested, and used to explain change.</p>	<p><b>PERFORMANCE EXPECTATION</b></p> <p><b>3-PS2-3</b></p> <p>Ask questions to determine cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other.</p> <p><b>3-PS2-4</b></p> <p>Define a simple design problem that can be solved by applying scientific ideas about magnets.</p>	<p><b>RESOURCES:</b></p> <p><i>Carolina™ Science Magnifier Magnetism, pp. 256-263</i></p> <p><b>Tigtag</b> <a href="http://www.tigtagcarolina.com">www.tigtagcarolina.com</a></p> <p><b>Electricity and Magnetism Using Magnetism</b></p>	<p><b>Writing W.1-9</b></p> <p>W.1-3 Text Types and Purpose</p> <p>W.4-6 Production and Distribution of Writing</p> <p>W.7-9 Research to Build and Present Knowledge</p> <p><b>GUIDING QUESTIONS</b></p> <p><i>-What do all forces have in common?</i></p> <p><i>-How can we investigate balanced and unbalanced forces? What happens to an object when forces are unbalanced?</i></p> <p><i>-Do all forces act in the same way?</i></p>		

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	<p><b>CORE IDEAS</b></p> <p><b>LS1.B Growth and Development of Organisms</b> Reproduction is essential to the continued existence of every kind of organism. Plants and animals have unique and diverse life cycles.</p> <p><b>SCIENCE and ENGINEERING PRACTICES</b> <b>Developing and Using Models</b> Develop models to describe phenomena.</p> <p><b>CROSSCUTTING CONCEPTS</b> <b>Patterns</b> Patterns of change can be used to make predictions</p>	<p><b>PERFORMANCE EXPECTATION</b></p> <p><b>3-LS1-1</b> Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.</p>	<p><b>RESOURCES:</b> <i>Smithsonian Science and Technology Concepts™ The Life Cycle of Butterflies Unit Lessons 7-9, 13-16</i></p> <p><b>SUBCONCEPT 2</b> –As part of its life cycle, the butterfly emerges from a chrysalis <b>Lessons 7-9</b></p> <p><b>SUBCONCEPT 4</b> –Scientists use data on organisms’ structures and life cycles to understand and classify living things <b>Lessons 13-16</b></p> <p><i>-Inquiry Investigations</i> <i>-STC Literacy Series Reading Selections</i> <i>-Science Notebooking</i> <i>-Hands-on Equipment</i> <i>-Creating Models</i></p> <p><b>Tigtag</b> <a href="http://www.tigtagcarolina.com">www.tigtagcarolina.com</a> <b>Reproduction in Plants; Plant Life Cycles; What is Reproduction?; Life Cycles</b></p> <p><i>Carolina™ Science Magnifier Life Cycles, pp. 110-121</i></p>	<p><i>Smithsonian Science and Technology Concepts™</i> <b>Integrated FERA Cycle Instruction of</b> Crosscutting concepts and science and engineering practices with science core ideas</p> <p><b>FOCUS Strategies include:</b> -pre-teaching activities such as brainstorming, KWL charts, anticipation guides, etc. -guiding/focus questions</p> <p><b>EXPLORE Strategies include:</b> -inquiry-based discussions and investigations -classroom activities, inquiries and models to help students develop a further understanding of the concepts/core ideas being discussed</p> <p><b>REFLECT Strategies include:</b> -Science Notebooking -Key Ideas -Academic Vocabulary</p> <p><b>APPLY Strategies include:</b> -Venn diagrams, cause and effect charts, review games, engineering application lessons, etc.</p>	<p><b>RESOURCES:</b> <a href="http://www.carolinascienceonline.com">www.carolinascienceonline.com</a></p> <ul style="list-style-type: none"><li>Interactive Whiteboard Activities</li><li>STC Literacy Series The Life Cycle of Butterflies</li></ul> <p><a href="http://www.tigtagcarolina.com">www.tigtagcarolina.com</a></p> <ul style="list-style-type: none"><li>Video Sets related to Life Cycles; Plant and Animal Structures; Reproduction</li></ul> <p><a href="http://www.mysi.edu">www.mysi.edu</a> Smithsonian information website</p> <p><b>DEVICES:</b></p> <ul style="list-style-type: none"><li>iPads</li><li>Tablets</li><li>Chromebooks</li><li>ELMO</li><li>SMARTboard</li></ul> <p><b>SOFTWARE:</b></p> <ul style="list-style-type: none"><li>Microsoft Powerpoint</li><li>Microsoft Word</li><li>SMARTboard activities</li></ul>	<p><b>INTERVENTIONS:</b> <i>Smithsonian Science and Technology Concepts™</i></p> <ul style="list-style-type: none"><li>Science Notebooks</li><li>Extensions</li></ul> <p><b>ASSESSMENTS:</b> <i>Smithsonian Science and Technology Concepts™</i> The Life Cycle of Butterflies Unit</p> <p><b>Lesson 1 Pre-Assessment</b> <i>Students discuss what they know about caterpillars and butterflies</i></p> <p><b>Lesson 16 Assessment</b> <i>Students discuss and reflect on what they have learned</i> <i>-FORMATIVE</i> <i>-SUMMATIVE</i></p> <p><b>Science Notebooks</b></p> <p><b>Inquiry Data Sheets</b> <b>Investigation Follow-up Questions</b></p>

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	<p><b>CORE IDEAS</b></p> <p><b>LS3.A Inheritance of Traits</b> Sometimes the differences in characteristics between individuals of the same species provide advantages in surviving, finding mates, and reproducing</p> <p><b>SCIENCE and ENGINEERING PRACTICES</b> <b>Constructing Explanations and Designing Solutions</b> Use evidence (e.g. observations, patterns) to construct and explanation</p> <p><b>CROSSCUTTING CONCEPTS</b> <b>Cause and Effect</b> Cause and effect relationships are routinely identified and used to explain change.</p>	<p><b>PERFORMANCE EXPECTATION</b> <b>3-LS4-2</b> 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.</p>	<p><b>RESOURCES:</b> <i>Smithsonian Science and Technology Concepts™</i> The Life Cycle of Butterflies Unit Lessons 13-16</p> <p><b>SUBCONCEPT 4</b> –Scientists use data on organisms’ structures and life cycles to understand and classify living things <b>Lessons 13-16</b></p> <p>-Inquiry Investigations -STC Literacy Series Reading Selections -Science Notebooking -Hands-on Equipment -Creating Models</p> <p><b>Tigtag</b> <a href="http://www.tigtagcarolina.com">www.tigtagcarolina.com</a> <b>Reproduction in Plants; Plant Life Cycles; What is Reproduction?; Life Cycles</b></p> <p><i>Carolina™ Science Magnifier Life Cycles, pp. 110-121</i></p>	<p><i>Smithsonian Science and Technology Concepts™</i> <b>Integrated FERA Cycle Instruction of</b> Crosscutting concepts and science and engineering practices with science core ideas</p> <p><b>FOCUS Strategies include:</b> -pre-teaching activities such as brainstorming, KWL charts, anticipation guides, etc. -guiding/focus questions</p> <p><b>EXPLORE Strategies include:</b> -inquiry-based discussions and investigations -classroom activities, inquiries and models to help students develop a further understanding of the concepts/core ideas being discussed</p> <p><b>REFLECT Strategies include:</b> -Science Notebooking -Key Ideas -Academic Vocabulary</p> <p><b>APPLY Strategies include:</b> -Venn diagrams, cause and effect charts, review games, engineering application lessons, etc.</p> <p><b>COMMON CORE</b> <b>Reading Informational Text RI.1-9:</b> RI.1-3 Key Ideas and Details RI.4-6 Craft and Structure RI.7-9 Integration of Knowledge and Ideas</p> <p><b>Writing W.1-9</b> W.1-3 Text Types and Purpose W.4-6 Production and Distribution of Writing W.7-9 Research to Build and Present Knowledge</p> <p><b>GUIDING QUESTIONS</b> -Why is reproduction essential to life?  -How are the characteristics of organisms influenced by inheritance and environment?  -How does variation in characteristics impact an organism’s potential to survive?</p>	<p><b>RESOURCES:</b> <a href="http://www.carolinascienceonline.com">www.carolinascienceonline.com</a></p> <ul style="list-style-type: none"><li>Interactive Whiteboard Activities</li><li>STC Literacy Series The Life Cycle of Butterflies</li></ul> <p><a href="http://www.tigtagcarolina.com">www.tigtagcarolina.com</a></p> <ul style="list-style-type: none"><li>Video Sets related to Life Cycles; Plant and Animal Structures; Reproduction</li></ul> <p><a href="http://www.mysi.edu">www.mysi.edu</a> Smithsonian information website</p> <p><b>DEVICES:</b></p> <ul style="list-style-type: none"><li>iPads</li><li>Tablets</li><li>Chromebooks</li><li>ELMO</li><li>SMARTboard</li></ul> <p><b>SOFTWARE:</b></p> <ul style="list-style-type: none"><li>Microsoft Powerpoint</li><li>Microsoft Word</li><li>SMARTboard activities</li></ul>	<p><b>INTERVENTIONS:</b> <i>Smithsonian Science and Technology Concepts™</i></p> <ul style="list-style-type: none"><li>Science Notebooks</li><li>Extensions</li></ul> <p><b>ASSESSMENTS:</b> <i>Smithsonian Science and Technology Concepts™</i> The Life Cycle of Butterflies Unit</p> <p><b>Lesson 1 Pre-Assessment</b> <i>Students discuss what they know about caterpillars and butterflies</i></p> <p><b>Lesson 16 Assessment</b> <i>Students discuss and reflect on what they have learned</i> -FORMATIVE -SUMMATIVE</p> <p><b>Science Notebooks</b></p> <p><b>Inquiry Data Sheets</b> <b>Investigation Follow-up Questions</b></p>



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	<p><b>CORE IDEAS</b> <b>LS2.D Social Interactions and Group Behavior</b> Being part of a group helps animals obtain food, defend themselves, and cope with changes. Groups may serve different functions and vary dramatically in size.</p> <p><b>SCIENCE and ENGINEERING PRACTICES</b> <b>Engaging in Argument from Evidence</b> Construct an argument with evidence, data, and/or a model.</p> <p><b>CROSSCUTTING CONCEPTS</b> <b>Cause and Effect</b> Cause and effect relationships are routinely identified and used to explain change.</p>	<p><b>PERFORMANCE EXPECTATION</b> <b>3-LS2-1</b> Construct an argument that some animals form groups that help members survive.</p>	<p><b>RESOURCES:</b> <i>Smithsonian Science and Technology Concepts™ Animal Studies Unit Lessons 1-8</i></p> <p><b>SUBCONCEPT 1</b> –The nature of a habitat controls the kinds of organisms that may survive within it. <b>Lessons 1-2</b></p> <p><b>SUBCONCEPT 2</b> –The structures and behaviors of an organism determine how it adapts to its environment. <b>Lessons 3-8</b></p> <p><i>-Inquiry Investigations</i> <i>-STC Literacy Series Reading Selections</i> <i>-Science Notebooking</i> <i>-Student Investigation Guides</i> <i>-Hands-on Equipment</i> <i>-Creating Models</i></p> <p><b>Tigtag</b> <a href="http://www.tigtagcarolina.com">www.tigtagcarolina.com</a> <b>Adaptation</b></p> <p><i>Carolina™ Science Magnifier Animal Behavior pp. 74-77</i></p>	<p><i>Smithsonian Science and Technology Concepts™</i> <b>Integrated FERA Cycle Instruction of</b> Crosscutting concepts and science and engineering practices with science core ideas</p> <p><b>FOCUS Strategies include:</b> -pre-teaching activities such as brainstorming, KWL charts, anticipation guides, etc. -guiding/focus questions</p> <p><b>EXPLORE Strategies include:</b> -inquiry-based discussions and investigations -classroom activities, inquiries and models to help students develop a further understanding of the concepts/core ideas being discussed</p> <p><b>REFLECT Strategies include:</b> -Science Notebooking -Key Ideas -Academic Vocabulary</p> <p><b>APPLY Strategies include:</b> -Venn diagrams, cause and effect charts, review games, engineering application lessons, etc.</p>	<p><b>RESOURCES:</b> <a href="http://www.carolinascienceonline.com">www.carolinascienceonline.com</a></p> <ul style="list-style-type: none"><li>Interactive Whiteboard Activities</li><li>STC Literacy Series Animal Studies</li></ul> <p><a href="http://www.tigtagcarolina.com">www.tigtagcarolina.com</a></p> <ul style="list-style-type: none"><li>Traits; Habitat; Organisms Adaptation; Environment</li></ul> <p><a href="http://www.mysi.edu">www.mysi.edu</a> Smithsonian information website</p> <p><b>DEVICES:</b></p> <ul style="list-style-type: none"><li>iPads</li><li>Tablets</li><li>Chromebooks</li><li>ELMO</li><li>SMARTboard</li></ul> <p><b>SOFTWARE:</b></p> <ul style="list-style-type: none"><li>Microsoft Powerpoint</li><li>Microsoft Word</li><li>SMARTboard activities</li></ul>	<p><b>INTERVENTIONS:</b> <i>Smithsonian Science and Technology Concepts™</i></p> <ul style="list-style-type: none"><li>Science Notebooks</li><li>Extensions</li></ul> <p><b>ASSESSMENTS:</b> <i>Smithsonian Science and Technology Concepts™</i> Animal Studies Unit</p> <p><b>Lesson 1 Pre-Assessment</b> <i>Students discuss what they know about animals and their habitats</i></p> <p><b>Lesson 16 Assessment</b> <i>Students discuss and reflect on what they have learned</i> <i>-FORMATIVE</i> <i>-SUMMATIVE</i></p> <p><b>Science Notebooks</b></p> <p><b>Inquiry Data Sheets</b> <b>Investigation Follow-up Questions</b></p>
	<p><b>CORE IDEAS</b> <b>LS4.A Evidence of Common Ancestry and Diversity</b> Some kinds of plants and animals that once lived on Earth are no longer found anywhere.</p> <p>Fossils provide evidence about the types of organisms that lived long ago and also about the nature of their environments.</p> <p><b>SCIENCE and ENGINEERING PRACTICES</b> <b>Analyzing and Interpreting Data</b> Analyze and interpret data to make sense of phenomena using logical reasoning.</p> <p><b>CROSSCUTTING CONCEPTS</b> <b>Scale, Proportion, and Quantity</b> Observable phenomena exist from very short to very long time periods.</p>	<p><b>PERFORMANCE EXPECTATION</b> <b>3-LS4-1</b> Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago.</p>	<p><b>RESOURCES:</b> <i>Smithsonian Science and Technology Concepts™ Animal Studies Unit Lessons 1-8</i></p> <p><b>SUBCONCEPT 3</b> –An organism’s structures and behaviors are related to its environment <b>Lesson 11</b></p> <p><i>-Inquiry Investigations</i> <i>-STC Literacy Series Reading Selections</i> <i>-Science Notebooking</i> <i>-Student Investigation Guides</i> <i>-Hands-on Equipment</i> <i>-Creating Models</i></p> <p><b>STC Literacy Series – Animal Studies</b> <b>The Amazing Discoveries of Charles Darwin</b></p> <p><i>Carolina™ Science Magnifier Endangered Species and Extinction pp. 76-77; Prehistoric Plants and Animals pp. 156-159</i></p>	<p><b>COMMON CORE</b> <b>Reading Informational Text RI.1-9:</b> RI.1-3 Key Ideas and Details RI.4-6 Craft and Structure RI.7-9 Integration of Knowledge and Ideas</p> <p><b>Writing W.1-9</b> W.1-3 Text Types and Purpose W.4-6 Production and Distribution of Writing W.7-9 Research to Build and Present Knowledge</p> <p><b>GUIDING QUESTIONS</b> <i>-How do organisms respond to changes in their environment?</i> <i>-How do organisms benefit from group behavior?</i> <i>-What is the relationship between survival and adaptation?</i> <i>-How do changes in habitats impact populations?</i> <i>-What can we learn from investigating fossils?</i></p>		

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	<p><b>CORE IDEAS</b> <b>LS4.C Adaptation</b> For any particular environment, some kinds of organisms survive well, some survive less well, and some cannot survive at all.</p> <p><b>SCIENCE and ENGINEERING PRACTICES</b> <b>Engaging in Argument from Evidence</b> Construct an argument with evidence.</p> <p><b>CROSSCUTTING CONCEPTS</b> <b>Cause and Effect</b> Cause and effect relationships are routinely identified and used to explain change.</p>	<p><b>PERFORMANCE EXPECTATION</b> <b>3-LS4-3</b> 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.</p>	<p><b>RESOURCES:</b> <i>Smithsonian Science and Technology Concepts™ Animal Studies Unit Lessons 12-17</i></p> <p><b>SUBCONCEPT 4</b> –A combination of behaviors and structures, rather than any single characteristic, enables an animal to survive in a particular habitat <b>Lessons 12-17</b></p> <p>-Inquiry Investigations -STC Literacy Series Reading Selections -Science Notebooking -Student Investigation Guides -Hands-on Equipment -Creating Models</p> <p><b>Tigtag</b> <a href="http://www.tigtagcarolina.com">www.tigtagcarolina.com</a> <b>Adaptation</b></p> <p><i>Carolina™ Science Magnifier Endangered Species and Extinction pp. 76-77</i></p>	<p><i>Smithsonian Science and Technology Concepts™</i> <b>Integrated FERA Cycle Instruction of</b> Crosscutting concepts and science and engineering practices with science core ideas</p> <p><b>FOCUS Strategies include:</b> -pre-teaching activities such as brainstorming, KWL charts, anticipation guides, etc. -guiding/focus questions</p> <p><b>EXPLORE Strategies include:</b> -inquiry-based discussions and investigations -classroom activities, inquiries and models to help students develop a further understanding of the concepts/core ideas being discussed</p> <p><b>REFLECT Strategies include:</b> -Science Notebooking -Key Ideas -Academic Vocabulary</p> <p><b>APPLY Strategies include:</b> -Venn diagrams, cause and effect charts, review games, engineering application lessons, etc.</p>	<p><b>RESOURCES:</b> <a href="http://www.carolinascienceonline.com">www.carolinascienceonline.com</a></p> <ul style="list-style-type: none"><li>Interactive Whiteboard Activities</li><li>STC Literacy Series Animal Studies</li></ul> <p><a href="http://www.tigtagcarolina.com">www.tigtagcarolina.com</a></p> <ul style="list-style-type: none"><li>Traits; Habitat; Organisms Adaptation; Environment</li></ul> <p><a href="http://www.mysi.edu">www.mysi.edu</a> Smithsonian information website</p> <p><b>DEVICES:</b></p> <ul style="list-style-type: none"><li>iPads</li><li>Tablets</li><li>Chromebooks</li><li>ELMO</li><li>SMARTboard</li></ul> <p><b>SOFTWARE:</b></p> <ul style="list-style-type: none"><li>Microsoft Powerpoint</li><li>Microsoft Word</li><li>SMARTboard activities</li></ul>	<p><b>INTERVENTIONS:</b> <i>Smithsonian Science and Technology Concepts™</i></p> <ul style="list-style-type: none"><li>Science Notebooks</li><li>Extensions</li></ul> <p><b>ASSESSMENTS:</b> <i>Smithsonian Science and Technology Concepts™</i> Animal Studies Unit</p> <p><b>Lesson 1 Pre-Assessment</b> <i>Students discuss what they know about animals and their habitats</i></p> <p><b>Lesson 16 Assessment</b> <i>Students discuss and reflect on what they have learned</i> -FORMATIVE -SUMMATIVE</p> <p><b>Science Notebooks</b></p> <p><b>Inquiry Data Sheets</b> <b>Investigation Follow-up Questions</b></p>
	<p><b>CORE IDEAS</b> <b>LS4.D Biodiversity and Humans</b> Populations live in a variety of habitats, and change in those habitats affects the organisms living there. <b>LS2.C Ecosystem Dynamics, Functioning, and Resilience</b> When the environment changes in ways that affect a place’s physical characteristics, temperature, or availability of resources, some organisms survive and reproduce, others move to new locations, yet others move into the transformed environment, and some die.</p> <p><b>SCIENCE and ENGINEERING PRACTICES</b> <b>Engaging in Argument from Evidence</b> Make a claim about the merit of a solution to a problem by citing relevant evidence about how it meets the criteria and constraints of the problem.</p> <p><b>CROSSCUTTING CONCEPTS</b> <b>Systems and System Models</b> A system can be described to terms of its components and their interactions.</p>	<p><b>PERFORMANCE EXPECTATION</b> <b>3-LS4-4</b> 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.</p>	<p><b>RESOURCES:</b> <i>Smithsonian Science and Technology Concepts™ Animal Studies Unit Lessons 10-17</i></p> <p><b>SUBCONCEPT 3</b> –An organism’s structures and behaviors are related to its environment <b>Lessons 10-11</b> <b>SUBCONCEPT 4</b> –A combination of behaviors and structures, rather than any single characteristic, enables an animal to survive in a particular habitat <b>Lessons 12-17</b></p> <p>-Inquiry Investigations -STC Literacy Series Reading Selections -Science Notebooking -Student Investigation Guides -Hands-on Equipment -Creating Models</p> <p><b>Tigtag</b> <a href="http://www.tigtagcarolina.com">www.tigtagcarolina.com</a> <b>Living Things in Their Environment</b></p> <p><i>Carolina™ Science Magnifier Habitat pp. 76-77; Ecosystems pp. 122-131</i></p>	<p><b>COMMON CORE</b> <b>Reading Informational Text RI.1-9:</b> RI.1-3 Key Ideas and Details RI.4-6 Craft and Structure RI.7-9 Integration of Knowledge and Ideas</p> <p><b>Writing W.1-9</b> W.1-3 Text Types and Purpose W.4-6 Production and Distribution of Writing W.7-9 Research to Build and Present Knowledge</p> <p><b>GUIDING QUESTIONS</b> -What is the relationship between survival and adaptation? -How do changes in habitats impact populations?</p>		

Quarter 3 cont...	CURRICULUM <i>End Product of Learning, “What You Teach”</i>		INSTRUCTION <i>Means to the End Product of Learning, “What You Teach”</i>		TECHNOLOGY <i>Means to Engage Students and Provide Practice</i>	INTERVENTION and ASSESSMENT
	CONTENT What we want students to “KNOW”	SKILL What we want students to “DO”	LEARNING RESOURCES	TEACHING STRATEGIES	SOFTWARE and ONLINE Sites	Varied Classroom Assessment Strategies
	<p><b>CORE IDEAS</b></p> <p><b>LS1.A Structure and Function</b> Animals have both internal and external structures that serve various functions in growth, behavior, and reproduction.</p> <p><b>SCIENCE and ENGINEERING PRACTICES</b> <b>Engaging in Argument from Evidence</b> Construct an argument with evidence, data, and/or a model.</p> <p><b>CROSSCUTTING CONCEPTS</b> <b>Systems and System Models</b> A system can be described in terms of its components and their interactions.</p>	<p><b>PERFORMANCE EXPECTATION</b></p> <p><b>4-LS1-1</b> Construct an argument that some animals have internal and external function to support survival, growth, behavior, and reproduction.</p>	<p><b>RESOURCES:</b> <i>Smithsonian Science and Technology Concepts™</i> Animal Studies Unit <b>Lessons 3-8</b></p> <p><b>SUBCONCEPT 2</b> –The structures and behaviors of an organism determine how it adapts to its environment. <b>Lessons 3-8</b></p> <p><i>-Inquiry Investigations</i> <i>-STC Literacy Series Reading Selections</i> <i>-Science Notebooking</i> <i>-Student Investigation Guides</i> <i>-Hands-on Equipment</i> <i>-Creating Models</i></p> <p><b>Tigtag</b> <a href="http://www.tigtagcarolina.com">www.tigtagcarolina.com</a> <b>Plants and Animals</b></p> <p><i>Carolina™ Science Magnifier</i> <i>Animals pp. 78-81; The Human Body pp. 90-99; Plants pp. 116-127</i></p>	<p><i>Smithsonian Science and Technology Concepts™</i> <b>Integrated FERA Cycle Instruction of</b> Crosscutting concepts and science and engineering practices with science core ideas</p> <p><b>FOCUS Strategies include:</b> -pre-teaching activities such as brainstorming, KWL charts, anticipation guides, etc. -guiding/focus questions</p> <p><b>EXPLORE Strategies include:</b> -inquiry-based discussions and investigations -classroom activities, inquiries and models to help students develop a further understanding of the concepts/core ideas being discussed</p> <p><b>REFLECT Strategies include:</b> -Science Notebooking -Key Ideas -Academic Vocabulary</p> <p><b>APPLY Strategies include:</b> -Venn diagrams, cause and effect charts, review games, engineering application lessons, etc.</p> <p><b>COMMON CORE</b> <b>Reading Informational Text RI.1-9:</b> RI.1-3 Key Ideas and Details RI.4-6 Craft and Structure RI.7-9 Integration of Knowledge and Ideas</p> <p><b>Writing W.1-9</b> W.1-3 Text Types and Purpose W.4-6 Production and Distribution of Writing W.7-9 Research to Build and Present Knowledge</p> <p><b>GUIDING QUESTIONS</b> <i>-How do organisms respond to changes in their environment?</i> <i>-How do organisms benefit from group behavior?</i> <i>-What is the relationship between survival and adaptation?</i> <i>-How do changes in habitats impact populations?</i> <i>-What can we learn from investigating fossils?</i> <i>-How do animals respond to light?</i> <i>-How do animals sense and process information?</i></p>	<p><b>RESOURCES:</b> <a href="http://www.carolinascienceonline.com">www.carolinascienceonline.com</a></p> <ul style="list-style-type: none"><li>Interactive Whiteboard Activities</li><li>STC Literacy Series Animal Studies</li></ul> <p><a href="http://www.tigtagcarolina.com">www.tigtagcarolina.com</a></p> <ul style="list-style-type: none"><li>Traits; Habitat; Organisms Adaptation; Environment</li></ul> <p><a href="http://www.mysi.edu">www.mysi.edu</a> Smithsonian information website</p> <p><b>DEVICES:</b></p> <ul style="list-style-type: none"><li>iPads</li><li>Tablets</li><li>Chromebooks</li><li>ELMO</li><li>SMARTboard</li></ul> <p><b>SOFTWARE:</b></p> <ul style="list-style-type: none"><li>Microsoft Powerpoint</li><li>Microsoft Word</li><li>SMARTboard activities</li></ul>	<p><b>INTERVENTIONS:</b> <i>Smithsonian Science and Technology Concepts™</i></p> <ul style="list-style-type: none"><li>Science Notebooks</li><li>Extensions</li></ul> <p><b>ASSESSMENTS:</b> <i>Smithsonian Science and Technology Concepts™</i> Animal Studies Unit</p> <p><b>Lesson 1 Pre-Assessment</b> <i>Students discuss what they know about animals and their habitats</i></p> <p><b>Lesson 16 Assessment</b> <i>Students discuss and reflect on what they have learned</i> <i>-FORMATIVE</i> <i>-SUMMATIVE</i></p> <p><b>Science Notebooks</b></p> <p><b>Inquiry Data Sheets</b> <b>Investigation Follow-up Questions</b></p>



Quarter 4	CURRICULUM <i>End Product of Learning, “What You Teach”</i>		INSTRUCTION <i>Means to the End Product of Learning, “What You Teach”</i>		TECHNOLOGY <i>Means to Engage Students and Provide Practice</i>	INTERVENTION and ASSESSMENT
	CONTENT What we want students to “KNOW”	SKILL What we want students to “DO”	LEARNING RESOURCES	TEACHING STRATEGIES	SOFTWARE and ONLINE Sites	Varied Classroom Assessment Strategies
	<p><b>CORE IDEAS</b> <b>ESS2.D Weather and Climate</b> Scientists record patterns of the weather across different times and areas so they can make predictions about what kind of weather might happen next.</p> <p><b>SCIENCE and ENGINEERING PRACTICES</b> <b>Analyzing and Interpreting Data</b> Represent data in tables and various graphical displays (bar graphs, pictographs and/or pie charts) to reveal the patterns that indicate relationships</p> <p><b>CROSSCUTTING CONCEPTS</b> <b>Patterns</b> Patterns of change can be used to make predictions</p>	<p><b>PERFORMANCE EXPECTATION</b> <b>3-ESS2-1</b> Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.</p>	<p><b>RESOURCES:</b> <i>Smithsonian Science and Technology Concepts™ Weather Unit Lessons 1-10</i></p> <p><b>SUBCONCEPT 1</b> –Weather is characterized by features such as temperature, wind speed and direction, and precipitation. <b>Lessons 1-2</b></p> <p><b>SUBCONCEPT 2</b> –Weather may be quantified using tools such as thermometers, rain gauges, and wind speed and direction indicators. <b>Lessons 3-10</b></p> <p><b>Tigtag</b> <a href="http://www.tigtagcarolina.com">www.tigtagcarolina.com</a> <b>Weather</b></p> <p><i>Carolina™ Science Magnifier Weather, Seasons, and Climate pp. 186-197</i></p>	<p><i>Smithsonian Science and Technology Concepts™</i> <b>Integrated FERA Cycle Instruction of</b> Crosscutting concepts and science and engineering practices with science core ideas</p> <p><b>FOCUS Strategies include:</b> -pre-teaching activities such as brainstorming, KWL charts, anticipation guides, etc. -guiding/focus questions</p> <p><b>EXPLORE Strategies include:</b> -inquiry-based discussions and investigations -classroom activities, inquiries and models to help students develop a further understanding of the concepts/core ideas being discussed</p> <p><b>REFLECT Strategies include:</b> -Science Notebooking -Key Ideas -Academic Vocabulary</p> <p><b>APPLY Strategies include:</b> -Venn diagrams, cause and effect charts, review games, engineering application lessons, etc.</p> <p><b>COMMON CORE</b> <b>Reading Informational Text RI.1-9:</b> RI.1-3 Key Ideas and Details RI.4-6 Craft and Structure RI.7-9 Integration of Knowledge and Ideas</p> <p><b>Writing W.1-9</b> W.1-3 Text Types and Purpose W.4-6 Production and Distribution of Writing W.7-9 Research to Build and Present Knowledge</p> <p><b>GUIDING QUESTIONS</b> -How can we record and analyze data to make predictions? -What is climate? What is weather?</p>	<p><b>RESOURCES:</b> <a href="http://www.carolinascienceonline.com">www.carolinascienceonline.com</a></p> <ul style="list-style-type: none"><li>Interactive Whiteboard Activities</li><li>STC Literacy Series Weather</li></ul> <p><a href="http://www.tigtagcarolina.com">www.tigtagcarolina.com</a></p> <ul style="list-style-type: none"><li>Video Sets related to weather and climate</li></ul> <p><a href="http://www.mysi.edu">www.mysi.edu</a> Smithsonian information website</p> <p><b>DEVICES:</b></p> <ul style="list-style-type: none"><li>iPads</li><li>Tablets</li><li>Chromebooks</li><li>ELMO</li><li>SMARTboard</li></ul> <p><b>SOFTWARE:</b></p> <ul style="list-style-type: none"><li>Microsoft Powerpoint</li><li>Microsoft Word</li><li>SMARTboard activities</li></ul>	<p><b>INTERVENTIONS:</b> <i>Smithsonian Science and Technology Concepts™</i></p> <ul style="list-style-type: none"><li>Science Notebooks</li><li>Extensions</li></ul> <p><b>ASSESSMENTS:</b> <i>Smithsonian Science and Technology Concepts™</i> Weather Unit</p> <p><b>Lesson 1 Pre-Assessment</b> <i>Students discuss what they know and like to know about weather</i></p> <p><b>Lesson 17 Assessment</b> <i>Students discuss and reflect on what they have learned</i> -FORMATIVE -SUMMATIVE</p> <p><b>Science Notebooks</b></p> <p><b>Inquiry Data Sheets</b> <b>Investigation Follow-up Questions</b></p>

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	<p><b><u>CORE IDEAS</u></b></p> <p><b>ESS3.B Natural Hazards</b> A variety of natural hazards result from natural processes. Humans cannot eliminate natural hazards but can take steps to reduce their impacts.</p> <p><b><u>SCIENCE and ENGINEERING PRACTICES</u></b></p> <p><b>Engaging in Argument from Evidence</b> Make a claim about the merit of a solution to a problem by citing relevant evidence about how it meets the criteria and constraints of the problem.</p> <p><b><u>CROSSCUTTING CONCEPTS</u></b></p> <p><b>Influence of Engineering, Technology, and Science on Society and the Natural World</b> Engineers improve existing technologies or develop new ones to increase their benefits and meet societal demands.</p> <p><b>Science is a Human Endeavor</b> Science affects everyday life.</p>	<p><b><u>PERFORMANCE EXPECTATION</u></b></p> <p><b>3-ESS3-1</b> Make a claim about the merit of a design solution that reduces the impacts of weather-related hazard.</p>	<p><b>RESOURCES:</b> <i>Smithsonian Science and Technology Concepts™ Weather Unit Lessons 15-17</i></p> <p><b>SUBCONCEPT 5</b> –Humans can use their observations and records to understand and forecast the weather. Scientists who do this are called meteorologists <b>Lessons 15-17</b></p> <p><i>-Inquiry Investigations</i> <i>-STC Literacy Series Reading Selections</i> <i>-Science Notebooking</i> <i>-Hands-on Equipment</i> <i>-Creating Models</i></p> <p><u>Tigtag</u> <a href="http://www.tigtagcarolina.com">www.tigtagcarolina.com</a> <b>Weather</b></p> <p><i>Carolina™ Science Magnifier Weather Events pp. 192-193</i></p>	<p><i>Smithsonian Science and Technology Concepts™</i> <b>Integrated FERA Cycle Instruction of</b> Crosscutting concepts and science and engineering practices with science core ideas</p> <p><b>FOCUS Strategies include:</b> -pre-teaching activities such as brainstorming, KWL charts, anticipation guides, etc. -guiding/focus questions</p> <p><b>EXPLORE Strategies include:</b> -inquiry-based discussions and investigations -classroom activities, inquiries and models to help students develop a further understanding of the concepts/core ideas being discussed</p> <p><b>REFLECT Strategies include:</b> -Science Notebooking -Key Ideas -Academic Vocabulary</p> <p><b>APPLY Strategies include:</b> -Venn diagrams, cause and effect charts, review games, engineering application lessons, etc.</p> <p><b><u>COMMON CORE</u></b> <b>Reading Informational Text RI.1-9:</b> RI.1-3 Key Ideas and Details RI.4-6 Craft and Structure RI.7-9 Integration of Knowledge and Ideas</p> <p><b>Writing W.1-9</b> W.1-3 Text Types and Purpose W.4-6 Production and Distribution of Writing W.7-9 Research to Build and Present Knowledge</p> <p><b><u>GUIDING QUESTIONS</u></b> <i>-What causes natural hazards?</i> <i>-How can we reduce the impact of natural hazards?</i></p>	<p><b>RESOURCES:</b> <a href="http://www.carolinascienceonline.com">www.carolinascienceonline.com</a></p> <ul style="list-style-type: none"><li>Interactive Whiteboard Activities</li><li>STC Literacy Series Weather</li></ul> <p><a href="http://www.tigtagcarolina.com">www.tigtagcarolina.com</a></p> <ul style="list-style-type: none"><li>Video Sets related to weather and climate</li></ul> <p><a href="http://www.mysi.edu">www.mysi.edu</a> Smithsonian information website</p> <p><b>DEVICES:</b></p> <ul style="list-style-type: none"><li>iPads</li><li>Tablets</li><li>Chromebooks</li><li>ELMO</li><li>SMARTboard</li></ul> <p><b>SOFTWARE:</b></p> <ul style="list-style-type: none"><li>Microsoft Powerpoint</li><li>Microsoft Word</li><li>SMARTboard activities</li></ul>	<p><b>INTERVENTIONS:</b> <i>Smithsonian Science and Technology Concepts™</i></p> <ul style="list-style-type: none"><li>Science Notebooks</li><li>Extensions</li></ul> <p><b>ASSESSMENTS:</b> <i>Smithsonian Science and Technology Concepts™</i> Weather Unit</p> <p><b>Lesson 1 Pre-Assessment</b> <i>Students discuss what they know and like to know about weather</i></p> <p><b>Lesson 17 Assessment</b> <i>Students discuss and reflect on what they have learned</i> <i>-FORMATIVE</i> <i>-SUMMATIVE</i></p> <p><b>Science Notebooks</b></p> <p><b>Inquiry Data Sheets</b> <b>Investigation Follow-up Questions</b></p>