

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>  <b>LS1.A Structure and Function</b>                      All organisms have external parts. Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water and air. Plants also have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow.</p> <p><b>LS1.D Information Processing</b>                      Animals have body parts that capture and convey different kinds of information needed for growth and survival. Animals respond to these inputs with behaviors that help them survive. Plants also respond to some external inputs.</p> <p><b>SCIENCE and ENGINEERING PRACTICES</b>  <b>Constructing Explanations and Designing Solutions</b>                      Use materials to design a device that solves a specific problem or solution to a specific problem</p> <p><b>CROSSCUTTING CONCEPTS</b>  <b>Structure and Function</b>                      The shape and stability of structures of natural and designed objects are related to their function(s).</p>	<p><b>PERFORMANCE EXPECTATION</b>  <b>1-LS1-1</b>                      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><b>RESOURCES:</b>  <i>Smithsonian Science and Technology Concepts™ Organisms Unit Lessons 1-12</i></p> <p><b>SUBCONCEPT 1</b> – Plants and animals are two kinds of organisms. Organisms are similar in some ways and different in others.. <b>Lesson 1</b>  <b>SUBCONCEPT 2</b> –The new starting point in the life cycle of a plant is a seed. <b>Lessons 2-3, 6</b>  <b>SUBCONCEPT 3</b> – Terraria and aquaria may be used as models to examine the interactions between plants and animals in their natural environments.. <b>Lessons 4-12</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>Parts of a Plant</b>  <b>Living Things</b>  <b>Body Systems</b></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 Organisms</li> <li>STC Literacy Series Organisms</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 Plants and Animals</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>                      Organisms Unit</p> <p><b>Lesson 1 Pre-Assessment</b>  <i>Students discuss what they know about organisms.</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>
<p><b>CORE IDEAS</b>  <b>LS1.B Growth and Development of Organisms</b>                      Adult plants and animals can have young. In many kinds of animals, parents and the offspring themselves engage in behaviors that help the offspring survive.</p> <p><b>SCIENCE and ENGINEERING PRACTICES</b>  <b>Obtaining, Evaluating, and Communicating Information</b>                      Read grade-appropriate texts and use media to obtain scientific information to determine patterns in the natural world.</p> <p><b>Scientific Knowledge is Based on Empirical Evidence</b>                      Scientists look for patterns and order when making observations about the world.</p> <p><b>CROSSCUTTING CONCEPTS</b>  <b>Patterns</b>                      Patterns in the natural world can be observed, used to describe phenomena, and used as evidence.</p>	<p><b>PERFORMANCE EXPECTATION</b>  <b>1-LS1-2</b>                      Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.</p>	<p><b>RESOURCES:</b>  <i>Smithsonian Science and Technology Concepts™ Organisms Unit Lessons 8-17</i></p> <p><b>SUBCONCEPT 4</b> – Humans like other organisms, depend on and have an impact on their environment. <b>Lesson 16</b>  <b>SUBCONCEPT 5</b> – Animals and plants in nature have evolved to form closely knit, interdependent systems. <b>Lesson 13-17</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>Reproduction in Flowering Plants</b>  <b>Adaptation</b>  <b>Obtaining Food</b></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 do organisms use structures (parts) to grow and survive? (function)                       -How do the behaviors of organisms help them grow and survive?                       -How do organisms gather and use information to respond to the environment?</p>			

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<p><b>CORE IDEAS</b></p> <p><b>LS3.A Inheritance of Traits</b> Young animals are very much, but not exactly, like their parents. Plants also are very much, but not exactly, like their parents.</p> <p><b>LS3.B Variation of Traits</b> Individuals of the same kind of plant or animal are recognizable as similar but can also vary in many ways.</p> <p><b>SCIENCE and ENGINEERING PRACTICES</b></p> <p><b>Constructing Explanations and Designing Solutions</b> Make observations (firsthand or from media) to construct an evidence-based account for natural phenomena.</p> <p><b>CROSSCUTTING CONCEPTS</b></p> <p><b>Patterns</b> Patterns in the natural world can be observed, used to describe phenomena, and used as evidence.</p>	<p><b>PERFORMANCE EXPECTATION</b></p> <p><b>1-LS3-1</b> Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents.</p>	<p><b>RESOURCES:</b> <i>Smithsonian Science and Technology Concepts™ Organisms Unit Lessons 1-17</i></p> <p><b>SUBCONCEPT 1</b> – Plants and animals are two kinds of organisms. Organisms are similar in some ways and different in others.. <b>Lesson 1</b></p> <p><b>SUBCONCEPT 2</b> –The new starting point in the life cycle of a plant is a seed. <b>Lessons 2-3, 6</b></p> <p><b>SUBCONCEPT 3</b> – Terraria and aquaria may be used as models to examine the interactions between plants and animals in their natural environments.. <b>Lessons 4-12</b></p> <p><b>SUBCONCEPT 4</b> – Humans like other organisms, depend on and have an impact on their environment. <b>Lesson 16</b></p> <p><b>SUBCONCEPT 5</b> – Animals and plants in nature have evolved to form closely knit, interdependent systems. <b>Lesson 13-17</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 <a href="http://www.tigtagcarolina.com">www.tigtagcarolina.com</a></b> <b>Plant Life Cycle</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> -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></p> <p><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 are parents and offspring alike and different?</i>  <i>-How do organisms of the same kind differ?</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 Organisms</li> <li>STC Literacy Series Organisms</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 Plants and Animals</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> Organisms Unit</p> <p><b>Lesson 1 Pre-Assessment</b> <i>Students discuss what they know about organisms.</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>

Quarter 1 cont...

Quarter 2	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
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	<p><b>CORE IDEAS</b>  <b>ESS1.C The History of Planet Earth</b>                      Some events happen very quickly; others occur very slowly, over a time period much longer than one can observe</p> <p><b>SCIENCE and ENGINEERING PRACTICES</b>  <b>Constructing Explanations and Designing Solutions</b>                      Make observations (firsthand or from media) to construct an evidence-based account for natural phenomena</p> <p><b>CROSSCUTTING CONCEPTS</b>  <b>Stability and Change</b>                      Things may change slowly or rapidly</p>	<p><b>PERFORMANCE EXPECTATION</b>  <b>2-ESS1-1</b>                      Make observations from media to construct an evidence-based account that Earth events can occur quickly or slowly.</p>	<p><b>RESOURCES:</b>  <i>Smithsonian Science and Technology Concepts™ Soils Unit Lessons 1-8; 13</i></p> <p><b>SUBCONCEPT 1</b> – Soils contain plants, animals, and their decay remains, and other rock and mineral particles of varying sizes. <b>Lessons 1-2; 13</b></p> <p><b>SUBCONCEPT 2</b> –Sand, clay, and humus are three basic components of soil and have unique properties. These properties may be identified using simple tests. <b>Lessons 3-8</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 <a href="http://www.tigtagcarolina.com">www.tigtagcarolina.com</a></b>  <b>Soils, Erosion</b></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>RESOURCES:</b>  <a href="http://www.carolinascienceonline.com">www.carolinascienceonline.com</a></p> <ul style="list-style-type: none"> <li>Interactive Whiteboard Activities Organisms</li> <li>STC Literacy Series Soils</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 Soils, Wind, Water, Erosion</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>                      Soils Unit</p> <p><b>Lesson 1 Pre-Assessment</b>  <i>Students discuss what they know and would like to know about soils.</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>ESS2.A Earth Materials and Systems</b>                      Wind and water can change the shape of the land</p> <p><b>SCIENCE and ENGINEERING PRACTICES</b>  <b>Constructing Explanations and Designing Solutions</b>                      Compare multiple solutions to a problem.</p> <p><b>ETS1.C Optimizing the Design Solution</b>                      Because there is always more than one possible solution to a problem, it is useful to compare and test designs.</p> <p><b>CROSSCUTTING CONCEPTS</b>  <b>Stability and Change</b>                      Things may change slowly or rapidly  <b>Influence of Engineering, Technology, and Science on Society and the Natural World</b>                      Developing and using technology has impacts on the natural world.</p>	<p><b>PERFORMANCE EXPECTATION</b>  <b>2-ESS2-1</b>                      Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land.</p>	<p><b>RESOURCES:</b>  <i>Smithsonian Science and Technology Concepts™ Soils Unit Lessons 11-12; 14-15</i></p> <p><b>SUBCONCEPT 4</b> – Different soils absorb and retain water at different rates.. <b>Lessons 11-12</b></p> <p><b>SUBCONCEPT 5</b> – All soils can be characterized by using simple tests. <b>Lessons 14-15</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 <a href="http://www.tigtagcarolina.com">www.tigtagcarolina.com</a></b>  <b>Soils, Wind, Water, Erosion</b></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 do wind and water shape the land?                       -How can we design solutions to slow or prevent wind and water from changing the land?</p>	<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>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> LS2.A Interdependent Relationships in Ecosystems Plants depend on water and light to grow.</p> <p><b>SCIENCE and ENGINEERING PRACTICES</b> <b>Planning and Carrying Out Investigations</b> Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence to answer a question.</p> <p><b>CROSSCUTTING CONCEPTS</b> <b>Cause and Effect</b> Events have causes that generate observable patterns.</p>	<p><b>PERFORMANCE EXPECTATION</b> <b>2-LS-1</b> Plan and conduct an investigation to determine if plants need sunlight and water to grow.</p>	<p><b>RESOURCES:</b> <i>Smithsonian Science and Technology Concepts™ Soils Unit Lessons 14-16</i></p> <p><b>SUBCONCEPT 3</b> – Plants gain their nutrition and moisture through root systems that penetrate the soil. <b>Lessons 9-10</b></p> <p><b>SUBCONCEPT 4</b> – Soils are part of a system that integrates the organic world of plant growth and decay with the physical world of soils, rocks, minerals, and hydrology. <b>Lessons 16-17</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><b>Tigtag</b> <a href="http://www.tigtagcarolina.com">www.tigtagcarolina.com</a> <b>Plants, Soils</b></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>-What do plants need to grow?</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 Organisms</li> <li>STC Literacy Series Soils</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 Soils, Wind, Water, Erosion</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> Soils Unit</p> <p><b>Lesson 1 Pre-Assessment</b> <i>Students discuss what they know and would like to know about soils.</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>

Quarter 2 cont...

Quarter 3	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
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	<p><b>CORE IDEAS</b> PS4.A Sound can make matter vibrate, and vibrating matter can make sound</p> <p><b>SCIENCE and ENGINEERING PRACTICES</b> <b>Planning and Carrying Out Investigations</b> Plan and conduct investigations collaboratively to produce data to serve as the basis for evidence to answer a question.</p> <p><b>CROSSCUTTING CONCEPTS</b> <b>Cause and Effect</b> Simple tests can be designed to gather evidence to support or refute ideas about causes.</p>	<p><b>PERFORMANCE EXPECTATION</b> 1-PS4-1 Plan and conduct investigations to provide evidence that vibrating materials make sound and the sound can make materials vibrate.</p>	<p><b>RESOURCES:</b> <i>Carolina™</i> Light and Sound Unit Lessons</p> <p><b>SUBCONCEPT 1 –</b> <b>SUBCONCEPT 2 –</b></p> <p><i>-Inquiry Investigations</i> <i>-Science Notebooking</i> <i>-Hands-on Equipment</i> <i>-Creating Models</i></p> <p><b>Tigtag <a href="http://www.tigtagcarolina.com">www.tigtagcarolina.com</a></b> <b>What is Sound?</b> <b>How Does Sound Travel?</b> <b>How Do We Hear?</b> <b>Changing Pitch</b> <b>Volume</b> <b>Dangers of Sound</b></p>	<p><b>Carolina™</b> <b>Integrated 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>-What is necessary to make sound?</i>  <i>-What is necessary to see objects?</i>  <i>-What happens when a light beam hits a mirror?</i></p>	<p><b>RESOURCES:</b> <a href="http://www.carolinascienceonline.com">www.carolinascienceonline.com</a>  <a href="http://www.tigtagcarolina.com">www.tigtagcarolina.com</a></p> <ul style="list-style-type: none"> <li>• Video Sets related to light and sound</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>Carolina™</i></p> <ul style="list-style-type: none"> <li>• Science Notebooks</li> <li>• Extensions</li> </ul> <p><b>ASSESSMENTS:</b> <i>Carolina™</i> Light and Sound Unit</p> <p><b>Lesson 1 Pre-Assessment</b> <i>Students discuss what they know about light and sound.</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> PS4.B Electromagnetic Radiation Objects can be seen only when light is available to illuminate them. Some objects give off their own light.</p> <p>Some materials allow light to pass through them, others allow only some light through and others block all the light and create a dark shadow on any surface beyond them, where the light cannot reach. Mirrors can be used to redirect a light beam.</p> <p><b>SCIENCE and ENGINEERING PRACTICES</b> <b>Constructing Explanations and Designing Solutions</b> Make observations (firsthand or from media) to construct an evidence-based account for natural phenomena.</p> <p><b>Planning and Carrying Out Investigations</b> Plan and conduct investigations collaboratively to produce data to serve as the basis for evidence to answer a question.</p> <p><b>CROSSCUTTING CONCEPTS</b> <b>Cause and Effect</b> Simple tests can be designed to gather evidence to support or refute ideas about causes.</p>	<p><b>PERFORMANCE EXPECTATION</b> 1-PS4-2 Make observations to construct an evidence-based account that objects can be seen only when illuminated.</p> <p><b>1-PS4-3</b> Plan and conduct an investigation to determine the effect of placing objects made with different materials in the path of the beam of light.</p>	<p><b>RESOURCES:</b> <i>Smithsonian Science and Technology Concepts™</i> Light and Sound Unit Lessons</p> <p><b>SUBCONCEPT 3 –</b></p> <p><i>-Inquiry Investigations</i> <i>-Science Notebooking</i> <i>-Hands-on Equipment</i> <i>-Creating Models</i></p> <p><b>Tigtag <a href="http://www.tigtagcarolina.com">www.tigtagcarolina.com</a></b> <b>What is Light?</b> <b>Light Sources</b> <b>Shadows</b> <b>The Sun as a Light Source</b> <b>Reflection</b> <b>White Light</b></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>-What is necessary to make sound?</i>  <i>-What is necessary to see objects?</i>  <i>-What happens when a light beam hits a mirror?</i></p>	<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>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>PS4.C Information Technologies and Instrumentation</b>                      People also use a variety of devices to communicate (send and receive information) over long distances.</p> <p><b>SCIENCE and ENGINEERING PRACTICES</b>  <b>Constructing Explanations and Designing Solutions</b>                      Use tools and materials provided to design a device that solves a specific problem.</p> <p><b>CROSSCUTTING CONCEPTS</b>  <b>Influence of Engineering, Technology, and Science on Society and the Natural World</b>                      People depend on various technologies in their lives; human life would be very different without technology.</p>	<p><b>PERFORMANCE EXPECTATION</b>  <b>1-PS4-4</b>                      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><b>RESOURCES:</b>  <i>Carolina™</i> Light and Sound Unit Lessons</p> <p><b>SUBCONCEPT 4 –</b>                      -<i>Inquiry Investigations</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>                      How Does Sound Travel?</p>	<p><i>Carolina™</i>                      Integrated Cycle Instruction of                      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 can we use our knowledge of light and sound to design communication devices?</i></p>	<p><b>RESOURCES:</b>  <a href="http://www.carolinascienceonline.com">www.carolinascienceonline.com</a>  <a href="http://www.tigtagcarolina.com">www.tigtagcarolina.com</a></p> <ul style="list-style-type: none"> <li>• Video Sets related to light and sound</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>Carolina™</i></p> <ul style="list-style-type: none"> <li>• Science Notebooks</li> <li>• Extensions</li> </ul> <p><b>ASSESSMENTS:</b>  <i>Carolina™</i>                      Light and Sound Unit</p> <p><b>Lesson 1 Pre-Assessment</b>  <i>Students discuss what they know about light and sound.</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 3 cont...

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	<p><b>CORE IDEAS</b>  <b>ESS1.A The Universe and its Stars</b>                      Patterns of the motion of the sun, moon, and stars in the sky can be observed, described, and predicted.</p> <p><b>SCIENCE and ENGINEERING PRACTICES</b>  <b>Analyzing and Interpreting Data</b>                      Use observations (firsthand or from media) to describe patterns in the natural world in order to answer scientific questions.</p> <p><b>CROSSCUTTING CONCEPTS</b>  <b>Patterns</b>                      Patterns in the natural world can be observed, used to describe phenomena, and used as evidence.</p> <p><b>Scientific Knowledge Assumes an Order and Consistency in Natural Systems</b>                      Science assumes natural events happen today as they happened in the past.</p> <p>Many events are repeated.</p>	<p><b>PERFORMANCE EXPECTATION</b>  <b>1-ESS1-1</b>                      Use observations of the sun, moon, and stars to describe patterns that can be predicted.</p>	<p><b>RESOURCES:</b>  <i>Carolina™ Sky Watchers Unit Lessons</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 3-9</b></p> <p><b>SUBCONCEPT 3</b> – Water exists in solid, liquid, and vapor states. Clouds and fog are made up of droplets of water <b>Lessons 11-14</b></p> <p><i>-Inquiry Investigations</i>  <i>-Science Notebooking</i>  <i>-Hands-on Equipment</i>  <i>-Creating Models</i></p> <p><b>Tigtag <a href="http://www.tigtagcarolina.com">www.tigtagcarolina.com</a></b>  <b>Sun, Earth, Moon</b>  <b>The Moon</b>  <b>Night and Day</b></p>	<p><b>Carolina™</b>                      Integrated Cycle Instruction of 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>  <a href="http://www.tigtagcarolina.com">www.tigtagcarolina.com</a></p> <ul style="list-style-type: none"> <li>• Video Sets related to weather; sun, earth, moon, night, day, seasons</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>Carolina™</i></p> <ul style="list-style-type: none"> <li>• Science Notebooks</li> <li>• Extensions</li> </ul> <p><b>ASSESSMENTS:</b>  <i>Carolina™</i>                      Sky Watchers Unit</p> <p><b>Lesson 1 Pre-Assessment</b>  <i>Students discuss what they know and would like to know about weather patterns.</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>
<p><b>CORE IDEAS</b>  <b>ESS1.B Earth and the Solar System</b>                      Seasonal patterns of sunrise and sunset can be observed, described, and predicted</p> <p><b>SCIENCE and ENGINEERING PRACTICES</b>  <b>Planning and Carrying Out Investigations</b>                      Make observations (firsthand or from media) to collect data that can be used to make comparisons.</p> <p><b>CROSSCUTTING CONCEPTS</b>  <b>Patterns</b>                      Patterns in the natural world can be observed, used to describe phenomena, and used as evidence.</p>	<p><b>PERFORMANCE EXPECTATION</b>  <b>1-ESS1-2</b>                      Make observations at different times of year to relate to the amount of daylight to the time of year.</p>	<p><b>RESOURCES:</b>  <i>Carolina™ Sky Waterchers Unit Lessons 15-17</i></p> <p><b>SUBCONCEPT 4</b> – Understanding the elements of weather helps us plan our daily lives. <b>Lesson 12</b></p> <p><b>SUBCONCEPT 5</b> – Humans can use their observations and records to understand and forecast the weather. <b>Lessons 15-17</b></p> <p><i>-Inquiry Investigations</i>  <i>-Science Notebooking</i>  <i>-Hands-on Equipment</i>  <i>-Creating Models</i></p> <p><b>Tigtag <a href="http://www.tigtagcarolina.com">www.tigtagcarolina.com</a></b>  <b>The Seasons</b>  <b>Night and Day</b></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 patterns can we discover by carefully observing the sky?                       -How can we use these patterns to make predictions?                       -What tools do scientists use to find evidence of patterns?</p>			