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CURRICULUM		INSTRUCTION		TECHNOLOGY	INTERVENTION and
End Product of Learning, "What You Teach"		Means to the End Product of Learning, "What You Teach"		Means to Engage Students and	ASSESSMENT
				Provide Practice	
CONTENT	SKILL	LEARNING RESOURCES	TEACHING STRATEGIES	SOFTWARE and ONLINE Sites	Varied Classroom Assessment
What we want students to "KNOW"	What we want students to "DO"	LEARINING RESOURCES	TEACHING STRATEGIES	SOFT WARE and ONLINE SILES	Strategies
CORE IDEAS	PERFORMANCE EXPECTATION	RESOURCES:	Smithsonian Science and Technology	RESOURCES:	INTERVENTIONS:
PS2.A Forces and Motion	3-PS2-1	Smithsonian Science and Technology	Concepts™	www.carolinascienceonline.com	Smithsonian Science and
Each force acts on one particular object and has both	Plan and conduct an investigation to provide	Concepts™ Motion and Design Unit Lessons	Integrated FERA Cycle Instruction of	<ul> <li>Interactive Whiteboard</li> </ul>	Technology Concepts™
strength and direction. An object at rest typically has	evidence of the effects of balanced and	1-17	Crosscutting concepts and science and	Activities	<ul> <li>Science Notebooks</li> </ul>
multiple forces acting on it, but they add to give zero net	unbalanced forces on the motion of an object.		engineering practices with science core ideas	<ul> <li>STC Literacy Series Motion</li> </ul>	<ul> <li>Extensions</li> </ul>
force on the object. Forces that do not sum to zero can		SUBCONCEPT 1 – The products of		and Design	
cause changes in the object's speed or direction of motion	3-PS2-2	technological design must meet certain	FOCUS Strategies include:		
	Make observations and/or measurements of an	specifications, which are set forth in	-pre-teaching activities such as brainstorming,	www.tigtagcarolina.com	ASSESSMENTS:
Objects in contact exert forces on each other.	object's motion to provide evidence that a pattern	technical drawings. Lessons 1-2	KWL charts, anticipation guides, etc.	<ul> <li>Video Sets related to</li> </ul>	Smithsonian Science and
COLEMON 4 ENGINEEDING DRACTICES	can be used to predict future motion.	<b>SUBCONCEPT 2</b> – The position and motion of	-guiding/focus questions	Forces, Motion, Speed,	Technology Concepts™
SCIENCE and ENGINEERING PRACTICES		an object may be changed by a force, such	TVDI ODE Street aging includes	Direction, Pushes/Pulls	Motion and Design Unit
Planning and Carrying Out Investigations Plan and conduct an investigation collaboratively to		as pushing or pulling. <b>Lessons 3-5 SUBCONCEPT 3</b> – The forces acting on a	EXPLORE Strategies include: -inquiry-based discussions and investigations		-
produce data to serve as the basis for evidence, using fair		vehicle include different forms of energy	-classroom activities, inquiries and models to	www.mysi.edu	Lesson 1 Pre-Assessment
tests in which variables are controlled and the number of		that act as a driving and resisting force.	help students develop a further understanding	Smithsonian information website	Students build vehicles to meet
trials considered.		Lessons 6-12	of the concepts/core ideas being discussed	DE1/4050	design requirements
		SUBCONCEPT 4 – Technological designs and		DEVICES:	
Make observations and/or measurements to produce		products may be evaluated in terms of their	REFLECT Strategies include:	• iPads	Lesson 17 Assessment
data to serve as the basis for evidence for an explanation		cost, as well as their scientific and	-Science Notebooking	• Tablets	Students discuss and reflect on
of a phenomenon or test a design solution		technological efficiency. Lessons 13-17	-Key Ideas	• Chromebooks	what they have learned
			-Academic Vocabulary	• ELMO	-FORMATIVE
CROSSCUTTING CONCEPTS		-Inquiry Investigations	·	SMARTboard	-SUMMATIVE
Patterns		-STC Literacy Series Reading Selections	APPLY Strategies include:		Science Notebooks
Patterns of change can be used to make predictions		-Science Notebooking	-Venn diagrams, cause and effect charts,	SOFTWARE:	Science Notebooks
Cause and Effect		-Student Investigation Guides	review games, engineering application lessons,	Microsoft Powerpoint	Inquiry Data Sheets
Cause and effect relationships are routinely identified		-Hands-on Equipment	etc.	Microsoft Word	Investigation Follow-up
		-Creating Models		SMARTboard activities	Questions
			COMMON CORE		Q. 600.0
		Tigtag www.tigtagcarolina.com	Reading Informational Text RI.1-9:		
		Action and Reaction	RI.1-3 Key Ideas and Details		
		Force	RI.4-6 Craft and Structure RI.7-9 Integration of Knowledge and Ideas		
CORE IDEAS	PERFORMANCE EXPECTATION	RESOURCES:	RI.7-9 Integration of Knowledge and Ideas		
PS2.B Types of Interactions	3-PS2-3	Carolina™ Science Magnifier	Writing W.1-9		
Electric and magnetic forces between a pair of objects do	Ask questions to determine cause and effect	Magnetism, pp. 256-263	W.1-3 Text Types and Purpose		
not require that the objects be in contact. The sizes of the	relationships of electric or magnetic interactions	Widgitetisiii, pp. 230 203	W.4-6 Production and Distribution of Writing		
forces in each situation depend on the properties of the	between two objects not in contact with each		W.7-9 Research to Build and Present		
objects and their distances apart and, for forces between	other.	Tigtag www.tigtagcarolina.com	Knowledge		
two magnets, on their orientation relative to each other	3-PS2-4	Electricity and Magnetism	, and the second		
SCIENCE and ENGINEERING PRACTICES	Define a simple design problem that can be solved	Using Magnetism	GUIDING QUESTIONS		
Asking Questions and Defining Problems	by applying scientific ideas about magnets.		-What do all forces have in common?		
Ask questions that can be investigated based on patterns	_				
such as cause and effect relationships. Define a simple			-How can we investigate balanced and		
problem that can be solved through the development of a			unbalanced forces? What happens to an object		
new or improved object or food.			when forces are unbalanced?		
CROSSCUTTING CONCEPTS			- "		
Cause and Effect			-Do all forces act in the same way?		
Cause and effect relationships are routinely identified,					
tested, and used to explain change.					

CURRICUL	UM	INSTR	UCTION	TECHNOLOGY	INTERVENTION and
	End Product of Learning, "What You Teach"		Means to the End Product of Learning, "What You Teach"		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
Reproduction is essential to the continued existence of every kind of organism. Plants and animals have unique and diverse life cycles.  SCIENCE and ENGINEERING PRACTICES Developing and Using Models Develop models to describe phenomena.  CROSSCUTTING CONCEPTS Patterns Patterns of change can be used to make predictions	PERFORMANCE EXPECTATION  3-LS1-1  Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death.	RESOURCES:  Smithsonian Science and Technology  Concepts™ The Life Cycle of Butterflies Unit Lessons 7-9, 13-16  SUBCONCEPT 2 —As part of its life cycle, the butterfly emerges from a chrysalis Lessons 7-9  SUBCONCEPT 4 —Scientists use data on organisms' structures and life cycles to understand and classify living things Lessons 13-16  -Inquiry Investigations -STC Literacy Series Reading Selections -Science Notebooking -Hands-on Equipment -Creating Models  Tigtag www.tigtagcarolina.com Reproduction in Plants; Plant Life Cycles; What is Reproduction?; Life Cycles  Carolina™ Science Magnifier Life Cycles, pp. 110-121	Smithsonian Science and Technology Concepts™ Integrated FERA Cycle Instruction of Crosscutting concepts and science and engineering practices with science core ideas  FOCUS Strategies include: -pre-teaching activities such as brainstorming, KWL charts, anticipation guides, etcguiding/focus questions  EXPLORE Strategies include: -inquiry-based discussions and investigations -classroom activities, inquiries and models to help students develop a further understanding of the concepts/core ideas being discussed  REFLECT Strategies include: -Science Notebooking -Key Ideas -Academic Vocabulary  APPLY Strategies include: -Venn diagrams, cause and effect charts, review games, engineering application lessons, etc.	RESOURCES: www.carolinascienceonline.com Interactive Whiteboard Activities STC Literacy Series The Life Cycle of Butterflies  www.tigtagcarolina.com Video Sets related to Life Cycles; Plant and Animal Structures; Reproduction  www.mysi.edu Smithsonian information website  DEVICES: iPads Tablets Chromebooks ELMO SMARTboard  SOFTWARE: Microsoft Powerpoint Microsoft Word	INTERVENTIONS:  Smithsonian Science and Technology Concepts™  Science Notebooks Extensions  ASSESSMENTS: Smithsonian Science and Technology Concepts™ The Life Cycle of Butterflies Unit  Lesson 1 Pre-Assessment Students discuss what they know about caterpillars and butterflies  Lesson 16 Assessment Students discuss and reflect on what they have learned -FORMATIVE -SUMMATIVE  Science Notebooks  Inquiry Data Sheets Investigation Follow-up
LS3.A Inheritance of Traits  Many characteristics of organisms are inherited from their parents	PERFORMANCE EXPECTATION 3-LS3-1 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.	RESOURCES:  Smithsonian Science and Technology Concepts™ The Life Cycle of Butterflies Unit Lessons 1-6; 10-12  SUBCONCEPT 2 —Caterpillars represent one stage of a butterfly's life cycle Lessons 1-6 SUBCONCEPT 3 —The structure of a butterfly provide the means for its essential life functions Lessons 10-12  -Inquiry Investigations -STC Literacy Series Reading Selections -Science Notebooking -Hands-on Equipment -Creating Models  Tigtag www.tigtagcarolina.com Silver Foxes  Carolina™ Science Magnifier Organisms Reproduce, p. 61	COMMON CORE Reading Informational Text RI.1-9: RI.1-3 Key Ideas and Details RI.4-6 Craft and Structure RI.7-9 Integration of Knowledge and Ideas  Writing W.1-9 W.1-3 Text Types and Purpose W.4-6 Production and Distribution of Writing W.7-9 Research to Build and Present Knowledge  GUIDING QUESTIONS -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?	SMARTboard activities	Questions

CURRICULU	UM	INSTR	UCTION	TECHNOLOGY	INTERVENTION and
End Product of Learning, "V	End Product of Learning, "What You Teach"		f Learning, "What You Teach"	Means to Engage Students and	ASSESSMENT
				Provide Practice	
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
LS3.A Inheritance of Traits  Sometimes the differences in characteristics between individuals of the same species provide advantages in surviving, finding mates, and reproducing  SCIENCE and ENGINEERING PRACTICES Constructing Explanations and Designing Solutions Use evidence (e.g. observations, patterns) to construct and explanation  CROSSCUTTING CONCEPTS Cause and Effect Cause and effect relationships are routinely identified and used to explain change.	PERFORMANCE EXPECTATION 3-LS4-2 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.	RESOURCES:  Smithsonian Science and Technology  Concepts™ The Life Cycle of Butterflies Unit  Lessons 13-16  SUBCONCEPT 4 — Scientists use data on organisms' structures and life cycles to understand and classify living things  Lessons 13-16  -Inquiry Investigations -STC Literacy Series Reading Selections -Science Notebooking -Hands-on Equipment -Creating Models  Tigtag www.tigtagcarolina.com  Reproduction in Plants; Plant Life Cycles; What is Reproduction?; Life Cycles  Carolina™ Science Magnifier  Life Cycles, pp. 110-121	Smithsonian Science and Technology Concepts™ Integrated FERA Cycle Instruction of Crosscutting concepts and science and engineering practices with science core ideas  FOCUS Strategies include: -pre-teaching activities such as brainstorming, KWL charts, anticipation guides, etcguiding/focus questions  EXPLORE Strategies include: -inquiry-based discussions and investigations -classroom activities, inquiries and models to help students develop a further understanding of the concepts/core ideas being discussed  REFLECT Strategies include: -Science Notebooking -Key Ideas -Academic Vocabulary  APPLY Strategies include:	RESOURCES:  www.carolinascienceonline.com  Interactive Whiteboard Activities  STC Literacy Series The Life Cycle of Butterflies  www.tigtagcarolina.com Video Sets related to Life Cycles; Plant and Animal Structures; Reproduction  www.mysi.edu Smithsonian information website  DEVICES:  iPads Tablets Chromebooks ELMO SMARTboard	INTERVENTIONS:  Smithsonian Science and Technology Concepts™
LS3.B Variation of Traits  The environment also affects the traits that an organism	PERFORMANCE EXPECTATION 3-LS3-2 Use evidence to support the explanation that traits can be influenced by the environment.	RESOURCES: Smithsonian Science and Technology Concepts™ The Life Cycle of Butterflies Unit Lesson 12  SUBCONCEPT 3 — The structure of a butterfly provide the means for its essential life functions — Students discuss how the butterflies will survive in their natural environment Lesson 12  -Inquiry Investigations -STC Literacy Series Reading Selections -Science Notebooking -Hands-on Equipment -Creating Models  Tigtag www.tigtagcarolina.com Silver Foxes  Carolina™ Science Magnifier Organisms Reproduce, p. 61	-Venn diagrams, cause and effect charts, review games, engineering application lessons, etc.  COMMON CORE Reading Informational Text RI.1-9: RI.1-3 Key Ideas and Details RI.4-6 Craft and Structure RI.7-9 Integration of Knowledge and Ideas  Writing W.1-9 W.1-3 Text Types and Purpose W.4-6 Production and Distribution of Writing W.7-9 Research to Build and Present Knowledge  GUIDING QUESTIONS -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?	Microsoft Powerpoint     Microsoft Word     SMARTboard activities	Science Notebooks  Inquiry Data Sheets Investigation Follow-up Questions

	CURRICU Ford Product of Logaring			RUCTION	TECHNOLOGY Magneto France Students and	INTERVENTION and
	End Product of Learning,	what You Teach	Weans to the Ena Product	of Learning, "What You Teach"	Means to Engage Students and Provide Practice	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
Quarter 3	CORE IDEAS LS2.D Social Interactions and Group Behavior 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.  SCIENCE and ENGINEERING PRACTICES Engaging in Argument from Evidence Construct an argument with evidence, data, and/or a model.  CROSSCUTTING CONCEPTS Cause and Effect Cause and effect relationships are routinely identified and used to explain change.	PERFORMANCE EXPECTATION 3-LS2-1 Construct an argument that some animals form groups that help members survive.	RESOURCES:  Smithsonian Science and Technology Concepts™ Animal Studies Unit Lessons 1-8  SUBCONCEPT 1 –The nature of a habitat controls the kinds of organisms that may survive within it. Lessons 1-2 SUBCONCEPT 2 –The structures and behaviors of an organism determine how it adapts to its environment. Lessons 3-8  -Inquiry Investigations -STC Literacy Series Reading Selections -Science Notebooking -Student Investigation Guides -Hands-on Equipment -Creating Models  Tigtag www.tigtagcarolina.com Adaptation	Smithsonian Science and Technology Concepts™ Integrated FERA Cycle Instruction of Crosscutting concepts and science and engineering practices with science core ideas  FOCUS Strategies include: -pre-teaching activities such as brainstorming, KWL charts, anticipation guides, etcguiding/focus questions  EXPLORE Strategies include: -inquiry-based discussions and investigations -classroom activities, inquiries and models to help students develop a further understanding of the concepts/core ideas being discussed  REFLECT Strategies include: -Science Notebooking -Key Ideas -Academic Vocabulary	RESOURCES: www.carolinascienceonline.com	INTERVENTIONS:  Smithsonian Science and Technology Concepts™  Science Notebooks Extensions  ASSESSMENTS:  Smithsonian Science and Technology Concepts™ Animal Studies Unit  Lesson 1 Pre-Assessment Students discuss what they know about animals and their habitats  Lesson 16 Assessment Students discuss and reflect on what they have learned -FORMATIVE -SUMMATIVE
Qu	CORE IDEAS LS4.A Evidence of Common Ancestry and Diversity Some kinds of plants and animals that once lived on Earth are no longer found anywhere.  Fossils provide evidence about the types of organisms that lived long ago and also about the nature of their environments.  SCIENCE and ENGINEERING PRACTICES Analyzing and Interpreting Data Analyze and interpret data to make sense of phenomena using logical reasoning.  CROSSCUTTING CONCEPTS Scale, Proportion, and Quantity Observable phenomena exist from very short to very long time periods.	PERFORMANCE EXPECTATION 3-LS4-1 Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago.	Carolina™ Science Magnifier Animal Behavior pp. 74-77  RESOURCES: Smithsonian Science and Technology Concepts™ Animal Studies Unit Lessons 1-8  SUBCONCEPT 3 —An organism's structures and behaviors are related to its environment Lesson 11  -Inquiry Investigations -STC Literacy Series Reading Selections -Science Notebooking -Student Investigation Guides -Hands-on Equipment -Creating Models  STC Literacy Series — Animal Studies The Amazing Discoveries of Charles Darwin  Carolina™ Science Magnifier Endangered Species and Extinction pp. 76-77; Prehistoric Plants and Animals pp. 156-159	APPLY Strategies include:  -Venn diagrams, cause and effect charts, review games, engineering application lessons, etc.  COMMON CORE Reading Informational Text RI.1-9: RI.1-3 Key Ideas and Details RI.4-6 Craft and Structure RI.7-9 Integration of Knowledge and Ideas  Writing W.1-9 W.1-3 Text Types and Purpose W.4-6 Production and Distribution of Writing W.7-9 Research to Build and Present Knowledge  GUIDING QUESTIONS -How do organisms respond to changes in their environment? -How do organisms benefit from group behavior? -What is the relationship between survival and adaptation? -How do changes in habitats impact populations? -What can we learn from investigating fossils?	Microsoft Powerpoint     Microsoft Word     SMARTboard activities	Science Notebooks Inquiry Data Sheets Investigation Follow-up Questions

	CURRICULUM		INSTR	UCTION	TECHNOLOGY	INTERVENTION and
	End Product of Learning,	"What You Teach"	Means to the End Product of Learning, "What You Teach"		Means to Engage Students and Provide Practice	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
ES4.C For all survive	E IDEAS C Adaptation The particular environment, some kinds of organisms ove well, some survive less well, and some cannot ove at all.  NCE and ENGINEERING PRACTICES ging in Argument from Evidence truct an argument with evidence.  SSCUTTING CONCEPTS e and Effect e and effect relationships are routinely identified and to explain change.	PERFORMANCE EXPECTATION 3-LS4-3 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.	RESOURCES:  Smithsonian Science and Technology  Concepts™ Animal Studies Unit  Lessons 12-17  SUBCONCEPT 4 —A combination of behaviors and structures, rather than any single characteristic, enables an animal to survive in a particular habitat Lessons 12-17  -Inquiry Investigations -STC Literacy Series Reading Selections -Science Notebooking -Student Investigation Guides -Hands-on Equipment -Creating Models  Tigtag www.tigtagcarolina.com Adaptation  Carolina™ Science Magnifier Endangered Species and Extinction pp. 76-77	Smithsonian Science and Technology Concepts™ Integrated FERA Cycle Instruction of Crosscutting concepts and science and engineering practices with science core ideas  FOCUS Strategies include: -pre-teaching activities such as brainstorming, KWL charts, anticipation guides, etcguiding/focus questions  EXPLORE Strategies include: -inquiry-based discussions and investigations -classroom activities, inquiries and models to help students develop a further understanding of the concepts/core ideas being discussed  REFLECT Strategies include: -Science Notebooking -Key Ideas -Academic Vocabulary  APPLY Strategies include: -Venn diagrams, cause and effect charts,	RESOURCES:  www.carolinascienceonline.com  Interactive Whiteboard Activities  STC Literacy Series Animal Studies  www.tigtagcarolina.com Traits; Habitat; Organisms Adaptation; Environment  www.mysi.edu Smithsonian information website  DEVICES: IPads Tablets Chromebooks ELMO SMARTboard  SOFTWARE: Microsoft Powerpoint	INTERVENTIONS:  Smithsonian Science and Technology Concepts™  Science Notebooks  Extensions  ASSESSMENTS: Smithsonian Science and Technology Concepts™ Animal Studies Unit  Lesson 1 Pre-Assessment Students discuss what they know about animals and their habitats  Lesson 16 Assessment Students discuss and reflect on what they have learned -FORMATIVE -SUMMATIVE  Science Notebooks
LS4.D Popul those LS2.C Wher place availare repromove SCIEN Engage Make by cit and c CROS Syste A syste	EIDEAS D Biodiversity and Humans Illations live in a variety of habitats, and change in the habitats affects the organisms living there. E Ecosystem Dynamics, Functioning, and Resilience in the environment changes in ways that affect a se's physical characteristics, temperature, or ability of resources, some organisms survive and oduce, others move to new locations, yet others that into the transformed environment, and some die.  NCE and ENGINEERING PRACTICES ging in Argument from Evidence a claim about the merit of a solution to a problem ting relevant evidence about how it meets the criteria constraints of the problem.  SSCUTTING CONCEPTS Tems and System Models them can be described to terms of its components and interactions.	PERFORMANCE EXPECTATION 3-LS4-4  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.	RESOURCES:  Smithsonian Science and Technology Concepts™ Animal Studies Unit Lessons 10-17  SUBCONCEPT 3 —An organism's structures and behaviors are related to its environment Lessons 10-11  SUBCONCEPT 4 —A combination of behaviors and structures, rather than any single characteristic, enables an animal to survive in a particular habitat Lessons 12-17  -Inquiry Investigations -STC Literacy Series Reading Selections -Science Notebooking -Student Investigation Guides -Hands-on Equipment -Creating Models  Tigtag www.tigtagcarolina.com Living Things in Their Environment  Carolina™ Science Magnifier Habitat pp. 76-77; Ecosystems pp. 122-131	review games, engineering application lessons, etc.  COMMON CORE Reading Informational Text RI.1-9: RI.1-3 Key Ideas and Details RI.4-6 Craft and Structure RI.7-9 Integration of Knowledge and Ideas  Writing W.1-9 W.1-3 Text Types and Purpose W.4-6 Production and Distribution of Writing W.7-9 Research to Build and Present Knowledge  GUIDING QUESTIONS -What is the relationship between survival and adaptation? -How do changes in habitats impact populations?	Microsoft Word     SMARTboard activities	Inquiry Data Sheets Investigation Follow-up Questions

CURRICULUM			RUCTION	TECHNOLOGY	INTERVENTION and
End Product of Learning,	"What You Teach"	Means to the End Product of Learning, "What You Teach"		Means to Engage Students and Provide Practice	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
CORE IDEAS LS1.A Structure and Function Animals have both internal and external structures that serve various functions in growth, behavior, and reproduction.  SCIENCE and ENGINEERING PRACTICES Engaging in Argument from Evidence Construct an argument with evidence, data, and/or a model.  CROSSCUTTING CONCEPTS Systems and System Models A system can be described in terms of its components and their interactions.	PERFORMANCE EXPECTATION 4-LS1-1 Construct an argument that some animals have internal and external function to support survival, growth, behavior, and reproduction.	RESOURCES:  Smithsonian Science and Technology  Concepts™ Animal Studies Unit  Lessons 3-8  SUBCONCEPT 2 — The structures and behaviors of an organism determine how it adapts to its environment. Lessons 3-8  -Inquiry Investigations -STC Literacy Series Reading Selections -Science Notebooking -Student Investigation Guides -Hands-on Equipment -Creating Models  Tigtag www.tigtagcarolina.com Plants and Animals  Carolina™ Science Magnifier Animals pp. 78-81; The Human Body pp. 90-99; Plants pp. 116-127	Smithsonian Science and Technology Concepts™ Integrated FERA Cycle Instruction of Crosscutting concepts and science and engineering practices with science core ideas  FOCUS Strategies include: -pre-teaching activities such as brainstorming, KWL charts, anticipation guides, etcguiding/focus questions  EXPLORE Strategies include: -inquiry-based discussions and investigations -classroom activities, inquiries and models to help students develop a further understanding of the concepts/core ideas being discussed  REFLECT Strategies include: -Science Notebooking -Key Ideas -Academic Vocabulary	RESOURCES: www.carolinascienceonline.com  Interactive Whiteboard Activities  STC Literacy Series Animal Studies  www.tigtagcarolina.com Traits; Habitat; Organisms Adaptation; Environment  www.mysi.edu Smithsonian information website  DEVICES:  iPads Tablets Chromebooks ELMO SMARTboard	INTERVENTIONS:  Smithsonian Science and Technology Concepts™  Science Notebooks Extensions  ASSESSMENTS: Smithsonian Science and Technology Concepts™ Animal Studies Unit  Lesson 1 Pre-Assessment Students discuss what they know about animals and their habitats  Lesson 16 Assessment Students discuss and reflect on what they have learned -FORMATIVE -SUMMATIVE
CORE IDEAS LS1.D  Different sense receptors are specialized for particular kinds of information, which may then be processed by the animal's brain. Animals are able to use their perceptions and memories to guide their actions  SCIENCE and ENGINEERING PRACTICES Developing and Using Models Use a model to test interactions concerning the functioning of a natural system.  CROSSCUTTING CONCEPTS Systems and System Models A system can be described in terms of its components and their interactions.	PERFORMANCE EXPECTATION 4-LS1-2 Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways.	RESOURCES:  Smithsonian Science and Technology  Concepts™ Animal Studies Unit  Lessons 9-11  SUBCONCEPT 3 —An organism's structures and behaviors are related to its environment  Lessons 9-11  -Inquiry Investigations -STC Literacy Series Reading Selections -Science Notebooking -Student Investigation Guides -Hands-on Equipment -Creating Models  Tigtag www.tigtagcarolina.com  Brain; What is Memory?; How We See it  (part 2)  Carolina™ Science Magnifier  The Nervous System p. 91	-Venn diagrams, cause and effect charts, review games, engineering application lessons, etc.  COMMON CORE Reading Informational Text RI.1-9: RI.1-3 Key Ideas and Details RI.4-6 Craft and Structure RI.7-9 Integration of Knowledge and Ideas  Writing W.1-9 W.1-3 Text Types and Purpose W.4-6 Production and Distribution of Writing W.7-9 Research to Build and Present Knowledge  GUIDING QUESTIONS -How do organisms respond to changes in their environment? -How do organisms benefit from group behavior? -What is the relationship between survival and adaptation? -How do changes in habitats impact populations? -What can we learn from investigating fossils? -How do animals respond to light? -How do animals sense and process information?	Microsoft Powerpoint     Microsoft Word     SMARTboard activities	Science Notebooks Inquiry Data Sheets Investigation Follow-up Questions

CURRICU	LLINA	INISTR	UCTION	TECHNOLOGY	INTERVENTION and
	f Learning, "What You Teach"  Means to the End Product of Learning, "What You Teach"				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
ESS2.D Weather and Climate Scientists record patterns of the weather across different times and areas so they can make predictions about what kind of weather might happen next.  SCIENCE and ENGINEERING PRACTICES Analyzing and Interpreting Data Represent data in tables and various graphical displays (bar graphs, pictographs and/or pie charts) to reveal the patterns that indicate relationships  CROSSCUTTING CONCEPTS Patterns Patterns of change can be used to make predictions	PERFORMANCE EXPECTATION 3-ESS2-1 Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.	RESOURCES:  Smithsonian Science and Technology Concepts™ Weather Unit Lessons 1-10  SUBCONCEPT 1 —Weather is characterized by features such as temperature, wind speed and direction, and precipitation. Lessons 1-2 SUBCONCEPT 2 —Weather may be quantified using tools such as thermometers, rain gauges, and wind speed and direction indicators. Lessons 3-10  Tigtag www.tigtagcarolina.com Weather Carolina™ Science Magnifier Weather, Seasons, and Climate pp. 186-197	Smithsonian Science and Technology Concepts™ Integrated FERA Cycle Instruction of Crosscutting concepts and science and engineering practices with science core ideas  FOCUS Strategies include: -pre-teaching activities such as brainstorming, KWL charts, anticipation guides, etcguiding/focus questions  EXPLORE Strategies include: -inquiry-based discussions and investigations -classroom activities, inquiries and models to help students develop a further understanding of the concepts/core ideas being discussed  REFLECT Strategies include:	www.carolinascienceonline.com  Interactive Whiteboard Activities  STC Literacy Series Weather  www.tigtagcarolina.com  Video Sets related to weather and climate  www.mysi.edu Smithsonian information website  DEVICES:  i Pads  Tablets	INTERVENTIONS:  Smithsonian Science and Technology Concepts™  • Science Notebooks • Extensions  ASSESSMENTS: Smithsonian Science and Technology Concepts™ Weather Unit  Lesson 1 Pre-Assessment Students discuss what they know and like to know about weather  Lesson 17 Assessment Students discuss and reflect on
CORE IDEAS ESS2.D Weather and Climate Climate describes a range of an area's typical weather conditions and the extent to which those conditions vary over years.  SCIENCE and ENGINEERING PRACTICES Obtaining, Evaluating, and Communicating Information Obtain and combine information from books and other reliable media to explain phenomena.  CROSSCUTTING CONCEPTS Patterns Patterns of change can be used to make predictions	PERFORMANCE EXPECTATION 3-ESS2-2 Obtain and combine information to describe climates in different regions of the world.	RESOURCES:  Smithsonian Science and Technology Concepts™ Weather Unit Lessons 5-13  SUBCONCEPT 3 -Water exists in solid, liquid, and vapor states. Clouds and fog are made up of droplets of water. Lessons 11; 13-14 SUBCONCEPT 4 -Understanding the elements of weather helps us plan our daily lives. Lesson 12 SUBCONCEPT 5 -Humans can use their observations and records to understand and forecast the weather. Scientists who do this are called meteorologists Lessons 15-17  -Inquiry Investigations -STC Literacy Series Reading Selections -Science Notebooking -Hands-on Equipment -Creating Models  Tigtag www.tigtagcarolina.com Weather  Carolina™ Science Magnifier What is Climate? pp. 197	-Science Notebooking -Key Ideas -Academic Vocabulary  APPLY Strategies include: -Venn diagrams, cause and effect charts, review games, engineering application lessons, etc.  COMMON CORE Reading Informational Text RI.1-9: RI.1-3 Key Ideas and Details RI.4-6 Craft and Structure RI.7-9 Integration of Knowledge and Ideas  Writing W.1-9 W.1-3 Text Types and Purpose W.4-6 Production and Distribution of Writing W.7-9 Research to Build and Present Knowledge  GUIDING QUESTIONS -How can we record and analyze data to make predictions? -What is climate? What is weather?	ELMO     SMARTboard  SOFTWARE:     Microsoft Powerpoint     Microsoft Word     SMARTboard activities	what they have learned -FORMATIVE -SUMMATIVE  Science Notebooks Inquiry Data Sheets Investigation Follow-up Questions

CURRICULU	UM	INSTR	UCTION	TECHNOLOGY	INTERVENTION and
End Product of Learning, "V	What You Teach"	Means to the End Product of Learning, "What You Teach"		Means to Engage Students and Provide Practice	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
ESS3.B Natural Hazards  A variety of natural hazards result from natural processes.  Humans cannot eliminate natural hazards but can take	PERFORMANCE EXPECTATION 3-ESS3-1 Make a claim about the merit of a design solution that reduces the impacts of weather-related hazard.	RESOURCES: Smithsonian Science and Technology Concepts™ Weather Unit Lessons 15-17  SUBCONCEPT 5 —Humans can use their observations and records to understand and forecast the weather. Scientists who do this are called meteorologists Lessons 15-17  -Inquiry Investigations -STC Literacy Series Reading Selections -Science Notebooking -Hands-on Equipment -Creating Models  Tigtag www.tigtagcarolina.com Weather  Carolina™ Science Magnifier Weather Events pp. 192-193	Smithsonian Science and Technology Concepts™ Integrated FERA Cycle Instruction of Crosscutting concepts and science and engineering practices with science core ideas  FOCUS Strategies include: -pre-teaching activities such as brainstorming, KWL charts, anticipation guides, etcguiding/focus questions  EXPLORE Strategies include: -inquiry-based discussions and investigations -classroom activities, inquiries and models to help students develop a further understanding of the concepts/core ideas being discussed  REFLECT Strategies include: -Science Notebooking -Key Ideas -Academic Vocabulary  APPLY Strategies include: -Venn diagrams, cause and effect charts, review games, engineering application lessons, etc.  COMMON CORE Reading Informational Text RI.1-9: RI.1-3 Key Ideas and Details RI.4-6 Craft and Structure RI.7-9 Integration of Knowledge and Ideas  Writing W.1-9  W.1-3 Text Types and Purpose W.4-6 Production and Distribution of Writing W.7-9 Research to Build and Present Knowledge  GUIDING QUESTIONS -What causes natural hazards? -How can we reduce the impact of natural hazards?	RESOURCES: www.carolinascienceonline.com	INTERVENTIONS:  Smithsonian Science and Technology Concepts™  Science Notebooks Extensions  ASSESSMENTS: Smithsonian Science and Technology Concepts™ Weather Unit  Lesson 1 Pre-Assessment Students discuss what they know and like to know about weather  Lesson 17 Assessment Students discuss and reflect on what they have learned -FORMATIVE -SUMMATIVE  Science Notebooks  Inquiry Data Sheets Investigation Follow-up Questions