

Quarter 1

CURRICULUM End Product of Learning, “What You Teach”		INSTRUCTION Means to the End Product of Learning, “What You Teach”		TECHNOLOGY Means to Engage Students and Provide Practice	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>CORE IDEAS</p> <p>PS2.B Types of Interactions</p> <p>The gravitational force of Earth acting on an object near Earth’s surface pulls that object toward the planet’s surface.</p> <p>SCIENCE and ENGINEERING PRACTICES</p> <p>Engaging in Argument from Evidence</p> <p>Support an argument with evidence, data, or a model.</p> <p>CROSSCUTTING CONCEPTS</p> <p>Cause and Effect</p> <p>Cause and effect relationships are routinely identified and used to explain change.</p>	<p>PERFORMANCE EXPECTATION</p> <p>5-PS2-1</p> <p>Support an argument that the gravitational force exerted by Earth on objects is directed down.</p>	<p>RESOURCES:</p> <p><i>Smithsonian Science and Technology Concepts™</i> Researching the Sun-Earth-Moon System Unit Lessons 1; 4-7</p> <p>SUBCONCEPT 1 – Students have preconceived ideas and questions about the Sun, Earth, and Moon Lesson 1</p> <p>SUBCONCEPT 4 – The phases of the Moon, eclipses, and tides are a result of the Moon’s motion around Earth and its position relative to the Sun and Earth.. Lessons 4-7</p> <p>-Inquiry Investigations</p> <p>-Science Notebooking</p> <p>-Student Guide</p> <p>-Hands-on Equipment</p> <p>-Creating Models</p> <p>TWIG www.twigcarolina.com</p> <p>Gravitational Force</p> <p><i>Carolina™ Science Magnifier</i></p> <p><i>Non-Contact Forces (gravity) pp.334-335</i></p>	<p><i>Smithsonian Science and Technology Concepts™</i></p> <p>Integrated FERA Cycle Instruction of</p> <p>Crosscutting concepts and science and engineering practices with science core ideas</p> <p>FOCUS Strategies include:</p> <p>-pre-teaching activities such as brainstorming, KWL charts, anticipation guides, etc.</p> <p>-guiding/focus questions</p> <p>EXPLORE Strategies include:</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>REFLECT Strategies include:</p> <p>-Science Notebooking</p> <p>-Key Ideas</p> <p>-Academic Vocabulary</p> <p>APPLY Strategies include:</p> <p>-Venn diagrams, cause and effect charts, review games, engineering application lessons, etc.</p>	<p>RESOURCES:</p> <p>www.carolinascienceonline.com</p> <ul style="list-style-type: none">Interactive Whiteboard Activities <p>www.tigtagcarolina.com</p> <ul style="list-style-type: none">Video Sets related to gravity, sun, stars <p>www.mysi.edu</p> <p>Smithsonian information website</p> <p>DEVICES:</p> <ul style="list-style-type: none">iPadsTabletsChromebooksELMOSMARTboard <p>SOFTWARE:</p> <ul style="list-style-type: none">Microsoft PowerpointMicrosoft WordSMARTboard activities	<p>INTERVENTIONS:</p> <p><i>Smithsonian Science and Technology Concepts™</i></p> <ul style="list-style-type: none">Science NotebooksExtensions <p>ASSESSMENTS:</p> <p><i>Smithsonian Science and Technology Concepts™</i></p> <p>Researching the Sun-Earth-Moon System Unit</p> <p>Lesson 1 Pre-Assessment</p> <p><i>Students focus on what they know and want to know about the Sun-Earth-Moon system and use spheres to represent the relative sizes of the Sun, Earth, and Moon.</i></p> <p>Lesson 10 Assessment</p> <p><i>Students complete an inquiry analysis and a written assessment to evaluate how well they have learned the concepts.</i></p> <p>-FORMATIVE</p> <p>-SUMMATIVE</p> <p>Science Notebooks</p> <p>Inquiry Data Sheets</p> <p>Investigation Follow-up Questions</p>
<p>CORE IDEAS</p> <p>ESS1.A The Universe and its Stars</p> <p>The sun is a star that appears larger and brighter than other stars because it is closer. Stars range in their distance from Earth.</p> <p>SCIENCE and ENGINEERING PRACTICES</p> <p>Engaging in Argument from Evidence</p> <p>Support an argument with evidence, data, or a model.</p> <p>CROSSCUTTING CONCEPTS</p> <p>Scale, Proportion, and Quantity</p> <p>Natural objects exist from the very small to the immensely large.</p>	<p>PERFORMANCE EXPECTATION</p> <p>5-ESS-1</p> <p>Support an argument that the apparent brightness of the sun and stars is due to their relative distance from the Earth.</p>	<p>RESOURCES:</p> <p><i>Smithsonian Science and Technology Concepts™</i> Researching the Sun-Earth-Moon System Unit Lessons 3; 8-10</p> <p>SUBCONCEPT 3 – Seasons on Earth are a result of the tilt of the Earth’s axis and the motion of the Earth around the Sun Lesson 3</p> <p>SUBCONCEPT 5 – The Sun is a major source of energy for Earth.. Lessons 8-10</p> <p>-Inquiry Investigations</p> <p>-Science Notebooking</p> <p>-Student Guide</p> <p>-Hands-on Equipment</p> <p>-Creating Models</p> <p>TWIG www.twigcarolina.com</p> <p>Sun; Stars</p> <p><i>Carolina™ Science Magnifier</i></p> <p><i>The Solar System pp. 196-207; Space Exploration pp. 208-217</i></p>	<p>COMMON CORE</p> <p>Reading Informational Text RI.1-9:</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>Writing W.1-9</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>GUIDING QUESTIONS</p> <p>-What evidence do we have that gravitational forces act on objects near Earth’s surface?</p> <p>-How does distance affect the apparent size and brightness of objects in the sky?</p>		

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	<p><u>CORE IDEAS</u></p> <p>ESS1.B Earth and the Solar System</p> <p>The orbits of Earth around the sun and of the moon around Earth, together with the rotation of the Earth about an axis between its North and South poles, casue observable patters. These include day and night, daily changes in the length and direction of shadows, and different positions of the sun, moon and stars at different times of the day, month, and year.</p> <p><u>SCIENCE and ENGINEERING PRACTICES</u></p> <p>Analyzing and Interpreting Data</p> <p>Represent data in graphical displays (bar graphs, pictographs, and/or pie charts) to reveal patterns that indicate relationships.</p> <p><u>CROSSCUTTING CONCEPTS</u></p> <p>Patterns</p> <p>Similarities and differences in patterns can be used to sort, classify, communicate and analyze simple rates of change for natural phenomena.</p>	<p><u>PERFORMANCE EXPECTATION</u></p> <p>5-ESS1-2</p> <p>Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky.</p>	<p>RESOURCES:</p> <p><i>Smithsonian Science and Technology Concepts™</i> Researching the Sun-Earth-Moon System Unit Lessons 2-3</p> <p>SUBCONCEPT 2 – The rotation of Earth makes the Sun appear to move across the sky Lesson 2 (tracking shadows)</p> <p>SUBCONCEPT 3 – Seasons on Earth are a result of the tilt of Earth’s axis and motion of Earth around the Sun.. Lesson 3</p> <p><i>-Inquiry Investigations</i></p> <p><i>-Science Notebooking</i></p> <p><i>-Student Guide</i></p> <p><i>-Hands-on Equipment</i></p> <p><i>-Creating Models</i></p> <p><u>Tigtag</u> www.tigtagarolina.com</p> <p>Sun, Earth, Moon</p> <p><i>Carolina™ Science Magnifier</i></p> <p><i>The Solar System pp. 196-207; Space Exploration pp. 208-217</i></p>	<p><i>Smithsonian Science and Technology Concepts™</i></p> <p>Integrated FERA Cycle Instruction of Crosscutting concepts and science and engineering practices with science core ideas</p> <p>FOCUS Strategies include:</p> <p>-pre-teaching activities such as brainstorming, KWL charts, anticipation guides, etc.</p> <p>-guiding/focus questions</p> <p>EXPLORE Strategies include:</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>REFLECT Strategies include:</p> <p>-Science Notebooking</p> <p>-Key Ideas</p> <p>-Academic Vocabulary</p> <p>APPLY Strategies include:</p> <p>-Venn diagrams, cause and effect charts, review games, engineering application lessons, etc.</p> <p><u>COMMON CORE</u></p> <p>Reading Informational Text RI.1-9:</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>Writing W.1-9</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><u>GUIDING QUESTIONS</u></p> <p><i>-How can we explain the apparent motion of objects in the sky?</i></p> <p><i>-How can we explain daily, monthly, and annual patterns?</i></p> <p><i>-How big are the sun, earth, and moon?</i></p>	<p>RESOURCES:</p> <p>www.carolinascienceonline.com</p> <ul style="list-style-type: none">Interactive Whiteboard Activities <p>www.tigtagcarolina.com</p> <ul style="list-style-type: none">Video Sets related to Sun, Earth, Moon, Shadows, Seasons <p>www.mysi.edu</p> <p>Smithsonian information website</p> <p>DEVICES:</p> <ul style="list-style-type: none">iPadsTabletsChromebooksELMOSMARTboard <p>SOFTWARE:</p> <ul style="list-style-type: none">Microsoft PowerpointMicrosoft WordSMARTboard activities	<p>INTERVENTIONS:</p> <p><i>Smithsonian Science and Technology Concepts™</i></p> <ul style="list-style-type: none">Science NotebooksExtensions <p>ASSESSMENTS:</p> <p><i>Smithsonian Science and Technology Concepts™</i></p> <p>Researching the Sun-Earth-Moon System Unit</p> <p>Lesson 1 Pre-Assessment</p> <p><i>Students focus on what they know and want to know about the Sun-Earth-Moon system and use spheres to represent the relative sizes of the Sun, Earth, and Moon.</i></p> <p>Lesson 10 Assessment</p> <p><i>Students complete an inquiry analysis and a written assessment to evaluate how well they have learned the concepts.</i></p> <p><i>-FORMATIVE</i></p> <p><i>-SUMMATIVE</i></p> <p>Science Notebooks</p> <p>Inquiry Data Sheets</p> <p>Investigation Follow-up Questions</p>

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	<p>CORE IDEAS</p> <p>PS3.D Energy in Chemical Processes and Everyday Life The energy released (from) food was once energy from the sun that was captured by plants in the chemical process that forms plant matter (from air and water)</p> <p>SCIENCE and ENGINEERING PRACTICES Developing and Using Models Use models to describe phenomena.</p> <p>CROSSCUTTING CONCEPTS Energy and Matter Energy can be transferred in various ways and between objects.</p>	<p>PERFORMANCE EXPECTATION</p> <p>5-PS3-1 Use models to describe that energy in animals’ food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.</p>	<p>RESOURCES: <i>Smithsonian Science and Technology Concepts™ Ecosystems Unit Lessons 1-7</i></p> <p>SUBCONCEPT 1 –Model ecosystems may be used to learn more about the relationships on earth. Lessons 1-3</p> <p>SUBCONCEPT 2 –Organisms in ecosystems have dependent and independent relationships Lessons 4-7</p> <p>TWIG www.twigcarolina.com Ecosystems</p> <p><i>Carolina™ Science Magnifier Organisms pp 68-77; Animals pp. 78-80; Plants pp. 116-127</i></p>	<p><i>Carolina Building Blocks of Science™ Integrated FERA Cycle Instruction of</i> Crosscutting concepts and science and engineering practices with science core ideas</p> <p>FOCUS Strategies include: -pre-teaching activities such as brainstorming, KWL charts, anticipation guides, etc. -guiding/focus questions</p> <p>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</p> <p>REFLECT Strategies include: -Science Notebooking -Key Ideas -Academic Vocabulary</p> <p>APPLY Strategies include: -Venn diagrams, cause and effect charts, review games, engineering application lessons, etc.</p> <p>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</p> <p>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</p> <p>GUIDING QUESTIONS <i>-How do matter and energy flow through and ecosystem?</i></p>	<p>RESOURCES: www.carolinascienceonline.com</p> <ul style="list-style-type: none">Interactive Whiteboard ActivitiesSTC Literacy Series Ecosystems <p>www.tigtagcarolina.com</p> <ul style="list-style-type: none">Video Sets related to ecosystems <p>www.mysi.edu Smithsonian information website</p> <p>DEVICES:</p> <ul style="list-style-type: none">iPadsTabletsChromebooksELMOSMARTboard <p>SOFTWARE:</p> <ul style="list-style-type: none">Microsoft PowerpointMicrosoft WordSMARTboard activities	<p>INTERVENTIONS: <i>Smithsonian Science and Technology Concepts™</i></p> <ul style="list-style-type: none">Science NotebooksExtensions <p>ASSESSMENTS: <i>Smithsonian Science and Technology Concepts™</i> Ecosystems Unit</p> <p>Lesson 1 Pre-Assessment <i>Students discuss an illustration of a riverbank environment.</i></p> <p>Lesson 17 Assessment <i>Students reflect on and discuss what they have learned.</i> -FORMATIVE -SUMMATIVE</p> <p>Science Notebooks</p> <p>Inquiry Data Sheets Investigation Follow-up Questions</p>

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	<p>CORE IDEAS</p> <p>LS2.A Interdependent Relationships in Ecosystems The food of almost any kind of animal can be traced back to plants. Organisms are related in food webs in which some animals eat plants for food and other animals eat the animals that eat plants. Some organisms, such as fungi and bacteria, break down dead organisms (both plants or plant parts and animals) and therefore operate as “decomposers”. Decomposition eventually restores (recycles) some materials back to the soil. Organisms can survive only in environments in which their particular needs are met. A healthy ecosystem is one in which multiple species of different types are each able to meet their needs in a relatively stable web of life. Newly introduced species can damage the balance of an ecosystem.</p> <p>LS2.B Cycles of Matter and Energy Transfer in Ecosystems Matter cycles between the air and soil and among plants, animals, and microbes as these organisms live and die. Organisms obtain gases and water from the environment, and release waste matter back into the environment.</p> <p>SCIENCE and ENGINEERING PRACTICES</p> <p>Developing and Using Models Use models to describe phenomena.</p> <p>Science Models, Laws, Mechanisms, and Theories Explain Natural Phenomena Science explanations describe the mechanisms for natural events.</p> <p>CROSSCUTTING CONCEPTS</p> <p>Systems and System Models A system can be described in terms of its components and their interactions.</p>	<p>PERFORMANCE EXPECTATION</p> <p>5-LS-1 Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.</p>	<p>RESOURCES: <i>Smithsonian Science and Technology Concepts™ Ecosystems Unit Lessons 1-17</i></p> <p>SUBCONCEPT 1 –Model ecosystems may be used to learn more about the relationships on earth. Lessons 1-3</p> <p>SUBCONCEPT 2 –Organisms in ecosystems have dependent and independent relationships Lessons 4-7</p> <p>SUBCONCEPT 3 –Nature and Human activity may affect an ecosystem in beneficial or harmful ways Lessons 8-13</p> <p>SUBCONCEPT 4 –People can develop solutions to mitigate the effects of pollutants Lessons 14-17</p> <p>TWIG www.twigcarolina.com Ecosystems</p> <p><i>Carolina™ Science Magnifier Organisms pp 68-77; Animals pp. 78-80; Plants pp. 116-127</i></p>	<p><i>Carolina Building Blocks of Science™ Integrated FERA Cycle Instruction of</i> Crosscutting concepts and science and engineering practices with science core ideas</p> <p>FOCUS Strategies include: -pre-teaching activities such as brainstorming, KWL charts, anticipation guides, etc. -guiding/focus questions</p> <p>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</p> <p>REFLECT Strategies include: -Science Notebooking -Key Ideas -Academic Vocabulary</p> <p>APPLY Strategies include: -Venn diagrams, cause and effect charts, review games, engineering application lessons, etc.</p> <p>COMMON CORE</p> <p>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</p> <p>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</p> <p>GUIDING QUESTIONS <i>-What factors influence a healthy ecosystem?</i> <i>-How can the balance of an ecosystem be changed?</i></p>	<p>RESOURCES: www.carolinascienceonline.com</p> <ul style="list-style-type: none">Interactive Whiteboard ActivitiesSTC Literacy Series Ecosystems <p>www.tigtagcarolina.com</p> <ul style="list-style-type: none">Video Sets related to ecosystems <p>www.mysi.edu Smithsonian information website</p> <p>DEVICES:</p> <ul style="list-style-type: none">iPadsTabletsChromebooksELMOSMARTboard <p>SOFTWARE:</p> <ul style="list-style-type: none">Microsoft PowerpointMicrosoft WordSMARTboard activities	<p>INTERVENTIONS: <i>Smithsonian Science and Technology Concepts™</i></p> <ul style="list-style-type: none">Science NotebooksExtensions <p>ASSESSMENTS: <i>Smithsonian Science and Technology Concepts™ Ecosystems Unit</i></p> <p>Lesson 1 Pre-Assessment <i>Students discuss an illustration of a riverbank environment.</i></p> <p>Lesson 17 Assessment <i>Students reflect on and discuss what they have learned.</i> -FORMATIVE -SUMMATIVE</p> <p>Science Notebooks</p> <p>Inquiry Data Sheets Investigation Follow-up Questions</p>
	<p>**ESS2.C Human Impacts on Earth Systems Human activities in agriculture, industry, and everyday life have had major effects on the land, vegetation, streams, ocean, air, and even outer space. Bud individuals and communities are doing things to help protect Earth’s Resources and environments.</p> <p>**Standard also addressed in Quarter 3</p>	<p>PERFORMANCE EXPECTATION</p> <p>5-ESS3-1 Obtain and combine information about the ways individual communities use science ideas to protect the Earth’s resources and environment.</p>	<p>RESOURCES: <i>Smithsonian Science and Technology Concepts™ Ecosystems Unit Lessons 8-17</i></p> <p>SUBCONCEPT 3 –Nature and Human activity may affect an ecosystem in beneficial or harmful ways Lessons 8-13</p> <p>SUBCONCEPT 4 –People can develop solutions to mitigate the effects of pollutants Lessons 14-17</p> <p>TWIG www.twigcarolina.com Ecosystems; pollution</p>			

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	<p>CORE IDEAS ESS2.A Earth Materials and Systems Earth’s major systems are the geosphere (solid and molten rock, soil, and sediments), the hydrosphere (water and ice), the atmosphere (air), and the biosphere (living things, including humans). These systems interact in multiple ways to affect Earth’s surface materials and processes. The ocean supports a variety of ecosystems and organisms, shapes landforms, and influences climate. Winds and clouds in the atmosphere interact with the landforms to determine patterns of weather.</p> <p>SCIENCE and ENGINEERING PRACTICES Developing and Using Models Develop a model using an example to describe a scientific principle.</p> <p>CROSSCUTTING CONCEPTS Systems and System Models A system can be described in terms of its components and their interactions.</p>	<p>PERFORMANCE EXPECTATION 5-ESS2-1 Develop a model using an example to describe the ways the geosphere, biosphere, hydrosphere and/or atmosphere interact.</p>	<p>RESOURCES: <i>Great Explorations in Math and Science™</i> Ocean Sciences Sequences Unit</p> <p>UNIT 1 –What Kind of Place is the Ocean? UNIT 2 –What is life like in the Ocean?</p> <p><i>-Inquiry Investigations</i> <i>-Science Notebooking</i> <i>-Student Investigation Guides</i> <i>-Hands-on Equipment</i> <i>-Creating Models</i></p> <p>TWIG www.twigcarolina.com Biosphere; Ecosystems</p> <p>Kids Discover <i>The Ocean</i></p>	<p><i>Great Explorations in Math and Science™</i> Integrated Cycle Instruction of Crosscutting concepts and science and engineering practices with science core ideas</p> <p>FOCUS Strategies include: -pre-teaching activities such as brainstorming, KWL charts, anticipation guides, etc. -guiding/focus questions</p> <p>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</p> <p>REFLECT Strategies include: -Science Notebooking -Key Ideas -Academic Vocabulary</p> <p>APPLY Strategies include: -Venn diagrams, cause and effect charts, review games, engineering application lessons, etc.</p>	<p>RESOURCES: www.carolinascienceonline.com</p> <ul style="list-style-type: none">Picture cards <p>www.TWIGcarolina.com</p> <ul style="list-style-type: none">Ocean; Biosphere; Water; Ecosystems <p>www.mysi.edu Smithsonian information website</p> <p>DEVICES:</p> <ul style="list-style-type: none">iPadsTabletsChromebooksELMOSMARTboard <p>SOFTWARE:</p> <ul style="list-style-type: none">Microsoft PowerpointMicrosoft WordSMARTboard activities	<p>INTERVENTIONS: <i>Great Explorations in Math and Science™</i></p> <ul style="list-style-type: none">Science NotebooksExtensions <p>ASSESSMENTS: <i>Great Explorations in Math and Science™</i> Ocean Sciences Sequences Unit</p> <p>Unit Pre-Assessment <i>Students explore three rocks and discuss what they know and would like to know about rocks.</i></p> <p>Unit Assessment <i>Students discuss and reflect on what they have learned</i> -FORMATIVE -SUMMATIVE</p> <p>Science Notebooks</p> <p>Inquiry Data Sheets Investigation Follow-up Questions</p>
	<p>CORE IDEAS ESS2.C The Roles of Water in Earth’s Surface Processes Nearly all the Earth’s available water is in the ocean. Most fresh water is in glaciers or underground, only a tiny fraction is in streams, lakes, wetlands, and the atmosphere.</p> <p>SCIENCE and ENGINEERING PRACTICES Using Mathematics and Computational Thinking Describe and graph quantities such as area and volume to address scientific questions.</p> <p>CROSSCUTTING CONCEPTS Scale, Proportion, and Quantity Standard units are used to measure and describe physical quantities such as weight, and volume.</p>	<p>PERFORMANCE EXPECTATION 5-ESS2-2 Describe and graph the amounts and percentages of water and fresh water in various reservoirs to provide evidence about the distributions of water on Earth.</p>	<p>RESOURCES: <i>Great Explorations in Science and Math™</i> Ocean Sciences Sequences Unit</p> <p>UNIT 1 –What Kind of Place is the Ocean?</p> <p>TWIG www.twigcarolina.com Water</p> <p>Kids Discover <i>The Ocean</i></p>	<p>COMMON CORE 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</p> <p>GUIDING QUESTIONS <i>-How do earth’s systems interact?</i></p> <p><i>-What models can we use to represent the interaction of the biosphere, hydrosphere, atmosphere, and geosphere?</i></p> <p><i>-How do earth’s systems influence life on earth?</i></p> <p><i>-Why do we define the ocean as a dynamic system?</i></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
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	<p>CORE IDEAS</p> <p>ESS2.C Human Impacts on Earth Systems Human activities in agriculture, industry, and everyday life have had major effects on the land, vegetation, streams, ocean, air, and even outer space. Bud individuals and communities are doing things to help protect Earth’s Resources and environments.</p> <p>SCIENCE and ENGINEERING PRACTICES Obtaining, Evaluating, and Communicating Information Obtain and combine information from books and/or other reliable media to explain phenomena or solutions to design a problem</p> <p>CROSSCUTTING CONCEPTS Systems and System Models A system can be described in terms of its components and their interactions. Science Addresses Questions About the Natural and Material World Science findings are limited to questions that can be answered with empirical evidence.</p> <p><i>**Standard also addressed in Quarter 2</i></p>	<p>PERFORMANCE EXPECTATION</p> <p>5-ESS3-1 Obtain and combine information about the ways individual communities use science ideas to protect the Earth’s resources and environment.</p>	<p>RESOURCES: <i>Great Explorations in Science and Math™</i> Ocean Sciences Sequences Unit</p> <p>UNIT 3–How Are Humans and the Ocean Interconnected</p> <p><i>-Inquiry Investigations</i> <i>-Science Notebooking</i> <i>-Student Investigation Guides</i> <i>-Hands-on Equipment</i> <i>-Creating Models</i></p> <p>TWIG www.twigcarolina.com Biosphere; Ecosystems</p> <p>Kids Discover <i>Conservation</i></p>	<p><i>Great Explorations in Math and Science™</i> Integrated Cycle Instruction of Crosscutting concepts and science and engineering practices with science core ideas</p> <p>FOCUS Strategies include: -pre-teaching activities such as brainstorming, KWL charts, anticipation guides, etc. -guiding/focus questions</p> <p>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</p> <p>REFLECT Strategies include: -Science Notebooking -Key Ideas -Academic Vocabulary</p> <p>APPLY Strategies include: -Venn diagrams, cause and effect charts, review games, engineering application lessons, etc.</p> <p>COMMON CORE 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</p> <p>GUIDING QUESTIONS <i>-How do humans impact the Earth’s systems?</i> <i>-Why do scientists make the claim that our water source is limited?</i></p>	<p>RESOURCES: www.carolinascienceonline.com</p> <ul style="list-style-type: none">• Picture cards <p>www.TWIGcarolina.com</p> <ul style="list-style-type: none">• Ocean; Biosphere; Water; Ecosystems; Conservation; Pollution <p>www.mysi.edu Smithsonian information website</p> <p>DEVICES:</p> <ul style="list-style-type: none">• iPads• Tablets• Chromebooks• ELMO• SMARTboard <p>SOFTWARE:</p> <ul style="list-style-type: none">• Microsoft Powerpoint• Microsoft Word• SMARTboard activities	<p>INTERVENTIONS: <i>Great Explorations in Math and Science™</i></p> <ul style="list-style-type: none">• Science Notebooks• Extensions <p>ASSESSMENTS: <i>Great Explorations in Math and Science™</i> Ocean Sciences Sequences Unit</p> <p>Unit Pre-Assessment <i>Students explore three rocks and discuss what they know and would like to know about rocks.</i></p> <p>Unit Assessment <i>Students discuss and reflect on what they have learned</i> <i>-FORMATIVE</i> <i>-SUMMATIVE</i></p> <p>Science Notebooks</p> <p>Inquiry Data Sheets Investigation Follow-up Questions</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>CORE IDEAS</p> <p>PS1.A Structure and Properties of Matter Matter of any type can be subdivided into particles that are too small to see, but even then the matter still exists and can be detected by other means. A model shows that gases are made from matter particles that are too small to see and are moving freely around in space can explain many observations, including the inflation and shape of a balloon; the effects of air on larger particles or objects.</p> <p>SCIENCE and ENGINEERING PRACTICES Developing and Using Models Develop a model to describe phenomena</p> <p>CROSSCUTTING CONCEPTS Scale, Proportion, and Quantity Natural objects exist from the very small to the immensely large.</p>	<p>PERFORMANCE EXPECTATION</p> <p>5-PS1-1 Develop a model to describe that matter is made of particles to small to be seen.</p>	<p>RESOURCES: <i>Smithsonian Science and Technology Concepts™ Exploring the Properties of Matter Unit Lessons 1; 9</i></p> <p>SUBCONCEPT 1 – Students have ideas and misconceptions about matter and its properties Lesson 1 SUBCONCEPT 5 – The properties of an object determine its uses. Lesson 9</p> <p><i>-Inquiry Investigations</i> <i>-Science Notebooking</i> <i>-Student Guide</i> <i>-Hands-on Equipment</i> <i>-Creating Models</i></p> <p>TWIG www.twigcarolina.com Matter</p> <p>Kids Discover Matter</p>	<p><i>Smithsonian Science and Technology Concepts™</i> Integrated FERA Cycle Instruction of Crosscutting concepts and science and engineering practices with science core ideas</p> <p>FOCUS Strategies include: -pre-teaching activities such as brainstorming, KWL charts, anticipation guides, etc. -guiding/focus questions</p> <p>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</p> <p>REFLECT Strategies include: -Science Notebooking -Key Ideas -Academic Vocabulary</p> <p>APPLY Strategies include: -Venn diagrams, cause and effect charts, review games, engineering application lessons, etc.</p> <p>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</p> <p>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</p> <p>GUIDING QUESTIONS <i>-What evidence do we have that gravitational forces act on objects near Earth’s surface?</i> <i>-How does distance affect the apparent size and brightness of objects in the sky?</i></p>	<p>RESOURCES: www.carolinascienceonline.com</p> <ul style="list-style-type: none">Interactive Whiteboard Activities <p>www.tigtagcarolina.com</p> <ul style="list-style-type: none">Matter <p>www.mysi.edu Smithsonian information website</p> <p>DEVICES:</p> <ul style="list-style-type: none">iPadsTabletsChromebooksELMOSMARTboard <p>SOFTWARE:</p> <ul style="list-style-type: none">Microsoft PowerpointMicrosoft WordSMARTboard activities	<p>INTERVENTIONS: <i>Smithsonian Science and Technology Concepts™ Exploring the Properties of Matter Unit</i> Science Notebooks</p> <ul style="list-style-type: none">Extensions <p>ASSESSMENTS: <i>Smithsonian Science and Technology Concepts™</i> Exploring the Properties of Matter Unit</p> <p>Lesson 1 Pre-Assessment <i>Students complete a circuit of eight inquiries that introduce the properties of matter they will study in the unit.</i></p> <p>Unit Assessment <i>Students complete a performance and written assessment on the concepts and processes studied in the unit.</i> <i>-FORMATIVE</i> <i>-SUMMATIVE</i></p> <p>Science Notebooks</p> <p>Inquiry Data Sheets Investigation Follow-up Questions</p>

Quarter 4 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><u>CORE IDEAS</u></p> <p>PS1.A Structure and Properties of Matter Measurements of a variety of properties can be used to identify materials.</p> <p><u>SCIENCE and ENGINEERING PRACTICES</u></p> <p>Planning and Carrying Out Investigations Make observations and measurements to produce data to serve as the basis for evidence for an explanation of a phenomena.</p> <p><u>CROSSCUTTING CONCEPTS</u></p> <p>Scale, Proportion, and Quantity Standard units are used to measure and describe physical quantities such as weight, time, temperature, and volume.</p>	<p><u>PERFORMANCE EXPECTATION</u></p> <p>5-PS1-3 Make observations and measurements to identify materials based on their properties.</p>	<p>RESOURCES:</p> <p><i>Smithsonian Science and Technology Concepts™ Exploring the Properties of Matter Unit Lessons 8-14</i></p> <p>SUBCONCEPT 4 – Mass remains constant during phase changes Lessons 8</p> <p>SUBCONCEPT 5 – The properties of an object determine its uses. Lesson 9</p> <p>SUBCONCEPT 6 – Some solids dissolve in some liquids Lessons 10-11</p> <p>SUBCONCEPT 7 –Mass remains constant when solute dissolves in a solvent Lesson 12</p> <p>SUBCONCEPT 8 –Differences in solubility have practical applications Lessons 13-14</p> <p><i>-Inquiry Investigations</i> <i>-Science Notebooking</i> <i>-Student Guide</i> <i>-Hands-on Equipment</i> <i>-Creating Models</i></p> <p><u>TWIG</u> www.twigcarolina.com Properties; Mixtures</p> <p>Carolina™ Science Magnifier <i>Measurements, Mass, Volume and Temperature pp. 254-255</i> <i>Chemical Changes pp. 264-265</i></p>	<p><i>Smithsonian Science and Technology Concepts™</i> Integrated FERA Cycle Instruction of Crosscutting concepts and science and engineering practices with science core ideas</p> <p>FOCUS Strategies include: -pre-teaching activities such as brainstorming, KWL charts, anticipation guides, etc. -guiding/focus questions</p> <p>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</p> <p>REFLECT Strategies include: -Science Notebooking -Key Ideas -Academic Vocabulary</p> <p>APPLY Strategies include: -Venn diagrams, cause and effect charts, review games, engineering application lessons, etc.</p> <p><u>COMMON CORE</u></p> <p>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</p> <p>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</p> <p><u>GUIDING QUESTIONS</u> <i>-What evidence do we have that gravitational forces act on objects near Earth’s surface?</i> <i>-How does distance affect the apparent size and brightness of objects in the sky?</i></p>	<p>RESOURCES:</p> <p>www.carolinascienceonline.com</p> <ul style="list-style-type: none">Interactive Whiteboard Activities <p>www.tigtagcarolina.com</p> <ul style="list-style-type: none">Matter <p>www.mysi.edu Smithsonian information website</p> <p>DEVICES:</p> <ul style="list-style-type: none">iPadsTabletsChromebooksELMOSMARTboard <p>SOFTWARE:</p> <ul style="list-style-type: none">Microsoft PowerpointMicrosoft WordSMARTboard activities	<p>INTERVENTIONS:</p> <p><i>Smithsonian Science and Technology Concepts™ Exploring the Properties of Matter Unit</i> Science Notebooks</p> <ul style="list-style-type: none">Extensions <p>ASSESSMENTS:</p> <p><i>Smithsonian Science and Technology Concepts™</i> Exploring the Properties of Matter Unit</p> <p>Lesson 1 Pre-Assessment <i>Students complete a circuit of eight inquiries that introduce the properties of matter they will study in the unit.</i></p> <p>Lesson 14 Unit Assessment <i>Students complete a performance and written assessment on the concepts and processes studied in the unit.</i> <i>-FORMATIVE</i> <i>-SUMMATIVE</i></p> <p>Science Notebooks</p> <p>Inquiry Data Sheets Investigation Follow-up Questions</p>