CURRICU	LUM	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
CORE IDEAS PS2.B Types of Interactions The gravitational force of Earth acting on an object near Earth's surface pulls that object toward the planet's surface. SCIENCE and ENGINEERING PRACTICES Engaging in Argument from Evidence Support an argument with evidence, data, or a model. CROSSCUTTING CONCEPTS Cause and Effect Cause and effect relationships are routinely identified and used to explain change.	PERFORMANCE EXPECTATION 5-PS2-1 Support an argument that the gravitational force exerted by Earth on objects is directed down.	RESOURCES: Smithsonian Science and Technology Concepts [™] Researching the Sun-Earth- Moon System Unit Lessons 1; 4-7 SUBCONCEPT 1 – Students have preconceived ideas and questions about the Sun, Earth, and Moon Lesson 1 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 -Inquiry Investigations -Science Notebooking -Student Guide -Hands-on Equipment -Creating Models <u>TWIG www.twigcarolina.com</u> Gravitational Force Carolina [™] Science Magnifier Non-Contact Forces (gravity) pp.334-335	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, etc. -guiding/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 www.tigtagcarolina.com Video Sets related to gravity, sun, stars www.mysi.edu Smithsonian information website DEVICES: iPads Tablets Chromebooks ELMO SMARTboard SOFTWARE: Microsoft Powerpoint Microsoft Word SMARTboard activities	INTERVENTIONS: Smithsonian Science and Technology Concepts™ • Science Notebooks • Extensions ASSESSMENTS: Smithsonian Science and Technology Concepts™ Researching the Sun-Earth-Moon System Unit Lesson 1 Pre-Assessment 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. Lesson 10 Assessment Students complete an inquiry analysis and a written
CORE IDEASESS1.A The Universe and its StarsThe sun is a star that appears larger and brighter than other stars because it is closer. Stars range in their distance from Earth.SCIENCE and ENGINEERING PRACTICES Engaging in Argument from Evidence Support an argument with evidence, data, or a model.CROSSCUTTING CONCEPTS Scale, Proportion, and Quantity Natural objects exist from the very small to the immensely large.	PERFORMANCE EXPECTATION 5-ESS-1 Support an argument that the apparent brightness of the sun and stars is due to their relative distance from the Earth.	RESOURCES: Smithsonian Science and Technology Concepts™ Researching the Sun-Earth- Moon System Unit Lessons 3; 8-10 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 SUBCONCEPT 5 – The Sun is a major source of energy for Earth Lessons 8-10 -Inquiry Investigations -Science Notebooking -Student Guide -Hands-on Equipment -Creating Models TWIG www.twigcarolina.com Sun; Stars Carolina™ Science Magnifier The Solar System pp. 196-207; Space Exploration pp. 208-217	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 evidence do we have that gravitational forces act on objects near Earth's surface? -How does distance affect the apparent size and brightness of objects in the sky?		assessment to evaluate how well they have learned the concepts. -FORMATIVE -SUMMATIVE Science Notebooks Inquiry Data Sheets Investigation Follow-up Questions

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CURRICU	IIUM	INSTR	RUCTION	TECHNOLOGY	INTERVENTION and
End Product of Learning,			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 ESS1.B Earth and the Solar System 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. SCIENCE and ENGINEERING PRACTICES Analyzing and Interpreting Data Represent data in graphical displays (bar graphs, pictographs, and/or pie charts) to reveal patterns that indicate relationships. CROSSCUTTING CONCEPTS Patterns Similarities and differences in patterns can be used to sort, classify, communicate and analyze simple rates of change for natural phenomena. 	PERFORMANCE EXPECTATION 5-ESS1-2 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.	RESOURCES: Smithsonian Science and Technology Concepts™ Researching the Sun-Earth- Moon System Unit Lessons 2-3 SUBCONCEPT 2 – The rotation of Earth makes the Sun appear to move across the sky Lesson 2 (tracking shadows) SUBCONCEPT 3 – Seasons on Earth are a result of the tilt of Earth's axis and motion of Earth around the Sun Lesson 3 -Inquiry Investigations -Science Notebooking -Student Guide -Hands-on Equipment -Creating Models Tigtag www.tigtagarolina.com Sun, Earth, Moon Carolina™ Science Magnifier The Solar System pp. 196-207; Space Exploration pp. 208-217	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, etc. -guiding/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 -How can we explain the apparent motion of objects in the sky? -How can we explain daily, monthly, and annual patterns? -How big are the sun, earth, and moon?	RESOURCES: Www.carolinascienceonline.com • Interactive Whiteboard Activities Www.tigtagcarolina.com • Video Sets related to Sun, Earth, Moon, Shadows, Seasons Www.mysi.edu Smithsonian information website DEVICES: • iPads • Tablets • Chromebooks • ELMO • SMARTboard SOFTWARE: • Microsoft Powerpoint • Microsoft Word • SMARTboard activities	INTERVENTIONS: Smithsonian Science and Technology Concepts™ • Science Notebooks • Extensions ASSESSMENTS: Smithsonian Science and Technology Concepts™ Researching the Sun-Earth-Moon System Unit Lesson 1 Pre-Assessment 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. Lesson 10 Assessment Students complete an inquiry analysis and a written assessment to evaluate how well they have learned the concepts. -FORMATIVE -SUMMATIVE Science Notebooks Inquiry Data Sheets Investigation Follow-up Questions

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	CURRICU	LUM	INST	RUCTION	
	End Product of Learning,	"What You Teach"	Means to the End Product of Learning, "What You Teach"		Med
	CONTENT	SKILL	LEARNING RESOURCES	TEACHING STRATEGIES	SOF
	What we want students to "KNOW"	What we want students to "DO"			
	CORE IDEASPS3.D Energy in Chemical Processes and Everyday LifeThe energy released (from) food was once energy fromthe sun that was captured by plants in the chemicalprocess that forms plant matter (from air and water)SCIENCE and ENGINEERING PRACTICESDeveloping and Using ModelsUse models to describe phenomena.CROSSCUTTING CONCEPTSEnergy can be transferred in various ways and betweenobjects.	PERFORMANCE EXPECTATION 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.	Smithsonian Science and Technology Integrated FERA Cycle Instruction Concepts™ Ecosystems Unit Lessons 1-7 Crosscutting concepts and science engineering practices with science SUBCONCEPT 1 –Model ecosystems may be used to learn more about the relationships on earth. FOCUS Strategies include: SUBCONCEPT 2 –Organisms in ecosystems have dependent and independent relationships Lessons 4-7 FOCUS Strategies include: TWIG www.twigcarolina.com -inquiry-based discussions and inv-classroom activities, inquiries and help students develop a further ur	 -pre-teaching activities such as brainstorming, KWL charts, anticipation guides, etc. -guiding/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: 	RESOU WWW.c • • • • • • • • • • • • • • • • • • •
Quarter 2	CORE IDEASLS1.C Organization for Matter and Energy Flow in OrganismsFood provides animals with the materials they need for body repai and growth and the energy they need to maintain body warmth and for motion.SCIENCE and ENGINEERING PRACTICESEngaging in Argument from EvidenceSupport an argument with evidence, data, or a modelCROSSCUTTING CONCEPTSEnergy and MatterMatter is transported into, out of, and within systems.	PERFORMANCE EXPECTATION 5-LS1-1 Support an argument that plants get the materials they need for growth chiefly from air and water.	RESOURCES: Smithsonian Science and Technology Concepts [™] Ecosystems Unit Lessons 1-7 SUBCONCEPT 1 –Model ecosystems may be used to learn more about the relationships on earth. Lessons 1-3 SUBCONCEPT 2 –Organisms in ecosystems have dependent and independent relationships Lessons 4-7 <u>TWIG www.twigcarolina.com</u> Ecosystems Carolina [™] Science Magnifier Organisms pp 68-77; Animals pp. 78-80; Plants pp. 116-127	 -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 do matter and energy flow through and ecosystem? 	SOFTW

Grade 5

TECHNOLOGY INTERVENTION and leans to Engage Students and ASSESSMENT **Provide Practice** OFTWARE and ONLINE Sites Varied Classroom Assessment Strategies OURCES: INTERVENTIONS: v.carolinascienceonline.com Smithsonian Science and Technology Concepts™ Interactive Whiteboard Science Notebooks Activities STC Literacy Series • Extensions Ecosystems v.tigtagcarolina.com ASSESSMENTS: Video Sets related to Smithsonian Science and ecosystems Technology Concepts™ Ecosystems Unit v.mysi.edu hsonian information website Lesson 1 Pre-Assessment ICES: a riverbank environment. iPads • Tablets ٠ Lesson 17 Assessment Chromebooks • what they have learned. ELMO ٠ -FORMATIVE SMARTboard ٠ -SUMMATIVE TWARE: Science Notebooks Microsoft Powerpoint • Microsoft Word

SMARTboard activities •

Students discuss an illustration of

Students reflect on and discuss

Inquiry Data Sheets Investigation Follow-up Questions

CURRICL	ILUM	INSTRUCTION		
End Product of Learning,	, "What You Teach"	Means to the End Product of	of Learning, "What You Teach"	Me
CONTENT What we want students to "KNOW"	SKILL What we want students to "DO"	LEARNING RESOURCES	TEACHING STRATEGIES	SO
CORE IDEAS 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. 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. SCIENCE and ENGINEERING PRACTICES Developing and Using Models Use models to describe phenomena. Science Models, Laws, Mechanisms, and Theories Explain Natural Phenomena Science explanations describe the mechanisms for natural events. **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. **Standard also addressed in Quarter 3	PERFORMANCE EXPECTATION 5-LS-1 Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.	RESOURCES: Smithsonian Science and Technology Concepts™ Ecosystems Unit Lessons 1-17 SUBCONCEPT 1 –Model ecosystems may be used to learn more about the relationships on earth. Lessons 1-3 SUBCONCEPT 2 –Organisms in ecosystems have dependent and independent relationships Lessons 4-7 SUBCONCEPT 3 –Nature and Human activity may affect an ecosystem in beneficial or harmful ways Lessons 8-13 SUBCONCEPT 4 –People can develop solutions to mitigate the effects of pollutants Lessons 14-17 TWIG www.twigcarolina.com Ecosystems Carolina™ Science Magnifier Organisms pp 68-77; Animals pp. 78-80; Plants pp. 116-127 RESOURCES: Smithsonian Science and Technology Concepts™ Ecosystems Unit Lessons 8-17 SUBCONCEPT 3 –Nature and Human activity may affect an ecosystem in beneficial or harmful ways Lessons 8-13 SUBCONCEPT 4 –People can develop solutions to mitigate the effects of pollutants pp. 116-127	Carolina Building Blocks of Science™ 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, etc. -guiding/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 W.1-3 Text Types and Purpose W.4-6 Production and Distribution of Writing W.7-9 Research to Build and Present </td <td>RESOU WWW. WWW. Smiths DEVIC</td>	RESOU WWW. WWW. Smiths DEVIC

Grade 5

TECHNOLOGY INTERVENTION and Aeans to Engage Students and ASSESSMENT Provide Practice SOFTWARE and ONLINE Sites Varied Classroom Assessment Strategies SOURCES: INTERVENTIONS: w.carolinascienceonline.com Smithsonian Science and Technology Concepts™ Interactive Whiteboard Science Notebooks Activities STC Literacy Series • Extensions Ecosystems w.tigtagcarolina.com ASSESSMENTS: Video Sets related to Smithsonian Science and ecosystems Technology Concepts™ Ecosystems Unit w.mysi.edu ithsonian information website Lesson 1 Pre-Assessment Students discuss an illustration of VICES: a riverbank environment. iPads

Lesson 17 Assessment Students reflect on and discuss what they have learned. -FORMATIVE -SUMMATIVE

Science Notebooks

Inquiry Data Sheets Investigation Follow-up Questions

- Tablets
- Chromebooks
- ELMO •
- SMARTboard

FTWARE:

- Microsoft Powerpoint •
- Microsoft Word ٠
- SMARTboard activities •

CURRICUL		INST	RUCTION	TECHNOLOGY	INTERVENTION and
End Product of Learning, "			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 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. SCIENCE and ENGINEERING PRACTICES Developing and Using Models Develop a model using an example to describe a scientific principle. CROSSCUTTING CONCEPTS Systems and System Models A system can be described in terms of its components and their interactions. 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. SCIENCE and ENGINEERING PRACTICES Using Mathematics and Computational Thinking Describe and graph quantities such as area and volume to address scientific questions. CROSSCUTTING CONCEPTS Scale, Proportion, and Quantity Standard units are used to measure and describe physical quantities such as weight, and volume. 	PERFORMANCE EXPECTATION 5-ESS2-1 Develop a model using an example to describe the ways the geosphere, biosphere, hydrosphere and/or atmosphere interact. Performance 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.	RESOURCES: Great Explorations in Math and Science ™ Ocean Sciences Sequences Unit UNIT 1 – What Kind of Place is the Ocean? UNIT 2 – What is life like in the Ocean? -Inquiry Investigations -Science Notebooking -Student Investigation Guides -Hands-on Equipment -Creating Models TWIG www.twigcarolina.com Biosphere; Ecosystems Kids Discover The Ocean RESOURCES: Great Explorations in Science and Math™ Ocean Sciences Sequences Unit UNIT 1 – What Kind of Place is the Ocean? TWIG www.twigcarolina.com Water Kids Discover The Ocean	Great Explorations in Math and Science™ Integrated 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, etc. -guiding/focus questions -lagsroom 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 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 earth's systems interact? -What models can we use to represent the interaction of the biosphere, hydrosphere, atmosphere, and geosphere? -How do earth's systems influence life on earth? -Why do we define the ocean as a dynamic system?	RESOURCES: www.carolinascienceonline.com Picture cards www.TWIGcarolina.com Ocean; Biosphere; Water; Ecosystems www.mysi.edu Smithsonian information website DEVICES: PEVICES: PEVICES: Chromebooks ELMO SMARTboard SOFTWARE: Microsoft Powerpoint Microsoft Word SMARTboard activities	INTERVENTIONS: Great Explorations in Math and Science TM • Science Notebooks • Extensions ASSESSMENTS: Great Explorations in Math and Science TM Ocean Sciences Sequences Unit Unit Pre-Assessment Students explore three rocks and discuss what they know and would like to know about rocks. Unit Assessment Students discuss and reflect on what they have learned -FORMATIVE -SUMMATIVE Science Notebooks Inquiry Data Sheets Investigation Follow-up Questions

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	CURRICULUM		INSTRUCTION		
	End Product of Learning, "What You Teach"		Means to the End Product of Learning, "What You Teach"		Mea
	CONTENT What we want students to "KNOW"	SKILL What we want students to "DO"	LEARNING RESOURCES	TEACHING STRATEGIES	SOF
Quarter 3 cont	CORE IDEAS 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. 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 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. **Standard also addressed in Quarter 2	PERFORMANCE EXPECTATION 5-ESS3-1 Obtain and combine information about the ways individual communities use science ideas to protect the Earth's resources and environment.	RESOURCES: Great Explorations in Science and Math™ Ocean Sciences Sequences Unit UNIT 3-How Are Humans and the Ocean Interconnected -Inquiry Investigations -Science Notebooking -Student Investigation Guides -Hands-on Equipment -Creating Models TWIG www.twigcarolina.com Biosphere; Ecosystems Kids Discover Conservation	Great Explorations in Math and Science™ Integrated 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, etc. -guiding/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 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 humans impact the Earth's systems? -Why do scientists make the claim that our water source is limited?	RESOU WWW.C WWW.T Smithso DEVICE

Grade 5

TECHNOLOGY INTERVENTION and eans to Engage Students and ASSESSMENT Provide Practice OFTWARE and ONLINE Sites Varied Classroom Assessment Strategies OURCES: INTERVENTIONS: v.carolinascienceonline.com Great Explorations in Math and Science™ • Picture cards Science Notebooks v.TWIGcarolina.com • Extensions • Ocean; Biosphere; Water; Ecosystems; Conservation; Pollution ASSESSMENTS: Great Explorations in Math and .mysi.edu Science™ hsonian information website Ocean Sciences Sequences Unit ICES: Unit Pre-Assessment • iPads Students explore three rocks and Tablets • discuss what they know and Chromebooks • would like to know about rocks. ELMO • Unit Assessment SMARTboard • Students discuss and reflect on what they have learned TWARE: -FORMATIVE Microsoft Powerpoint • -SUMMATIVE Microsoft Word • SMARTboard activities • **Science Notebooks Inquiry Data Sheets** Investigation Follow-up Questions

	CURRICU	LUM	INSTR	UCTION	
	End Product of Learning,	"What You Teach"	Means to the End Product of Learning, "What You Teach"		
	CONTENT What we want students to "KNOW"	SKILL What we want students to "DO"	LEARNING RESOURCES	TEACHING STRATEGIES	SOF
	CORE IDEAS	PERFORMANCE EXPECTATION	RESOURCES:	Smithsonian Science and Technology	RESOU
	PS1.A Structure and Properties of Matter	5-PS1-1	Smithsonian Science and Technology	Concepts™	www.c
	Matter of any type can be subdivided into particles that	Develop a model to describe that matter is made	Concepts[™] Exploring the Properties of	Integrated FERA Cycle Instruction of	•
	are too small to see, but even then the matter still exists	of particles to small to be seen.	Matter Unit Lessons 1; 9	Crosscutting concepts and science and	
	and can be detected by other means. A model shows that			engineering practices with science core ideas	
	gases are made from matter particles that are too small to		SUBCONCEPT 1 – Students have ideas and		www.ti
	see and are moving freely around in space can explain many observations, including the inflation and shape of a		misconceptions about matter and its properties	FOCUS Strategies include: -pre-teaching activities such as brainstorming,	•
	balloon; the effects of air on larger particles or objects.		Lesson 1	KWL charts, anticipation guides, etc.	
			SUBCONCEPT 5 – The properties of an	-guiding/focus questions	www.n Smiths
	SCIENCE and ENGINEERING PRACTICES		object determine its uses.		SITIUTS
	Developing and Using Models		Lesson 9	EXPLORE Strategies include:	DEVICE
	Develop a model to describe phenomena			-inquiry-based discussions and investigations	•
			-Inquiry Investigations	-classroom activities, inquiries and models to	•
	CROSSCUTTING CONCEPTS		-Science Notebooking	help students develop a further understanding	•
	Scale, Proportion, and Quantity Natural objects exist from the very small to the immensely		-Student Guide -Hands-on Equipment	of the concepts/core ideas being discussed	•
	large.		-Creating Models	REFLECT Strategies include:	•
				-Science Notebooking	
_•			TWIG www.twigcarolina.com	-Key Ideas	SOFTW
4			Matter	-Academic Vocabulary	•
ē					•
Ţ			Kids Discover	APPLY Strategies include:	•
Quarter			Matter	-Venn diagrams, cause and effect charts,	
ð	CORE IDEAS PS1.A Structure and Properties of Matter	PERFORMANCE EXPECTATION 5-PS1-2	RESOURCES:	review games, engineering application lessons, etc.	
	The amount (weight) of matter is conserved when it	Measure and graph quantities to provide evidence	Smithsonian Science and Technology Concepts™ Exploring the Properties of	etc.	
	changes form, even in transition in which it seems to	that regardless of the type of change that occurs	Matter Unit Lessons 2-8	COMMON CORE	
	vanish.	when heating, cooling, or mixing substances, the		Reading Informational Text RI.1-9:	
	PS1.B Chemical Reactions	total weight of matter is conserved.	SUBCONCEPT 2 – Density, the relationship	RI.1-3 Key Ideas and Details	
	No matter what reaction or change in properties occurs,		between mass and volume, can be	RI.4-6 Craft and Structure	
	the total weight of the substances does not change.		calculated from mass and volume	RI.7-9 Integration of Knowledge and Ideas	
			measurements.	Writing W.1-9	
	<u>SCIENCE and ENGINEERING PRACTICES</u> Using Mathematics and Computational Thinking		Lessons 2-4 SUBCONCEPT 3 – Applying heat to a	W.1-3 Text Types and Purpose	
	Measure and graph quantities such as weight to address		substance affects its properties.	W.4-6 Production and Distribution of Writing	
	scientific and engineering questions and problems.		Lessons 5-7	W.7-9 Research to Build and Present	
			SUBCONCEPT 4 – Mass remains constant	Knowledge	
	CROSSCUTTING CONCEPTS		during phase changes		
	Scale, Proportion, and Quantity		Lessons 8	GUIDING QUESTIONS	
	Standard units are used to measure and describe physical		-Inquiry Investigations	-What evidence do we have that gravitational	
	quantities such as weight, time, temperature, and volume.		-Science Notebooking -Student Guide	forces act on objects near Earth's surface? -How does distance affect the apparent size	
	Scientific Knowledge Assumes an Order and Consistency in Natural Systems		-Hands-on Equipment	and brightness of objects in the sky?	
	Science assumes consistent patterns in natural systems.		-Creating Models		
	,		-		
			TWIG www.twigcarolina.com		
			Matter		
			Kida Discover		
			Kids Discover <i>Matter</i>		
			matter		
		1			

Grade 5

TECHNOLOGY

Aeans to Engage Students and Provide Practice

SOFTWARE and ONLINE Sites

OURCES:

- w.carolinascienceonline.com
- Interactive Whiteboard
 Activities

w.tigtagcarolina.com

• Matter

w.mysi.edu

thsonian information website

/ICES:

- iPads
- Tablets
- Chromebooks
- ELMO
- SMARTboard

TWARE:

- Microsoft Powerpoint
- Microsoft Word
- SMARTboard activities

INTERVENTION and ASSESSMENT

Varied Classroom Assessment Strategies

INTERVENTIONS: Smithsonian Science and Technology Concepts™ Exploring the Properties of Matter Unit Science Notebooks

• Extensions

ASSESSMENTS: Smithsonian Science and Technology Concepts™ Exploring the Properties of Matter Unit

Lesson 1 Pre-Assessment

Students complete a circuit of eight inquiries that introduce the properties of matter they will study in the unit.

Unit Assessment

Students complete a performance and written assessment on the concepts and processes studied in the unit. -FORMATIVE -SUMMATIVE

Science Notebooks

Inquiry Data Sheets Investigation Follow-up Questions

Point of the concepts/core ideas being discussed Point Concepts/core ideas being discussed Conduct an investigation collaboratively to produce data to substance. Point Concepts/core ideas being discussed Conscience Notebooking				RUCTION	140
What we want students to "NOW" What we want students to "DO" Provide the students of "Now" What we want students to "PO" CORE DEES PS1.A Structure and Properties of Matter Measurements of a variety of properties can be used to identify materials. PS01RCES: Similar of the coporties of Matter Unit Lessons 8-14 Similar of the choology Concepts' Transformation Science and Technology Concepts' Transformation Science and Technology Concepts' Transformation Science and Technology Concepts' Transformation Science and Technology Concepts and measurements to produce duta to sever as the basis for evidence for an explanation of a phenomena. PS01RCES: Similar of the coporties of Matter Unit Lessons 8-14 Similar of the concepts and science and technology Concepts and measurements to produce duta to sever as the basis for evidence for an explanation of a phenomena. PS01RCES: Similar of the coporties of an object determine its uses. Lessons 8 PS01RCES: Similar of the coporties of an object determine its uses. Lessons 9 PS01RCES: Similar of the concepts''' PCOUS Strategies include: -pre teaching activities, source or i cleas substone with different substances are mixed, an ew substance with different substances are mixed, an ew substance. PS01RCES: Similar of the concepts''' PS01RCES: Similar of the concepts''' PS01RCES: Similar of the concepts''' COMEDEAS PS1.B Commain Sector of an explanation of a substance. PS1.B Commain Sector of an explanation of a substance.	End Product of Learning,		wears to the end Product	oj Leanning, "What fou feach	Me
P31.4 Structure and Properties of Mutter 5xP31.3 Smithsonian Science and Technology Concepts** Concepts** <th></th> <th></th> <th>LEARNING RESOURCES</th> <th>TEACHING STRATEGIES</th> <th>SO</th>			LEARNING RESOURCES	TEACHING STRATEGIES	SO
GUIDING QUESTIONS -What evidence do we have that gravitational forces act on objects near Earth's surface? -How does distance affect the apparent size and brightness of objects in the sky?	 PS1.A Structure and Properties of Matter Measurements of a variety of properties can be used to identify materials. SCIENCE and ENGINEERING PRACTICES 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. CROSSCUTTING CONCEPTS Scale, Proportion, and Quantity Standard units are used to measure and describe physical quantities such as weight, time, temperature, and volume. CORE IDEAS PS1.B Chemical Reactions When two or more different substances are mixed, a new substance with different properties may be formed. SCIENCE and ENGINEERING PRACTICES Planning and Carrying Out Investigations Conduct an investigation collaboratively to produce data to serve as the basis for evidence, using fair tests in which variables are controlled and the number of trials considered. CROSSCUTTING CONCEPTS Cause and Effect Cause and effect relationships are routinely identified, 	5-PS1-3 Make observations and measurements to identify materials based on their properties. Performance expectation 5-PS1-4 Conduct an investigation to determine whether the mixing of two or more substances results in a	Smithsonian Science and Technology Concepts™ Exploring the Properties of Matter Unit Lessons 8-14 SUBCONCEPT 4 – Mass remains constant during phase changes Lessons 8 SUBCONCEPT 5 – The properties of an object determine its uses. Lesson 9 SUBCONCEPT 6 – Some solids dissolve in some liquids Lessons 10-11 SUBCONCEPT 7 –Mass remains constant when solute dissolves in a solvent Lesson 12 SUBCONCEPT 8 –Differences in solubility have practical applications Lessons 13-14 -Inquiry Investigations -Science Notebooking -Student Guide -Hands-on Equipment -Creating Models TWIG www.twigcarolina.com Properties; Mixtures Carolina™ Science Magnifier Measurements, Mass, Volume and Temperature pp. 254-255	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, etc. -guiding/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 W.1-3 Text Types and Purpose W.4-6 Production and Distribution of Writing W.7-9 Research to Build and Present Know	RESOL

Grade 5

TECHNOLOGY

Aeans to Engage Students and Provide Practice

SOFTWARE and ONLINE Sites

SOURCES:

- w.carolinascienceonline.com
- Interactive Whiteboard
 Activities

w.tigtagcarolina.com

• Matter

w.mysi.edu

ithsonian information website

VICES:

- iPads
- Tablets
- Chromebooks
- ELMO
- SMARTboard

FTWARE:

- Microsoft Powerpoint
- Microsoft Word
- SMARTboard activities

INTERVENTION and ASSESSMENT

Varied Classroom Assessment Strategies

INTERVENTIONS: Smithsonian Science and Technology Concepts™ Exploring the Properties of Matter Unit Science Notebooks

• Extensions

ASSESSMENTS: Smithsonian Science and Technology Concepts™ Exploring the Properties of Matter Unit

Lesson 1 Pre-Assessment

Students complete a circuit of eight inquiries that introduce the properties of matter they will study in the unit.

Lesson 14 Unit Assessment

Students complete a performance and written assessment on the concepts and processes studied in the unit. -FORMATIVE -SUMMATIVE

Science Notebooks

Inquiry Data Sheets Investigation Follow-up Questions