

# Carolina™ Curriculum Correlation to



## Rhode Island Science Grade Span Expectations Grades K-8

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This document is an alignment of The STC PROGRAM™, GEMS Kits®, GEMS® Space Science for Grades 3-5 and Building Blocks of Science® units with the Rhode Island Science Grade Span Expectations, grades K–8. Although each unit was developed for use at a specific grade level, there is some flexibility in grade placement. Below is a chart of the STC PROGRAM™.



The STC PROGRAM™ is made up of 2 research-based, inquiry-centered core curriculums:

- Science and Technology for Children® (STC®) for grades K–6; and
- Science and Technology Concepts for Middle Schools™ (STC/MS™) for grades 6–8

	Life Science	Earth Science	Physical Science and Technology	
K–2	Organisms	Weather	Solids and Liquids	Comparing and Measuring
1–3	The Life Cycle of Butterflies	Soils	Changes	Balancing and Weighing
2–4	Plant Growth and Development	Rocks and Minerals	Chemical Tests	Sound
3–5	Animal Studies	Land and Water	Electric Circuits	Motion and Design
4–6	Microworlds	Ecosystems	Food Chemistry	Floating and Sinking
5–6	Experiments with Plants	Measuring Time	Magnets and Motors	The Technology of Paper
6–8	Human Body Systems	Catastrophic Events	Properties of Matter	Energy, Machines, and Motion
	Organisms–From Macro to Micro	Earth in Space	Light	Electrical Energy and Circuit Design



**Great Explorations in Math and Science® (GEMS Kits®)** are standards-based PreK-8 math and science supplemental kits. The kits have been tested for specific grade levels but can also be used at lower or higher levels.



**GEMS® Space Science for Grades 3-5** is a research-based science curriculum that teaches fundamental concepts in space science.



**Building Blocks of Science®** is a K-5 supplementary science curriculum that can be used as stand-alone instruction.

**LEGEND** - To save paper, the location information in this document has been abbreviated as follows:

- TG = Teacher’s Guide, SG=Student Guide
- L01, L02, etc. = Lesson 1, Lesson 2, etc. or Act01, Act02, etc. = Activity 1, Activity 2, etc.
- RB = STC BOOK™ (a science reading book included in some of the grades 3–5 STC® unit kits)
- Exts = Extensions (found at the end of most lessons in the Teacher’s Guide)

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## K-2 Science

DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.ESS1.	Earth and Space Science: The earth and earth materials as we know them today have developed over long periods of time, through continual change processes.
ASSESSMENT TARGET	ESS1 (K-4) INQ-1.	Given certain earth materials (soils, rocks or minerals) use physical properties to sort, classify, and describe them.
PERFORMANCE STANDARD	ESS1 (K-2)-1.	Students demonstrate an understanding of earth materials by...
GRADE SPAN EXPECTATION	1a.	<p>Describing, comparing, and sorting rocks and soils by similar or different physical properties (e.g., size, shape, color, texture, smell, weight).</p> <ul style="list-style-type: none"> <li>• <b>GEMS On Sandy Shores</b></li> <li>• TG: Act02 (pp27-43)</li> <li>• <b>Rocks and Minerals</b></li> <li>• TG: L02 (pp13-18)</li> <li>• TG: L17 (pp127-128)</li> <li>• <b>Soils</b></li> <li>• TG: L01-17 (pp3-172)</li> <li>• <b>GEMS Terrarium Habitats</b></li> <li>• TG: Act01 (pp5-13)</li> </ul>
GRADE SPAN EXPECTATION	1b.	<p>Recording observations/data about physical properties.</p> <ul style="list-style-type: none"> <li>• <b>Rocks and Minerals</b></li> <li>• TG: L01-04 (pp3-34)</li> <li>• TG: L06-12 (pp43-90)</li> <li>• TG: L17 (pp127-128)</li> </ul>
GRADE SPAN EXPECTATION	1c.	<p>Using attributes of properties to state why objects are grouped together (e.g., rocks that are shiny or not shiny).</p> <ul style="list-style-type: none"> <li>• <b>Building Blocks of Science: Sky Watchers</b></li> <li>• TG: Act 01 (pp 1-3)</li> <li>• TG: Act 04 (pp 1-7)</li> <li>• TG: Act 05 (pp 1-5)</li> <li>• <b>GEMS Investigating Artifacts</b></li> <li>• TG: Ses01 (pp7-13)</li> <li>• <b>Rocks and Minerals</b></li> <li>• TG: L01-03 (pp3-26)</li> <li>• TG: L04.Exts (p32)</li> <li>• TG: L07 (pp51-56)</li> <li>• TG: L09-10 (pp63-78)</li> <li>• TG: L12 (pp85-90)</li> <li>• TG: L16.Exts (p117)</li> <li>• <b>Weather</b></li> <li>• TG: L03 (pp25-32)</li> <li>• TG: L14 (pp129-134)</li> </ul>

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DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.ESS1.	Earth and Space Science: The earth and earth materials as we know them today have developed over long periods of time, through continual change processes.
ASSESSMENT TARGET	ESS1 (K-4) INQ-2.	Use results from an experiment to draw conclusions about how water interacts with earth materials (e.g., percolation, erosion, frost heaves).
PERFORMANCE STANDARD	ESS1 (K-2)-2.	Students demonstrate an understanding of processes and change over time within earth systems by...
GRADE SPAN EXPECTATION	2a.	<p>Conducting tests on how different soils retain water (e.g., how fast does the water drain through?).</p> <ul style="list-style-type: none"> <li>• Soils</li> <li>• TG: L01 (pp3-16)</li> <li>• TG: L03-05 (pp27-56)</li> <li>• TG: L08 (pp73-86)</li> <li>• TG: L11-12 (pp109-124)</li> <li>• TG: L14.Exts (p143)</li> <li>• GEMS Terrarium Habitats</li> <li>• TG: Act01 (pp5-13)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.ESS1.	Earth and Space Science: The earth and earth materials as we know them today have developed over long periods of time, through continual change processes.
ASSESSMENT TARGET	ESS 1 (K-4) NOS-3.	Explain how the use of scientific tools helps to extend senses and gather data about weather. (i.e., weather/wind vane: direction; wind sock: wind intensity; anemometer: speed; thermometer: temperature; meter sticks/rulers: snow depth; rain gauges: rain amount in inches).
PERFORMANCE STANDARD	ESS1 (K-2)-3.	Students demonstrate an understanding of how the use of scientific tools helps to extend senses and gather data by...
GRADE SPAN EXPECTATION	3a.	<p>Using scientific tools to extend senses and gather data about weather (e.g., weather/wind vane: direction; wind sock: wind intensity; anemometer: speed; thermometer: temperature; meter sticks/rulers: snow depth; rain gauges: rain amount in inches).</p> <ul style="list-style-type: none"> <li>• Building Blocks of Science: Sky Watchers</li> <li>• TG: Act 03 (pp 1-6)</li> <li>• Weather</li> <li>• TG: L04-10 (pp33-100)</li> <li>• TG: App-A (pp151-152)</li> <li>• TG: App-B (pp153-167)</li> </ul>

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DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.ESS1.	Earth and Space Science: The earth and earth materials as we know them today have developed over long periods of time, through continual change processes.
ASSESSMENT TARGET	ESS1 (K-4) INQ+SAE-4.	Explain how wind, water, or ice shape and reshape the earth.
PERFORMANCE STANDARD	ESS1 (K-2)-4.	Students demonstrate an understanding of processes and change over time within earth systems by...
GRADE SPAN EXPECTATION	4a.	Observing and recording seasonal and weather changes throughout the school year. <ul style="list-style-type: none"> <li>• Weather</li> <li>• TG: L03-05 (pp25-54)</li> <li>• TG: L07 (pp63-70)</li> <li>• TG: L10 (pp91-100)</li> <li>• TG: L15 (pp135-140)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.ESS1.	Earth and Space Science: The earth and earth materials as we know them today have developed over long periods of time, through continual change processes.
ASSESSMENT TARGET	ESS1 (K-4) POC-5.	Based on data collected from daily weather observations, describe weather changes or weather patterns.
PERFORMANCE STANDARD	ESS1 (K-2)-5.	Students demonstrate an understanding of processes and change over time within earth systems by...
GRADE SPAN EXPECTATION	5a.	Observing, recording, and summarizing local weather data. <ul style="list-style-type: none"> <li>• Weather</li> <li>• TG: L03-05 (pp25-54)</li> <li>• TG: L07 (pp63-70)</li> <li>• TG: L10 (pp91-100)</li> <li>• TG: L15 (pp135-140)</li> </ul>
GRADE SPAN EXPECTATION	5b.	Observe how clouds are related to forms of precipitation (e.g., rain, sleet, snow). <ul style="list-style-type: none"> <li>• Weather</li> <li>• TG: L03 (pp25-32)</li> <li>• TG: L10 (pp91-100)</li> <li>• TG: L13-14 (pp123-134)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.ESS2.	Earth and Space Science: The earth is part of a solar system, made up of distinct parts that have temporal and spatial interrelationships.

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ASSESSMENT TARGET	ESS2 (K-4)-7.	No further targets for EK ESS2 at the K-4 Grade Span
PERFORMANCE STANDARD	ESS2 (K-2)-7.	Students demonstrate an understanding of temporal or positional relationships between or among the Earth, sun, and moon by...
GRADE SPAN EXPECTATION	7a.	Observing that the sun can only be seen in the daytime, but the moon can be seen sometimes at night and sometimes during the day. <ul style="list-style-type: none"> <li>• Building Blocks of Science: Sky Watchers</li> <li>• TG: Act 01 (pp 1-3)</li> <li>• TG: Act 02 (pp 1-6)</li> </ul>
GRADE SPAN EXPECTATION	7b.	Observing that the sun and moon appear to move slowly across the sky. <ul style="list-style-type: none"> <li>• Building Blocks of Science: Sky Watchers</li> <li>• TG: Act 01 (pp 1-3)</li> <li>• TG: Act 02 (pp 1-6)</li> <li>• TG: Act 03 (pp 1-6)</li> </ul>
GRADE SPAN EXPECTATION	7c.	Observing that the moon looks slightly different from day to day. <ul style="list-style-type: none"> <li>• Building Blocks of Science: Sky Watchers</li> <li>• TG: Act 04 (pp 1-7)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.LS1.	Life Science: All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species).
ASSESSMENT TARGET	LS1 (K-4)-INQ+POC-1.	Sort/classify different living things using similar and different characteristics. Describe why organisms belong to each group or cite evidence about how they are alike or not alike.
PERFORMANCE STANDARD	LS1 (K-2)-1.	Students demonstrate an understanding of classification of organisms by...
GRADE SPAN EXPECTATION	1a.	Distinguishing between living and non-living things. <ul style="list-style-type: none"> <li>• The Life Cycle of Butterflies</li> <li>• TG: L10 (pp63-68)</li> <li>• Organisms</li> <li>• TG: L01 (pp3-10)</li> <li>• TG: L15-17 (pp155-182)</li> <li>• GEMS On Sandy Shores</li> <li>• TG: Act01 (pp13-25)</li> <li>• Soils</li> <li>• TG: L01-10 (pp3-108)</li> <li>• TG: L13 (pp125-138)</li> </ul>

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DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.LS1.	Life Science: All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species).
ASSESSMENT TARGET	LS1 (K-4) SAE-2.	Identify the basic needs of plants and animals in order to stay alive. (i.e., water, air, food, space).
PERFORMANCE STANDARD	LS1 (K-2)-2.	Students demonstrate understanding of structure and function-survival requirements by...
GRADE SPAN EXPECTATION	2a.	<p>Observing that plants need water, air, food, and light to grow; observing that animals need water, air, food and shelter to grow.</p> <ul style="list-style-type: none"> <li>• The Life Cycle of Butterflies</li> <li>• TG: L03.Exts (p21)</li> <li>• Organisms</li> <li>• TG: L03-04 (pp21-52)</li> <li>• TG: L06 (pp65-74)</li> <li>• TG: L13 (pp135-148)</li> <li>• TG: L15-16 (pp155-178)</li> <li>• Plant Growth and Development</li> <li>• TG: L03-04 (pp13-28)</li> <li>• TG: L16.Exts (pp96-97)</li> <li>• Soils</li> <li>• TG: L09 (pp87-96)</li> <li>• GEMS Terrarium Habitats</li> <li>• TG: Act01-02 (pp5-21)</li> <li>• Weather</li> <li>• TG: L10.Exts (p95)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.LS1.	Life Science: All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species).
ASSESSMENT TARGET	LS1 (K-4) POC-3.	Predict, sequence or compare the life stages of organisms-plants and animals (e.g., put images of life stages of an organism in order, predict the next stage in sequence, compare two organisms).
PERFORMANCE STANDARD	LS1 (K-2)-3.	Students demonstrate an understanding of reproduction by...
GRADE SPAN EXPECTATION	3a.	<p>Observing and scientifically drawing (e.g. recording shapes, prominent features, relative proportions, organizes and differentiates significant parts observed) and labeling the stages in the life cycle of a familiar plant and animal.</p> <ul style="list-style-type: none"> <li>• GEMS Ant Homes Under the Ground</li> <li>• TG: Act04 (pp41-47)</li> <li>• GEMS Aquatic Habitats</li> <li>• TG: Act04-05 (pp45-70)</li> <li>• GEMS Buzzing a Hive</li> <li>• TG: Les04 (pp39-53)</li> </ul>

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		<ul style="list-style-type: none"> <li>• GEMS Eggs, Eggs, Everywhere</li> <li>• TG: Act01-02 (pp5-29)</li> <li>• GEMS Hide a Butterfly</li> <li>• TG: Ses03 (pp25-26)</li> <li>• TG: Exts (pp27-28)</li> <li>• GEMS Ladybugs</li> <li>• TG: Act03-05 (pp43-71)</li> <li>• The Life Cycle of Butterflies</li> <li>• TG: L01-09 (pp3-62)</li> <li>• TG: L11-16 (pp69-96)</li> <li>• TG: App-A (pp97-100)</li> <li>• TG: App-B (pp101-110)</li> <li>• GEMS Mother Opossum and Her Babies</li> <li>• TG: Act02-03 (pp31-62)</li> <li>• Organisms</li> <li>• TG: L03.Exts (pp29-30)</li> <li>• TG: L06 (pp65-74)</li> <li>• TG: L10.Exts (p115)</li> <li>• TG: L11-13 (pp119-148)</li> <li>• TG: L16.Exts (pp172-173)</li> <li>• Plant Growth and Development</li> <li>• TG: L10 (pp55-60)</li> <li>• TG: L12 (pp67-70)</li> <li>• TG: L15-16 (pp89-98)</li> <li>• Soils</li> <li>• TG: L16.Exts (pp164-166)</li> </ul>
<p><b>GRADE SPAN EXPECTATION</b></p>	<p>3b.</p>	<p>Sequencing the life cycle of a plant or animal when given a set of pictures.</p> <ul style="list-style-type: none"> <li>• GEMS Ant Homes Under the Ground</li> <li>• TG: Act04 (pp41-47)</li> <li>• GEMS Aquatic Habitats</li> <li>• TG: Act04-05 (pp45-70)</li> <li>• GEMS Buzzing a Hive</li> <li>• TG: Les04 (pp39-53)</li> <li>• GEMS Eggs, Eggs, Everywhere</li> <li>• TG: Act01-02 (pp5-29)</li> <li>• GEMS Hide a Butterfly</li> <li>• TG: Ses03 (pp25-26)</li> <li>• TG: Exts (pp27-28)</li> <li>• GEMS Ladybugs</li> <li>• TG: Act03-05 (pp43-71)</li> <li>• The Life Cycle of Butterflies</li> <li>• TG: L01-09 (pp3-62)</li> <li>• TG: L11-16 (pp69-96)</li> <li>• TG: App-A (pp97-100)</li> <li>• TG: App-B (pp101-110)</li> <li>• GEMS Mother Opossum and Her Babies</li> <li>• TG: Act02-03 (pp31-62)</li> <li>• Organisms</li> <li>• TG: L03.Exts (pp29-30)</li> </ul>

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		<ul style="list-style-type: none"> <li>• TG: L06 (pp65-74)</li> <li>• TG: L10.Exts (p115)</li> <li>• TG: L11-13 (pp119-148)</li> <li>• TG: L16.Exts (pp172-173)</li> <li>• Plant Growth and Development</li> <li>• TG: L10 (pp55-60)</li> <li>• TG: L12 (pp67-70)</li> <li>• TG: L15-16 (pp89-98)</li> <li>• Soils</li> <li>• TG: L16.Exts (pp164-166)</li> </ul>
<b>DOMAIN / STATEMENT OF ENDURING KNOWLEDGE</b>	<b>RI.LS1.</b>	<b>Life Science: All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, &amp; species).</b>
<b>ASSESSMENT TARGET</b>	<b>LS1 (K-4) FAF-4.</b>	Identify and explain how the physical structures of an organism (plants or animals) allow it to survive in its habitat/environment (e.g., roots for water; nose to smell fire).
<b>PERFORMANCE STANDARD</b>	<b>LS1 (K-2)-4.</b>	Students demonstrate understanding of structure and function-survival requirements by...
<b>GRADE SPAN EXPECTATION</b>	<b>4a.</b>	<p>Identifying the specific functions of the physical structures of a plant or an animal (e.g. roots for water; webbed feet for swimming).</p> <ul style="list-style-type: none"> <li>• <b>GEMS Ant Homes Under the Ground</b></li> <li>• TG: Act02 (pp15-27)</li> <li>• <b>GEMS Aquatic Habitats</b></li> <li>• TG: Act02-03 (pp25-43)</li> <li>• TG: Exts (pp70-78)</li> <li>• <b>GEMS Buzzing a Hive</b> TG:</li> <li>• TG: Les01-02 (pp5-25)</li> <li>• <b>GEMS Eggs, Eggs, Everywhere</b></li> <li>• TG: Act01-04 (pp5-47)</li> <li>• <b>GEMS Hide a Butterfly</b></li> <li>• TG: Ses01 (pp3-8)</li> <li>• TG: Exts (pp27-28)</li> <li>• <b>GEMS Ladybugs</b></li> <li>• TG: Act01-04 (pp13-63)</li> <li>• <b>The Life Cycle of Butterflies</b></li> <li>• TG: L01-11 (pp3-74)</li> <li>• TG: L13-16 (pp81-96)</li> <li>• TG: App-B (pp101-110)</li> <li>• <b>GEMS Mother Opossum and Her Babies</b></li> <li>• TG: Act01-02 (pp7-45)</li> <li>• <b>Organisms</b></li> <li>• TG: L07-10 (pp75-118)</li> <li>• TG: L13-15 (pp135-168)</li> <li>• TG: L17 (pp179-182)</li> <li>• <b>GEMS Penguins and Their Young</b></li> <li>• TG: Act02 (pp15-31)</li> </ul>

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		<ul style="list-style-type: none"> <li>• Plant Growth and Development</li> <li>• TG: L02 (pp9-12)</li> <li>• TG: L04-05 (pp25-34)</li> <li>• TG: L08-10 (pp43-60)</li> <li>• TG: L13-14 (pp71-88)</li> <li>• Soils</li> <li>• TG: L10 (pp97-108)</li> <li>• TG: L16.Exts (pp164-166)</li> <li>• Sound</li> <li>• TG: L04.Exts (pp26-27)</li> <li>• TG: L14.Exts (p98)</li> <li>• GEMS Terrarium Habitats</li> <li>• TG: Act03-05 (pp23-48)</li> <li>• GEMS Tree Homes</li> <li>• TG: Act01 (pp15-23)</li> <li>• TG: Act04-05 (pp41-63)</li> </ul>
<b>DOMAIN / STATEMENT OF ENDURING KNOWLEDGE</b>	RI.LS2.	Life Science: Matter cycles and energy flows through an ecosystem.
<b>ASSESSMENT TARGET</b>	LS2 (K-4) SAE-5.	Recognize that energy is needed for all organisms to stay alive and grow or identify where a plant or animal gets its energy.
<b>PERFORMANCE STANDARD</b>	LS2 (K-2)-5.	Students demonstrate an understanding of energy flow in an ecosystem by...
<b>GRADE SPAN EXPECTATION</b>	5a.	<p>Caring for plants and/or animals by identifying and providing for their needs; experimenting with a plant's growth under different conditions, including light and no light.</p> <ul style="list-style-type: none"> <li>• GEMS Ant Homes Under the Ground</li> <li>• TG: Act01 (pp7-13)</li> <li>• GEMS Aquatic Habitats</li> <li>• TG: Act01 (pp13-23)</li> <li>• Comparing and Measuring</li> <li>• TG: L12.Exts (p84)</li> <li>• The Life Cycle of Butterflies</li> <li>• TG: L02-03 (pp11-22)</li> <li>• TG: L05-08 (pp29-52)</li> <li>• TG: L10-12 (pp63-80),</li> <li>• TG: L15-16 (pp89-96)</li> <li>• Organisms</li> <li>• TG: L03-04 (pp21-52)</li> <li>• TG: L06-13 (pp65-148)</li> <li>• TG: L14.Exts (pp152-153),</li> <li>• TG: L15-16 (pp155-178)</li> <li>• Plant Growth and Development</li> <li>• TG: L03-07 (pp13-42)</li> <li>• TG: L12 (pp67-70)</li> <li>• TG: L15-17 (pp89-100)</li> <li>• Soils</li> </ul>

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		<ul style="list-style-type: none"> <li>• TG: L09 (pp87-96)</li> <li>• GEMS Terrarium Habitats</li> <li>• TG: Act01-02 (pp5-21)</li> <li>• GEMS Tree Homes</li> <li>• TG: Act04 (pp41-49)</li> <li>• Weather</li> <li>• TG: L10.Exts (p95)</li> </ul>
<b>DOMAIN / STATEMENT OF ENDURING KNOWLEDGE</b>	<b>RI.LS2.</b>	<b>Life Science: Matter cycles and energy flows through an ecosystem.</b>
<b>ASSESSMENT TARGET</b>	<b>LS2 (K-4) SAE-6.</b>	Describe ways plants and animals depend on each other (e.g., shelter, nesting, food).
<b>PERFORMANCE STANDARD</b>	<b>LS2 (K-2)-6.</b>	Students demonstrate an understanding of food webs in an ecosystem by...
<b>GRADE SPAN EXPECTATION</b>	<b>6a.</b>	<p>Acting out or constructing simple diagrams (pictures or words) that shows a simple food web.</p> <ul style="list-style-type: none"> <li>• GEMS Aquatic Habitats</li> <li>• TG: Act02 (pp25-33)</li> <li>• Comparing and Measuring</li> <li>• TG: L02 (pp11-16)</li> <li>• GEMS Ladybugs</li> <li>• TG: Act04 (pp53-63)</li> <li>• The Life Cycle of Butterflies</li> <li>• TG: L01 (pp3-10)</li> <li>• TG: L07 (pp39-46)</li> <li>• TG: L11.Exts (pp71-73)</li> <li>• TG: L13.Exts (p82)</li> <li>• TG: L16 (pp95-96)</li> <li>• TG: App-B (pp101-110)</li> <li>• Organisms</li> <li>• TG: L01-02 (pp3-20)</li> <li>• TG: L04-05 (pp36-64)</li> <li>• TG: L08.Exts (p94)</li> <li>• TG: L09-10 (pp97-118)</li> <li>• TG: L15.Exts (pp159-160)</li> <li>• TG: L16.Exts (pp172-173)</li> <li>• TG: L17 (pp179-182)</li> <li>• Plant Growth and Development</li> <li>• TG: L02 (pp9-12)</li> <li>• TG: L04 (pp25-28)</li> <li>• TG: L12 (pp67-70)</li> <li>• GEMS Tree Homes</li> <li>• TG: Act04-05 (pp41-63)</li> </ul>
<b>GRADE SPAN EXPECTATION</b>	<b>6b.</b>	Using information about a simple food web to determine how basic needs (e.g. shelter and water) are met by the habitat/environment.

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		<ul style="list-style-type: none"> <li>GEMS Aquatic Habitats</li> <li>TG: Act04-05 (pp45-70)</li> </ul>
<b>DOMAIN / STATEMENT OF ENDURING KNOWLEDGE</b>	RI.LS4.	Life Science: Humans are similar to other species in many ways, and yet are unique among Earth's life forms.
<b>ASSESSMENT TARGET</b>	LS4 (K-4) FAF-8.	Identify what the physical structures of humans do (e.g., sense organs-eyes, ears, skin, etc.) or compare physical structures of humans to similar structures of animals.
<b>PERFORMANCE STANDARD</b>	LS4 (K-2)-8.	Students demonstrate an understanding of human body systems by...
<b>GRADE SPAN EXPECTATION</b>	8a.	<p>Identifying the five senses and using senses to identify objects in the environment.</p> <ul style="list-style-type: none"> <li><b>Building Blocks of Science: Understanding My Body</b></li> <li>TG: Act 01 (pp 1-7)</li> <li><b>Changes</b></li> <li>TG: L01.Exts (pp10-11)</li> <li>TG: L17 (pp155-158)</li> <li><b>Solids and Liquids</b></li> <li>TG: L05.Exts (pp43-45)</li> <li><b>Sound</b></li> <li>TG: L08 (pp57-62)</li> </ul>
<b>GRADE SPAN EXPECTATION</b>	8b.	<p>Observing, identifying, and recording external features of humans and other animals.</p> <ul style="list-style-type: none"> <li><b>GEMS Ant Homes Under the Ground</b></li> <li>TG: Act02 (pp15-27)</li> <li><b>GEMS Aquatic Habitats</b></li> <li>TG: Act02-03 (pp25-43)</li> <li>TG: Exts (pp70-78)</li> <li><b>GEMS Buzzing a Hive</b></li> <li>TG: Les01-02 (pp5-25)</li> <li><b>Building Blocks of Science: Understanding My Body</b></li> <li>TG: Act 01 (pp 1-7)</li> <li>TG: Act 05 (pp 1-6)</li> <li>TG: Act 06 (pp 1-5)</li> <li><b>GEMS Eggs, Eggs, Everywhere</b></li> <li>TG: Act01-04 (pp5-47)</li> <li><b>GEMS Hide a Butterfly</b></li> <li>TG: Exts (pp27-28)</li> <li><b>GEMS Ladybugs</b></li> <li>TG: Act01-04 (pp13-63)</li> <li><b>The Life Cycle of Butterflies</b></li> <li>TG: L01-11 (pp3-74)</li> <li>TG: L13-16 (pp81-96)</li> <li>TG: App-B (pp101-110)</li> <li><b>GEMS Mother Opossum and Her Babies</b></li> </ul>

## Carolina™ Curriculum Correlation to Rhode Island Science Grade Span Expectations – Grades K-8

		<ul style="list-style-type: none"> <li>• TG: Act01-02 (pp7-45)</li> <li>• Organisms</li> <li>• TG: L07-10 (pp75-118)</li> <li>• TG: 14-17 (pp149-182)</li> <li>• GEMS Penguins and Their Young</li> <li>• TG: Act02 (pp15-31)</li> <li>• Plant Growth and Development</li> <li>• TG: L08-09 (pp43-54)</li> <li>• TG: L14 (pp79-88)</li> <li>• Sound</li> <li>• TG: L04.Exts (pp26-27)</li> <li>• TG: L08.Exts (pp61-62)</li> <li>• TG: L14.Exts (p98)</li> <li>• GEMS Terrarium Habitats</li> <li>• TG: Act03-05 (pp23-48)</li> <li>• GEMS Tree Homes</li> <li>• TG: Act04-05 (pp41-63)</li> </ul>
GRADE SPAN EXPECTATION	8c.	<p>Identifying the senses needed to meet survival needs for a given situation.</p> <ul style="list-style-type: none"> <li>• Building Blocks of Science: Understanding My Body</li> <li>• TG: Act 01 (pp 1-7)</li> <li>• Changes</li> <li>• TG: L01.Exts (pp10-11)</li> <li>• TG: L17 (pp155-158)</li> <li>• Solids and Liquids</li> <li>• TG: L05.Exts (pp43-45)</li> <li>• Sound</li> <li>• TG: L08 (pp57-62)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.LS4.	Life Science: Humans are similar to other species in many ways, and yet are unique among Earth's life forms.
ASSESSMENT TARGET	LS4 (K-4) POC-9.	Distinguish between characteristics of humans that are inherited from parents (i.e., hair color, height, skin color, eye color) and others that are learned (e.g., riding a bike, singing a song, playing a game, reading)
PERFORMANCE STANDARD	LS4 (K-2)-9.	Students demonstrate an understanding of human heredity by...
GRADE SPAN EXPECTATION	9a.	<p>Observing and comparing their physical features with those of parents, classmates and other organisms.</p> <ul style="list-style-type: none"> <li>• Building Blocks of Science: Understanding My Body</li> <li>• TG: Act 04 (pp 1-4)</li> </ul>
GRADE SPAN EXPECTATION	9b.	<p>Identifying that some behaviors are learned.</p> <ul style="list-style-type: none"> <li>• Building Blocks of Science: Understanding My Body</li> <li>• TG: Act 04 (pp 1-4)</li> </ul>

## Carolina™ Curriculum Correlation to Rhode Island Science Grade Span Expectations – Grades K-8

DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.PS1.	Physical Science: All living and nonliving things are composed of matter having characteristic properties that distinguish one substance from another (independent of size or amount of substance).
ASSESSMENT TARGET	PS1 (K-4) INQ-1.	Collect and organize data about physical properties in order to classify objects or draw conclusions about objects and their characteristic properties (e.g., temperature, color, size, shape, weight, texture, flexibility).
PERFORMANCE STANDARD	PS1 (K-2)-1.	Students demonstrate an understanding of characteristic properties of matter by...
GRADE SPAN EXPECTATION	1a.	<p>Identifying, comparing, and sorting objects by similar or different physical properties (e.g., size, shape, color, texture, smell, weight).</p> <ul style="list-style-type: none"> <li>• <b>Balancing and Weighing</b></li> <li>• TG: L12 (pp101-106)</li> <li>• <b>Changes</b></li> <li>• TG: L01 (pp3-20)</li> <li>• TG: L11 (pp103-110)</li> <li>• <b>Chemical Tests</b></li> <li>• TG: L01-09 (pp3-92)</li> <li>• TG: L11-17 (pp101-158)</li> <li>• <b>Rocks and Minerals</b></li> <li>• TG: L01-02 (pp3-18)</li> <li>• <b>Soils</b></li> <li>• TG: L01 (pp3-16)</li> <li>• TG: L03-08 (pp27-86)</li> <li>• <b>Solids and Liquids</b></li> <li>• TG: L01-13 (pp3-108)</li> <li>• TG: L14.Exts (p114)</li> <li>• TG: L15-17 (pp121-140)</li> <li>• <b>Sound</b></li> <li>• TG: L03-04 (pp23-32)</li> <li>• TG: L12.Exts (p88)</li> <li>• TG: L14 (pp91-102)</li> </ul>
GRADE SPAN EXPECTATION	1b.	<p>Recording observations/data about physical properties.</p> <ul style="list-style-type: none"> <li>• <b>GEMS Bubble Festival</b></li> <li>• TG: Act01-12 (pp54-124)</li> <li>• <b>Balancing and Weighing</b></li> <li>• TG: L01-17 (pp3-138)</li> <li>• <b>Building Blocks of Science: Light</b></li> <li>• TG: Act 01 (pp 1-4)</li> <li>• TG: Act 02 (pp 1-4)</li> <li>• TG: Act 03 (pp 1-5)</li> <li>• TG: Act 04 (pp 1-4)</li> <li>• <b>Changes</b></li> <li>• TG: L01-17 (pp3-158)</li> <li>• <b>Comparing and Measuring</b></li> </ul>

## Carolina™ Curriculum Correlation to Rhode Island Science Grade Span Expectations – Grades K-8

		<ul style="list-style-type: none"> <li>• TG: L05-11 (pp31-80)</li> <li>• TG: L13-17 (pp87-120)</li> <li>• Chemical Tests</li> <li>• TG: L01-10 (pp3-100)</li> <li>• TG: L12-16 (pp107-154)</li> <li>• GEMS Investigating Artifacts</li> <li>• TG: Ses01-06 (pp7-63)</li> <li>• TG: Exts (pp68-69)</li> <li>• GEMS Involving Dissolving</li> <li>• TG: Act01-04 (pp5-35)</li> <li>• GEMS Liquid Explorations</li> <li>• TG: Act01-05 (pp5-49)</li> <li>• GEMS Secret Formulas</li> <li>• TG: Ses01-09 (pp15-97)</li> <li>• TG: Exts (p99)</li> <li>• Solids and Liquids</li> <li>• TG: L01-16 (pp3-136)</li> <li>• GEMS Sifting Through Science</li> <li>• TG: Act01-04 (pp7-56)</li> <li>• Sound</li> <li>• TG: L01-14 (pp11-102)</li> <li>• TG: L17 (pp117-118)</li> </ul>
<p><b>GRADE SPAN EXPECTATION</b></p>	<p><b>1c.</b></p>	<p>Using attributes of properties to state why objects are grouped together (e.g., things that roll, things that are rough).</p> <ul style="list-style-type: none"> <li>• <b>Balancing and Weighing</b></li> <li>• TG: L03.Exts (p20)</li> <li>• TG: L08.Exts (p67)</li> <li>• TG: L09.Exts (p76)</li> <li>• TG: L10.Exts (pp84-85)</li> <li>• TG: L11.Exts (p94)</li> <li>• TG: L12.Exts (p104)</li> <li>• TG: L13.Exts (pp110-111)</li> <li>• <b>Changes</b></li> <li>• TG: L01.Exts (pp10-11)</li> <li>• TG: L06.Exts (pp67-69)</li> <li>• TG: L13.Exts (p123)</li> <li>• TG: L14.Exts (p134)</li> <li>• <b>Chemical Tests</b></li> <li>• TG: L12.Exts (pp109-110)</li> <li>• <b>GEMS Liquid Explorations</b></li> <li>• TG: Act01 (pp5-13)</li> <li>• <b>Solids and Liquids</b></li> <li>• TG: L01.Exts (pp7-8)</li> <li>• TG: L02-08 (pp11-68)</li> <li>• TG: L09.Exts (p73)</li> <li>• TG: L10-17 (pp81-140)</li> <li>• <b>Sound</b></li> <li>• TG: L01-02 (pp11-22)</li> <li>• TG: Exts (pp26-27)</li> </ul>

## Carolina™ Curriculum Correlation to Rhode Island Science Grade Span Expectations – Grades K-8

		<ul style="list-style-type: none"> <li>TG: Exts (pp35-36)</li> </ul>
<b>DOMAIN / STATEMENT OF ENDURING KNOWLEDGE</b>	<b>RI.PS1.</b>	<b>Physical Science: All living and nonliving things are composed of matter having characteristic properties that distinguish one substance from another (independent of size or amount of substance).</b>
<b>ASSESSMENT TARGET</b>	<b>PS1 (K-4) POC-2.</b>	Make a prediction about what might happen to the state of common materials when heated or cooled or categorize materials as solid, liquid, or gas.
<b>PERFORMANCE STANDARD</b>	<b>PS1 (K-2)-2.</b>	Students demonstrate an understanding of states of matter by...
<b>GRADE SPAN EXPECTATION</b>	<b>2a.</b>	<p>Describing properties of solids and liquids.</p> <ul style="list-style-type: none"> <li>GEMS Bubble Festival</li> <li>TG: Act01-12 (pp54-124)</li> <li>Changes</li> <li>TG: L01-07 (pp3-78)</li> <li>TG: L09-11 (pp85-110)</li> <li>TG: L13.Exts (p123)</li> <li>TG: L14 (pp129-136)</li> <li>TG: L17 (pp155-158)</li> <li>Chemical Tests</li> <li>TG: L16-17 (pp149-158)</li> <li>GEMS Liquid Explorations</li> <li>TG: Act01-05 (pp5-49)</li> <li>Solids and Liquids</li> <li>TG: L01-17 (pp3-140)</li> </ul>
<b>GRADE SPAN EXPECTATION</b>	<b>2b.</b>	<p>Identifying and comparing solids and liquids.</p> <ul style="list-style-type: none"> <li>GEMS Bubble Festival</li> <li>TG: Act01-12 (pp54-124)</li> <li>Chemical Tests</li> <li>TG: L08-09 (pp79-92)</li> <li>TG: L14 (pp125-134)</li> <li>TG: L17 (pp155-158)</li> <li>GEMS Liquid Explorations</li> <li>TG: Act01-05 (pp5-49)</li> <li>Solids and Liquids</li> <li>TG: L09.Exts (p73)</li> </ul>
<b>GRADE SPAN EXPECTATION</b>	<b>2c.</b>	<p>Making logical predictions about the changes in the state of matter when adding or taking away heat (e.g., ice melting, water freezing).</p> <ul style="list-style-type: none"> <li>GEMS Bubble Festival</li> <li>TG: Act10 (pp108-113)</li> <li>Changes</li> <li>TG: L01-03 (pp3-42)</li> </ul>

## Carolina™ Curriculum Correlation to Rhode Island Science Grade Span Expectations – Grades K-8

		<ul style="list-style-type: none"> <li>• TG: L08.Exts (p82)</li> <li>• TG: L09 (pp85-94)</li> <li>• TG: L13.Exts (p123)</li> <li>• TG: L17 (pp155-158)</li> <li>• <b>Chemical Tests</b></li> <li>• TG: L08.Exts (p82)</li> <li>• TG: L10 (pp93-100)</li> <li>• <b>GEMS Penguins and Their Young</b></li> <li>• TG: Act01 (pp5-13)</li> <li>• TG: Act04 (pp39-45)</li> <li>• <b>Solids and Liquids</b></li> <li>• TG: L09.Exts (p73)</li> <li>• TG: L10.Exts (p85)</li> <li>• TG: L12.Exts (p98)</li> <li>• TG: L13.Exts (pp104-105)</li> <li>• TG: L15.Exts (p124)</li> <li>• TG: L17 (pp137-140)</li> <li>• <b>Weather</b></li> <li>• TG: L05.Exts (pp47-48)</li> <li>• TG: L08.Exts (p76)</li> <li>• TG: L13.Exts (p126)</li> </ul>
<b>DOMAIN / STATEMENT OF ENDURING KNOWLEDGE</b>	RI.PS1.	Physical Science: All living and nonliving things are composed of matter having characteristic properties that distinguish one substance from another (independent of size or amount of substance).
<b>ASSESSMENT TARGET</b>	PS1 (K-4) SAE-3.	Use measures of weight (data) to demonstrate that the whole equals the sum of its parts.
<b>PERFORMANCE STANDARD</b>	PS1 (K-2)-3.	Students demonstrate an understanding of conservation of matter by...
<b>GRADE SPAN EXPECTATION</b>	3a.	Using simple tools (e.g. balance scale, see-saw) to explore the property of weight. <ul style="list-style-type: none"> <li>• <b>Balancing and Weighing</b></li> <li>• TG: L01-17 (pp3-138)</li> </ul>
<b>DOMAIN / STATEMENT OF ENDURING KNOWLEDGE</b>	RI.PS2.	Physical Science: Energy is necessary for change to occur in matter. Energy can be stored, transferred, and transformed, but cannot be destroyed.
<b>ASSESSMENT TARGET</b>	PS2 (K-4) SAE-4.	Given a specific example or illustration (e.g., simple closed circuit, rubbing hands together), predict the observable effects of energy (i.e., light bulb lights, a bell rings, hands warm up (e.g., a test item might ask, 'what will happen when...?')).
<b>PERFORMANCE STANDARD</b>	PS2 (K-2)-4.	Students demonstrate an understanding of energy by...

## Carolina™ Curriculum Correlation to Rhode Island Science Grade Span Expectations – Grades K-8

GRADE SPAN EXPECTATION	4a.	<p>Describing observable effects of light using a variety of light sources.</p> <ul style="list-style-type: none"> <li>• Building Blocks of Science: Light</li> <li>• TG: Act 01 (pp 1-4)</li> <li>• TG: Act 02 (pp 1-4)</li> <li>• TG: Act 03 (pp 1-5)</li> <li>• TG: Act 04 (pp 1-4)</li> <li>• TG: Act 05 (pp 1-3)</li> <li>• Chemical Tests</li> <li>• TG: L10.Exts (p97)</li> <li>• Weather</li> <li>• TG: L09 (pp83-90)</li> </ul>
GRADE SPAN EXPECTATION	4b.	<p>Experimenting and describe how vibrating objects make sound (e.g., guitar strings, seeing salt bounce on a drum skin).</p> <ul style="list-style-type: none"> <li>• Sound</li> <li>• TG: L01-02 (pp11-22)</li> <li>• TG: L04-09 (pp28-66)</li> <li>• TG: L09.Exts (p71)</li> <li>• TG: L10 (pp73-74)</li> <li>• TG: L12-17 (pp85-118)</li> </ul>
GRADE SPAN EXPECTATION	4c.	<p>Identifying the sun as a source of heat energy.</p> <ul style="list-style-type: none"> <li>• Building Blocks of Science: Sky Watchers</li> <li>• TG: Act 03 (pp 1-6)</li> </ul>

DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.PS2.	Physical Science: Energy is necessary for change to occur in matter. Energy can be stored, transferred, and transformed, but cannot be destroyed.
ASSESSMENT TARGET	PS2 (K-4) SAE-5.	Use observations of light in relation to other objects/substances to describe the properties of light (can be reflected, refracted, or absorbed).
PERFORMANCE STANDARD	PS2 (K-2)-5.	Students demonstrate an understanding of energy by...
GRADE SPAN EXPECTATION	5a.	<p>Demonstrating when a shadow will be created using sunny versus cloudy days.</p> <ul style="list-style-type: none"> <li>• Building Blocks of Science: Light</li> <li>• TG: Act 01 (pp 1-4)</li> <li>• TG: Act 05 (pp 1-3)</li> <li>• Building Blocks of Science: Sky Watchers</li> </ul>

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		<ul style="list-style-type: none"> <li>TG: Act 03 (pp 1-6)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.PS2.	Physical Science: Energy is necessary for change to occur in matter. Energy can be stored, transferred, and transformed, but cannot be destroyed.
ASSESSMENT TARGET	PS2 (K-4)-SAE+INQ-6.	Experiment, observe, or predict how heat might move from one object to another.
PERFORMANCE STANDARD	PS2 (K-2)-6.	Students demonstrate an understanding of energy by...
GRADE SPAN EXPECTATION	6a.	<p>Describing that the sun warms land and water.</p> <ul style="list-style-type: none"> <li>Building Blocks of Science: Sky Watchers</li> <li>TG: Act 03 (pp 1-6)</li> </ul>
GRADE SPAN EXPECTATION	6b.	<p>Describing that objects change in temperature by adding or subtracting heat.</p> <ul style="list-style-type: none"> <li>GEMS Bubble Festival</li> <li>TG: Act10 (pp108-113)</li> <li>Changes</li> <li>TG: L02 (pp21-30)</li> <li>GEMS Penguins and Their Young</li> <li>TG: Act01 (pp5-13)</li> <li>TG: Act04 (pp39-45)</li> <li>Chemical Tests</li> <li>TG: L10 (pp93-100)</li> <li>Solids and Liquids</li> <li>TG: L13.Exts (pp104-105)</li> <li>Weather</li> <li>TG: L05.Exts (pp47-48)</li> <li>TG: L08.Exts (p76)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.PS3.	Physical Science: The motion of an object is affected by forces.
ASSESSMENT TARGET	PS3 (K-4)-INQ+SAE-7.	Use data to predict how a change in force (greater/less) might affect the position, direction of motion, or speed of an object (e.g., ramps and balls).
PERFORMANCE STANDARD	PS3 (K-2)-7.	Students demonstrate an understanding of motion by...
GRADE SPAN EXPECTATION	7a.	<p>Showing how pushing/pulling moves or does not move an object.</p> <ul style="list-style-type: none"> <li>Solids and Liquids</li> </ul>

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		<ul style="list-style-type: none"> <li>• TG: L04 (pp29-40)</li> </ul>
GRADE SPAN EXPECTATION	7b.	<p>Predicting the direction an object will or will not move if a force is applied to it.</p> <ul style="list-style-type: none"> <li>• Solids and Liquids</li> <li>• TG: L04 (pp29-40)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.PS3.	Physical Science: The motion of an object is affected by forces.
ASSESSMENT TARGET	PS3 (K-4) INQ+ SAE-8.	Use observations of magnets in relation to other objects to describe the properties of magnetism (i.e., attract or repel certain objects or has no effect)
PERFORMANCE STANDARD	PS3 (K-2)-8.	Students demonstrate an understanding of (magnetic) force by...
GRADE SPAN EXPECTATION	8a.	<p>Observing and sorting objects that are and are not attracted to magnets.</p> <ul style="list-style-type: none"> <li>• Rocks and Minerals</li> <li>• TG: L11.Exts (p80)</li> <li>• Solids and Liquids</li> <li>• TG: L07 (pp55-62)</li> </ul>

### 3-4 Science

DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.ESS1.	Earth and Space Science: The earth and earth materials as we know them today have developed over long periods of time, through continual change processes.
ASSESSMENT TARGET	ESS1 (K-4) INQ-1.	Given certain earth materials (soils, rocks or minerals) use physical properties to sort, classify, and describe them.
PERFORMANCE STANDARD	ESS1 (3-4)-1.	Students demonstrate an understanding of earth materials by...
GRADE SPAN EXPECTATION	1a.	<p>Describing, comparing, and sorting rocks, soils, and minerals by similar or different physical properties (e.g., size, shape, color, texture, smell, weight, temperature, hardness, composition).</p> <ul style="list-style-type: none"> <li>• Land and Water</li> <li>• RB: (pp15-18)</li> </ul>

## Carolina™ Curriculum Correlation to Rhode Island Science Grade Span Expectations – Grades K-8

		<ul style="list-style-type: none"> <li>• TG: L06 (pp63-74)</li> <li>• GEMS On Sandy Shores</li> <li>• TG: Act02 (pp27-43)</li> <li>• Rocks and Minerals</li> <li>• TG: L02 (pp13-18)</li> <li>• TG: L04-10 (pp27-78)</li> <li>• TG: L14-17 (pp95-128)</li> <li>• Soils</li> <li>• TG: L12.Exts (p118)</li> <li>• GEMS Stories in Stone</li> <li>• TG: Ses01-05 (pp15-73)</li> <li>• TG: Ses08 (pp103-113)</li> <li>• TG: Exts (p114)</li> <li>• GEMS Terrarium Habitats</li> <li>• TG: Act01 (pp5-13)</li> </ul>
<p>GRADE SPAN EXPECTATION</p>	<p>1b.</p>	<p>Recording and analyzing observations/data about physical properties (e.g., within a grouping, which characteristics are the same and which are different).</p> <ul style="list-style-type: none"> <li>• GEMS 3-5 Space Science Sequence</li> <li>• TG: Ses 1 Pre Assessment (p1)</li> <li>• TG: Ses 1 Post Assessment (pp1-2)</li> <li>• TG: Ses 1.4-1.7 (pp70-135)</li> <li>• TG: Ses 1.9 (pp152-167)</li> <li>• TG: Ses 2 Pre Assessment (p1)</li> <li>• TG: Ses 2 Post Assessment (pp1-2)</li> <li>• TG: Ses 2.1-2.3 (pp172-225)</li> <li>• Floating and Sinking</li> <li>• RB: (pp36-40)</li> <li>• Rocks and Minerals</li> <li>• TG: L01-04 (pp3-34)</li> <li>• TG: L06-12 (pp43-90)</li> <li>• TG: L17 (pp127-128)</li> <li>• GEMS Stories in Stone</li> <li>• TG: Ses01 (pp15-21)</li> </ul>
<p>GRADE SPAN EXPECTATION</p>	<p>1c.</p>	<p>Citing evidence (e.g., prior knowledge, data) to support why rocks, soils, or minerals are classified/not classified together.</p> <ul style="list-style-type: none"> <li>• Land and Water</li> <li>• RB: (pp15-18)</li> <li>• TG: L05 (pp51-62)</li> <li>• TG: L06 (pp63-74)</li> <li>• TG: L14.Exts (p156)</li> <li>• Rocks and Minerals</li> <li>• TG: L01-02 (pp3-18)</li> <li>• TG: L03.Exts (p22)</li> <li>• TG: L04-10 (pp27-78)</li> <li>• TG: L15-17 (pp103-128)</li> <li>• Soils</li> </ul>

## Carolina™ Curriculum Correlation to Rhode Island Science Grade Span Expectations – Grades K-8

		<ul style="list-style-type: none"> <li>• TG: L01 (pp3-16)</li> <li>• TG: L03-05 (pp27-56)</li> <li>• TG: L08 (pp73-86)</li> <li>• TG: L11-12 (pp109-124)</li> <li>• TG: L14.Exts (p143)</li> <li>• GEMS Stories in Stone</li> <li>• TG: Ses01-02 (pp15-31)</li> <li>• TG: Ses07-08 (pp83-113)</li> <li>• GEMS Terrarium Habitats</li> <li>• TG: Act01 (pp5-13)</li> </ul>
GRADE SPAN EXPECTATION	1d.	<p>Identifying the four basic materials of the earth (water, soil, rocks, air).</p> <ul style="list-style-type: none"> <li>• Rocks and Minerals</li> <li>• TG: L16 (pp113-126)</li> <li>• Soils</li> <li>• TG: L01-17 (pp3-172)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.ESS1.	Earth and Space Science: The earth and earth materials as we know them today have developed over long periods of time, through continual change processes.
ASSESSMENT TARGET	ESS1 (K-4) INQ-2.	Use results from an experiment to draw conclusions about how water interacts with earth materials (e.g., percolation, erosion, frost heaves).
PERFORMANCE STANDARD	ESS1 (3-4)-2.	Students demonstrate an understanding of processes and change over time within earth systems by...
GRADE SPAN EXPECTATION	2a.	<p>Conducting investigations and using observational data to describe how water moves rocks and soils.</p> <ul style="list-style-type: none"> <li>• Land and Water</li> <li>• RB: (pp50-52)</li> <li>• TG: L03-07 (pp29-84)</li> <li>• TG: L09.Exts (p103)</li> <li>• TG: L10-16 (pp109-182)</li> <li>• GEMS On Sandy Shores</li> <li>• TG: Act02-03 (pp27-56)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.ESS1.	Earth and Space Science: The earth and earth materials as we know them today have developed over long periods of time, through continual change processes.
ASSESSMENT TARGET	ESS 1 (K-4) NOS-3.	Explain how the use of scientific tools helps to extend senses and gather data about weather. (i.e., weather/wind vane: direction; wind sock: wind intensity; anemometer: speed; thermometer: temperature; meter sticks/rulers: snow depth; rain gauges: rain amount in inches).
PERFORMANCE STANDARD	ESS1 (3-4)-3.	Students demonstrate an understanding of how the use of scientific tools helps to extend senses and gather data by...

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GRADE SPAN EXPECTATION	3a.	<p>Explaining how the use of scientific tools helps to extend senses and gather data about weather (i.e., weather/wind vane: direction; wind sock: wind intensity; anemometer: speed; thermometer: temperature; meter sticks/rulers: snow depth; rain gauges: rain amount in inches).</p> <ul style="list-style-type: none"> <li>• <b>Building Blocks of Science: Measure It!</b></li> <li>• TG: L04-05 (pp39-47)</li> <li>• <b>Electric Circuits</b></li> <li>• RB: (pp56-59)</li> <li>• <b>GEMS Hot Water Warm Homes from Sunlight</b></li> <li>• TG: Ses02 (pp13-16)</li> <li>• TG: Ses04 (pp33-37)</li> <li>• <b>Land and Water</b></li> <li>• RB: (pp59-61)</li> </ul>
GRADE SPAN EXPECTATION	3b.	<p>Selecting appropriate tools for a given task and describing the information they will provide.</p> <ul style="list-style-type: none"> <li>• <b>GEMS Aquatic Habitats</b></li> <li>• TG: Act01-05 (pp13-70)</li> <li>• TG: Exts (pp70-78)</li> <li>• <b>Building Blocks of Science: Measure It!</b></li> <li>• TG: L01-05 (pp11-47)</li> <li>• <b>GEMS Bubble Festival</b></li> <li>• TG: Act01-12 (pp54-124)</li> <li>• <b>GEMS Buzzing a Hive</b></li> <li>• TG: Les01-06 (pp5-66)</li> <li>• <b>Balancing and Weighing</b></li> <li>• TG: L02-17 (pp9-138)</li> <li>• <b>Building Blocks of Science: Human Bodyworks</b></li> <li>• TG: Act 03-04 (pp 31-43)</li> <li>• TG: Act 06-12 (pp 49-84)</li> <li>• <b>Building Blocks of Science: Understanding Cells and DNA</b></li> <li>• TG: Act 02 (pp 27-33)</li> <li>• TG: Act 05-06 (pp 65-79)</li> <li>• <b>GEMS Crime Lab Chemistry</b></li> <li>• TG: Act01-03 (pp7-62)</li> <li>• <b>Chemical Tests</b></li> <li>• TG: L01-10 (pp3-100)</li> <li>• TG: L12-16 (pp107-154)</li> <li>• <b>Food Chemistry</b></li> <li>• TG: L02-10 (pp11-100)</li> <li>• TG: L13-14 (pp117-130)</li> <li>• TG: L16 (pp149-154)</li> <li>• <b>GEMS Fingerprinting</b></li> <li>• TG: Ses01-03 (pp7-25)</li> <li>• <b>GEMS Electric Circuits</b></li> <li>• TG: Ses01-11 (pp13-175)</li> <li>• <b>GEMS Hot Water Warm Homes from Sunlight</b></li> <li>• TG: Ses01-05 (pp7-41)</li> <li>• <b>GEMS Investigating Artifacts</b></li> <li>• TG: Ses01-06 (pp7- -63)</li> </ul>

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		<ul style="list-style-type: none"> <li>• GEMS Involving Dissolving</li> <li>• TG: Act01-04 (pp5-35)</li> <li>• GEMS Liquid Explorations</li> <li>• TG: Act01-05 (pp5-49)</li> <li>• Land and Water</li> <li>• RB: (pp32-35)</li> <li>• GEMS Microscopic Explorations</li> <li>• TG: Act01-10 (pp37-97)</li> <li>• GEMS Mystery Festival</li> <li>• TG: Ses01-05 (pp21-93)</li> <li>• GEMS Moons of Jupiter</li> <li>• TG: Act01-03 (pp7-39)</li> <li>• TG: Act05 (pp53-64)</li> <li>• GEMS Of Cabbages and Chemistry</li> <li>• TG: Ses01-04 (pp9-46)</li> <li>• TG: Exts (pp49-51)</li> <li>• GEMS Oobleck: What Do Scientists Do?</li> <li>• TG: Ses01-04 (pp4-18)</li> <li>• TG: Exts (p19)</li> <li>• GEMS On Sandy Shores</li> <li>• TG: Act01-05 (pp13-108)</li> <li>• Plant Growth and Development</li> <li>• TG: L02-16 (pp9-98)</li> <li>• Rocks and Minerals</li> <li>• TG: L01-16 (pp3-126)</li> <li>• Soils</li> <li>• TG: L01.Exts (p12)</li> <li>• TG: L02 (pp17-26)</li> <li>• GEMS Secret Formulas</li> <li>• TG: Ses01-09 (pp15-97)</li> <li>• TG: Exts (p99)</li> <li>• GEMS Stories in Stone</li> <li>• TG: Ses01-08 (pp15-113)</li> <li>• GEMS Schoolyard Ecology</li> <li>• TG: Act01-05 (pp7-59)</li> <li>• Sound</li> <li>• TG: L01-09 (pp11-66)</li> <li>• TG: L09.Exts (p71)</li> <li>• TG: L10-14 (pp73-102)</li> <li>• TG: L17 (pp117-118)</li> <li>• GEMS Terrarium Habitats</li> <li>• TG: Act01-05 (pp5-48)</li> <li>• GEMS Vitamin C Testing</li> <li>• TG: Ses01-04 (pp5-37)</li> <li>• TG: Exts (pp38-39)</li> </ul>
<b>DOMAIN / STATEMENT OF ENDURING KNOWLEDGE</b>	<b>RI.ESS1.</b>	<b>Earth and Space Science: The earth and earth materials as we know them today have developed over long periods of time, through continual change processes.</b>
<b>ASSESSMENT TARGET</b>	<b>ESS1 (K-4) INQ+SAE-4.</b>	<b>Explain how wind, water, or ice shape and reshape the earth.</b>

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<b>PERFORMANCE STANDARD</b>	<b>ESS1 (3-4)-4.</b>	Students demonstrate an understanding of processes and change over time within earth systems by...
<b>GRADE SPAN EXPECTATION</b>	<b>4a.</b>	Investigating local landforms and how wind, water, or ice have shaped and reshaped them (e.g. severe weather). <ul style="list-style-type: none"> <li>• Land and Water</li> <li>• RB: (pp10-14)</li> <li>• RB: (pp36-38)</li> <li>• RB: (pp41-49)</li> <li>• TG: L01-07 (pp3-84)</li> <li>• TG: L09.Exts (p103)</li> <li>• TG: L10-15 (pp109-172)</li> <li>• GEMS On Sandy Shores</li> <li>• TG: Act02-03 (pp27-56)</li> <li>• GEMS Stories in Stone</li> <li>• TG: Ses05 (pp65-73)</li> <li>• TG: Ses07 (pp83-101)</li> </ul>
<b>GRADE SPAN EXPECTATION</b>	<b>4b.</b>	Using or building models to simulate the effects of how wind and water shape and reshape the land (e.g., erosion, sedimentation, deposition, glaciation). <ul style="list-style-type: none"> <li>• Land and Water</li> <li>• RB: (pp36-38)</li> <li>• RB: (pp50-52)</li> <li>• TG: L03-07 (pp29-84)</li> <li>• TG: L09.Exts (p103)</li> <li>• TG: L10-16 (pp109-182)</li> <li>• GEMS On Sandy Shores</li> <li>• TG: Act02-03 (pp27-56)</li> </ul>
<b>GRADE SPAN EXPECTATION</b>	<b>4c.</b>	Identifying sudden and gradual changes that affect the Earth (e.g. sudden change = flood; gradual change = erosion caused by oceans). <ul style="list-style-type: none"> <li>• Land and Water</li> <li>• RB: (pp10-14)</li> <li>• RB: (pp36-38)</li> <li>• TG: L03-07 (pp29-84)</li> <li>• TG: L09-15 (pp99-172)</li> <li>• Microworlds</li> <li>• RB: (pp13- 15)</li> </ul>
<b>DOMAIN / STATEMENT OF ENDURING KNOWLEDGE</b>	<b>RI.ESS1.</b>	Earth and Space Science: The earth and earth materials as we know them today have developed over long periods of time, through continual change processes.
<b>ASSESSMENT TARGET</b>	<b>ESS1 (K-4) POC-5.</b>	Based on data collected from daily weather observations, describe weather changes or weather patterns.

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PERFORMANCE STANDARD	ESS1 (3-4)-5.	Students demonstrate an understanding of processes and change over time within earth systems by...
GRADE SPAN EXPECTATION	5b.	Describing water as it changes into vapor in the air and reappears as a liquid when it's cooled. <ul style="list-style-type: none"> <li>• Chemical Tests</li> <li>• TG: L05.Exts (p50)</li> <li>• Land and Water</li> <li>• TG: L01-03 (pp3-36)</li> <li>• TG: L06 (pp63-74)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.ESS2.	Earth and Space Science: The earth is part of a solar system, made up of distinct parts that have temporal and spatial interrelationships.
ASSESSMENT TARGET	ESS2 (K-4)-7.	No further targets for EK ESS2 at the K-4 Grade Span
PERFORMANCE STANDARD	ESS2 (3-4)-7.	Students demonstrate an understanding of temporal or positional relationships between or among the Earth, sun, and moon by...
GRADE SPAN EXPECTATION	7a.	Observing that the sun, moon, and stars appear to move slowly across the sky. <ul style="list-style-type: none"> <li>• GEMS 3-5 Space Science Sequence</li> <li>• TG: Ses 1 Pre Assessment (p1)</li> <li>• TG: Ses 1 Post Assessment (pp1-2)</li> <li>• TG: Ses 1.2 (pp46-55)</li> <li>• TG: Ses 1.6 (pp104-121)</li> <li>• TG: Ses 3 Pre Assessment (pp1-2)</li> <li>• TG: Ses 3 Post Assessment (pp1-2)</li> <li>• TG: Ses 3.2 (pp300-311)</li> <li>• TG: Ses 3.3 (pp312-323)</li> <li>• GEMS Moons of Jupiter</li> <li>• TG: Act01 (pp7-17)</li> </ul>
GRADE SPAN EXPECTATION	7b.	Observing that the moon looks slightly different from day to day, but looks the same again in about 4 weeks. <ul style="list-style-type: none"> <li>• GEMS 3-5 Space Science Sequence</li> <li>• TG: Ses 4 Pre Assessment (pp1-2)</li> <li>• TG: Ses 4 Post Assessment (pp1-2)</li> <li>• TG: Ses 4.1-4.5 (pp340-423)</li> </ul>
GRADE SPAN EXPECTATION	7c.	Recognizing that the rotation of the Earth on its axis every 24 hours produces the day/night cycle. <ul style="list-style-type: none"> <li>• GEMS 3-5 Space Science Sequence</li> <li>• TG: Ses 3.1-3.4 (pp286-335)</li> </ul>

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		<ul style="list-style-type: none"> <li>TG: Ses 4.1-4.5 (pp340-423)</li> </ul>
<b>DOMAIN / STATEMENT OF ENDURING KNOWLEDGE</b>	<b>RI.ESS2.</b>	<b>Earth and Space Science: The earth is part of a solar system, made up of distinct parts that have temporal and spatial interrelationships.</b>
<b>ASSESSMENT TARGET</b>	<b>ESS2 (K-4)-8.</b>	No further targets for EK ESS2 at the K-4 Grade Span
<b>PERFORMANCE STANDARD</b>	<b>ESS2 (3-4)-8.</b>	Students demonstrate an understanding of characteristics of the solar system by...
<b>GRADE SPAN EXPECTATION</b>	<b>8a.</b>	<p>Recognizing that: the sun is the center of our solar system; the Earth is one of several planets that orbits the sun; and the moon orbits the Earth.</p> <ul style="list-style-type: none"> <li><b>GEMS 3-5 Space Science Sequence</b></li> <li>TG: Ses 3 Pre Assessment (pp1-2)</li> <li>TG: Ses 3 Post Assessment (pp1-2)</li> <li>TG: Ses 3.1-3.4 (pp286-335)</li> <li>TG: Ses 4.1-4.5 (pp340-423)</li> <li><b>GEMS Moons of Jupiter</b></li> <li>TG: Act03 (pp31-39)</li> </ul>
<b>GRADE SPAN EXPECTATION</b>	<b>8b.</b>	<p>Recognizing that it takes approximately 365 days for the Earth to orbit the sun.</p> <ul style="list-style-type: none"> <li><b>GEMS 3-5 Space Science Sequence</b></li> <li>TG: Ses 3 Pre Assessment (pp1-2)</li> <li>TG: Ses 3 Post Assessment (pp1-2)</li> <li>TG: Ses 3.1-3.4 (pp286-335)</li> <li>TG: Ses 4.1-4.5 (pp340-423)</li> </ul>
<b>DOMAIN / STATEMENT OF ENDURING KNOWLEDGE</b>	<b>RI.LS1.</b>	<b>Life Science: All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, &amp; species).</b>
<b>ASSESSMENT TARGET</b>	<b>LS1 (K-4)-INQ+POC-1.</b>	Sort/classify different living things using similar and different characteristics. Describe why organisms belong to each group or cite evidence about how they are alike or not alike.
<b>PERFORMANCE STANDARD</b>	<b>LS1 (3-4)-1.</b>	Students demonstrate an understanding of classification of organisms by...
<b>GRADE SPAN EXPECTATION</b>	<b>1a.</b>	<p>Citing evidence to distinguish between living and non-living things.</p> <ul style="list-style-type: none"> <li><b>Animal Studies</b></li> <li>TG: L02 (pp11-20)</li> <li><b>Building Blocks of Science: Understanding Cells and DNA</b> TG: Act 01 (pp 21-26)</li> <li><b>Ecosystems</b></li> <li>TG: L01-02 (pp3-24)</li> <li>TG: L03.Exts (p29)</li> <li>TG: L05 (pp53-60)</li> <li>TG: L17 (pp169-171)</li> <li><b>Microworlds</b></li> </ul>

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		<ul style="list-style-type: none"> <li>• RB: (pp48-51)</li> <li>• The Life Cycle of Butterflies</li> <li>• TG: L10 (pp63-68)</li> <li>• GEMS On Sandy Shores</li> <li>• TG: Act01 (pp13-25)</li> <li>• Soils</li> <li>• TG: L01-10 (pp3-108)</li> <li>• TG: L13 (pp125-138)</li> </ul>
GRADE SPAN EXPECTATION	1b.	<p>Identifying, sorting and comparing based on similar and/or different external features.</p> <ul style="list-style-type: none"> <li>• <b>Animal Studies</b></li> <li>• RB: (pp26-29)</li> <li>• TG: L01-03 (pp3-36)</li> <li>• TG: L17 (pp169-172)</li> <li>• <b>Building Blocks of Science: Human Bodyworks</b></li> <li>• TG: Pre Assessment (pp 13-17)</li> <li>• TG: Ext 01 (p 21)</li> <li>• TG: Act 02-04 (pp 25-43)</li> <li>• TG: Act 06-07 (pp 49-58)</li> <li>• TG: Act 09-10 (pp 67-75)</li> <li>• TG: Act 12 (pp 81-84)</li> <li>• TG: Post Assessment (pp 85-88)</li> <li>• <b>Building Blocks of Science: Understanding Cells and DNA</b> TG: Act 01-04 (pp 21-63)</li> <li>• TG: Act 06 (pp 75-79)</li> <li>• <b>Food Chemistry</b></li> <li>• TG: L07.Exts (p72)</li> <li>• <b>The Life Cycle of Butterflies</b></li> <li>• TG: L02 (pp11-18)</li> <li>• TG: L10 (pp63-68)</li> <li>• TG: L14-15 (pp85-94)</li> <li>• <b>Plant Growth and Development</b></li> <li>• TG: L01.Exts (p6)</li> <li>• TG: L06.Exts (p36)</li> <li>• TG: L10.Exts (pp56-57)</li> <li>• <b>GEMS Schoolyard Ecology</b></li> <li>• TG: Act03 (pp33-41)</li> </ul>
GRADE SPAN EXPECTATION	1c.	<p>Recording and analyzing observations/data about external features (e.g., within a grouping, which characteristics are the same and which are different).</p> <ul style="list-style-type: none"> <li>• <b>Microworlds</b></li> <li>• TG: L13.Exts (p74)</li> </ul>
GRADE SPAN EXPECTATION	1d.	<p>Citing evidence (e.g., prior knowledge, data) to draw conclusions explaining why organisms are grouped/not grouped together (e.g. mammal, bird, and fish).</p>

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		<ul style="list-style-type: none"> <li>• The Life Cycle of Butterflies</li> <li>• TG: L02 (pp11-18)</li> <li>• TG: L10 (pp63-68)</li> <li>• TG: L14-15 (pp85-94)</li> <li>• Plant Growth and Development</li> <li>• TG: L10 (pp55-60)</li> <li>• GEMS Schoolyard Ecology</li> <li>• TG: Act03 (pp33-41)</li> </ul>
<b>DOMAIN / STATEMENT OF ENDURING KNOWLEDGE</b>	<b>RI.LS1.</b>	<b>Life Science: All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, &amp; species).</b>
<b>ASSESSMENT TARGET</b>	<b>LS1 (K-4) SAE-2.</b>	Identify the basic needs of plants and animals in order to stay alive. (i.e., water, air, food, space).
<b>PERFORMANCE STANDARD</b>	<b>LS1 (3-4)-2.</b>	Students demonstrate understanding of structure and function-survival requirements by...
<b>GRADE SPAN EXPECTATION</b>	<b>2a.</b>	<p>Observing that plants need water, air, food, light and space to grow and reproduce; observing that animals need water, air, food, and shelter/space to grow and reproduce.</p> <ul style="list-style-type: none"> <li>• GEMS Aquatic Habitats</li> <li>• TG: Act01 (pp13-23)</li> <li>• Animal Studies</li> <li>• RB: (pp16-19)</li> <li>• RB: (pp58-61)</li> <li>• TG: L01.Exts (p6)</li> <li>• TG: L02.Exts (pp15-16)</li> <li>• TG: L05.Exts (p58)</li> <li>• Ecosystems</li> <li>• RB: (pp11-13)</li> <li>• RB: (pp49-51)</li> <li>• TG: L03 (pp25-38)</li> <li>• The Life Cycle of Butterflies</li> <li>• TG: L02-03 (pp11-22)</li> <li>• TG: L05-08 (pp29-52)</li> <li>• TG: L10-12 (pp63-80)</li> <li>• TG: L15-16 (pp89-96)</li> <li>• Land and Water</li> <li>• TG: L14.Exts (p156)</li> <li>• Microworlds</li> <li>• TG: L12.Exts (pp69-70)</li> <li>• TG: L14.Exts (p78)</li> <li>• Plant Growth and Development</li> <li>• TG: L03-04 (pp13-28)</li> <li>• TG: L16.Exts (pp96-97)</li> <li>• Soils</li> <li>• TG: L09 (pp87-96)</li> <li>• GEMS Terrarium Habitats</li> </ul>

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		<ul style="list-style-type: none"> <li>TG: Act01-02 (pp5-21)</li> </ul>
<b>DOMAIN / STATEMENT OF ENDURING KNOWLEDGE</b>	RI.LS1.	Life Science: All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species).
<b>ASSESSMENT TARGET</b>	LS1 (K-4) POC-3.	Predict, sequence or compare the life stages of organisms-plants and animals (e.g., put images of life stages of an organism in order, predict the next stage in sequence, compare two organisms).
<b>PERFORMANCE STANDARD</b>	LS1 (3-4)-3.	Students demonstrate an understanding of reproduction by...
<b>GRADE SPAN EXPECTATION</b>	3a.	<p>Observing changes and recording data to scientifically draw and label the stages in the life cycle of a familiar plant and animal.</p> <ul style="list-style-type: none"> <li><b>GEMS Aquatic Habitats</b></li> <li>TG: Act04-05 (pp45-70)</li> <li><b>Animal Studies</b></li> <li>RB: (pp06-08)</li> <li>RB: (pp12-15)</li> <li>RB: (pp35-39)</li> <li>TG: L04.Exts (pp41-42)</li> <li>TG: L07.Exts (pp79-80)</li> <li>TG: L09.Exts (pp101-102)</li> <li><b>Ecosystems</b></li> <li>RB: (pp31-34)</li> <li>TG: L03.Exts (p29)</li> <li>TG: L05-06 (pp53-74)</li> <li><b>Food Chemistry</b></li> <li>RB: (pp21-23)</li> <li><b>GEMS Buzzing a Hive</b></li> <li>TG: Les04 (pp39-53)</li> <li><b>Microworlds</b></li> <li>RB: (pp28-30)</li> <li><b>The Life Cycle of Butterflies</b></li> <li>TG: L01-09 (pp3-62)</li> <li>TG: L11-16 (pp69-96)</li> <li>TG: App-A (pp97-100)</li> <li>TG: App-B (pp101-110)</li> <li><b>Plant Growth and Development</b></li> <li>TG: L10 (pp55-60)</li> <li>TG: L12 (pp67-70)</li> <li>TG: L15-16 (pp89-98)</li> <li><b>Soils</b></li> <li>TG: L16.Exts (pp164-166)</li> </ul>
<b>GRADE SPAN EXPECTATION</b>	3b.	<p>Sequencing the life cycle of a plant or animal when given a set of data/pictures.</p> <ul style="list-style-type: none"> <li><b>GEMS Aquatic Habitats</b></li> </ul>

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		<ul style="list-style-type: none"> <li>• TG: Act04-05 (pp45-70)</li> <li>• <b>Animal Studies</b></li> <li>• RB: (pp06-08)</li> <li>• RB: (pp12-15)</li> <li>• RB: (pp35-39)</li> <li>• TG: L04.Exts (pp41-42)</li> <li>• TG: L07.Exts (pp79-80)</li> <li>• TG: L09.Exts (pp101-102)</li> <li>• <b>Ecosystems</b></li> <li>• RB: (pp31-34)</li> <li>• TG: L03.Exts (p29)</li> <li>• TG: L05-06 (pp53-74)</li> <li>• <b>Food Chemistry</b></li> <li>• RB: (pp21-23)</li> <li>• <b>GEMS Buzzing a Hive</b></li> <li>• TG: Les04 (pp39-53)</li> <li>• <b>Microworlds</b></li> <li>• RB: (pp28-30)</li> <li>• <b>The Life Cycle of Butterflies</b></li> <li>• TG: L01-09 (pp3-62)</li> <li>• TG: L11-16 (pp69- -96)</li> <li>• TG: App-A (pp97-100)</li> <li>• TG: App-B (pp101-110)</li> <li>• <b>Plant Growth and Development</b></li> <li>• TG: L10 (pp55-60)</li> <li>• TG: L12 (pp67-70)</li> <li>• TG: L15-16 (pp89-98)</li> <li>• <b>Soils</b></li> <li>• TG: L16.Exts (pp164-166)</li> </ul>
<p><b>GRADE SPAN EXPECTATION</b></p>	<p>3c.</p>	<p>Comparing the life cycles of 2 plants or 2 animals when given a set of data/pictures.</p> <ul style="list-style-type: none"> <li>• <b>GEMS Aquatic Habitats</b></li> <li>• TG: Act04-05 (pp45-70)</li> <li>• <b>Animal Studies</b></li> <li>• RB: (pp06-08)</li> <li>• RB: (pp12-15)</li> <li>• RB: (pp35-39)</li> <li>• TG: L04.Exts (pp41-42)</li> <li>• TG: L07.Exts (pp79-80)</li> <li>• TG: L09.Exts (pp101-102)</li> <li>• <b>Ecosystems</b></li> <li>• RB: (pp31-34)</li> <li>• TG: L03.Exts (p29)</li> <li>• TG: L05-06 (pp53-74)</li> <li>• <b>Food Chemistry</b></li> <li>• RB: (pp21-23)</li> <li>• <b>GEMS Buzzing a Hive</b></li> <li>• TG: Les04 (pp39-53)</li> <li>• <b>Microworlds</b></li> <li>• RB: (pp28-30)</li> </ul>

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		<ul style="list-style-type: none"> <li>• The Life Cycle of Butterflies</li> <li>• TG: L01-09 (pp3-62)</li> <li>• TG: L11-16 (pp69-96)</li> <li>• TG: App-A (pp97-100)</li> <li>• TG: App-B (pp101-110)</li> <li>• Plant Growth and Development</li> <li>• TG: L10 (pp55-60)</li> <li>• TG: L12 (pp67-70)</li> <li>• TG: L15-16 (pp89-98)</li> <li>• Soils</li> <li>• TG: L16.Exts (pp164-166)</li> </ul>
<b>DOMAIN / STATEMENT OF ENDURING KNOWLEDGE</b>	RI.LS1.	Life Science: All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species).
<b>ASSESSMENT TARGET</b>	LS1 (K-4) FAF-4.	Identify and explain how the physical structures of an organism (plants or animals) allow it to survive in its habitat/environment (e.g., roots for water; nose to smell fire).
<b>PERFORMANCE STANDARD</b>	LS1 (3-4)-4.	Students demonstrate understanding of structure and function-survival requirements by...
<b>GRADE SPAN EXPECTATION</b>	4a.	<p>Identifying and explaining how the physical structure/characteristic of an organism allows it to survive and defend itself (e.g. of a characteristic-the coloring of a fiddler crab allows it to camouflage itself in the sand and grasses of its environment so that it will be protected from predators).</p> <ul style="list-style-type: none"> <li>• GEMS Aquatic Habitats</li> <li>• TG: Act02-03 (pp25-43)</li> <li>• TG: Act05 (pp61-70)</li> <li>• Animal Studies</li> <li>• RB: (pp06-11)</li> <li>• RB: (pp16-19)</li> <li>• RB: (pp30-32)</li> <li>• RB: (pp45-49)</li> <li>• TG: L01-04 (pp3-48)</li> <li>• TG: L06-16 (pp65-168)</li> <li>• Building Blocks of Science: Human Bodyworks</li> <li>• TG: Ext 01 (p 21)</li> <li>• Ecosystems</li> <li>• RB: (pp11-13)</li> <li>• Floating and Sinking</li> <li>• RB: (pp51-61)</li> <li>• GEMS Buzzing a Hive</li> <li>• TG: Exts (p67)</li> <li>• The Life Cycle of Butterflies</li> <li>• TG: L01-06 (pp3-38)</li> <li>• TG: L08-16 (pp47-96)</li> <li>• Motion and Design</li> <li>• RB: (pp14-17)</li> <li>• GEMS On Sandy Shores</li> </ul>

## Carolina™ Curriculum Correlation to Rhode Island Science Grade Span Expectations – Grades K-8

		<ul style="list-style-type: none"> <li>• TG: Act04 (pp59-89)</li> <li>• GEMS Terrarium Habitats</li> <li>• TG: Act03-05 (pp23-48)</li> </ul>
GRADE SPAN EXPECTATION	4b.	<p>Analyzing the structures needed for survival of populations of plants and animals in a particular habitat/environment (e.g. populations of desert plants and animals require structures that enable them to obtain/conserve/retain water).</p> <ul style="list-style-type: none"> <li>• GEMS Aquatic Habitats</li> <li>• TG: Act02-03 (pp25-43)</li> <li>• TG: Act05 (pp61-70)</li> <li>• Animal Studies</li> <li>• RB: (pp06-11)</li> <li>• RB: (pp16-19)</li> <li>• RB: (pp30-32)</li> <li>• RB: (pp45-49)</li> <li>• TG: L01-04 (pp3-48)</li> <li>• TG: L06-16 (pp65-168)</li> <li>• GEMS Buzzing a Hive</li> <li>• TG: Exts (p67)</li> <li>• Building Blocks of Science: Human Bodyworks</li> <li>• TG: Ext 01 (p 21)</li> <li>• Ecosystems</li> <li>• RB: (pp11-13)</li> <li>• Floating and Sinking</li> <li>• RB: (pp51-61)</li> <li>• The Life Cycle of Butterflies</li> <li>• TG: L01-06 (pp3-38)</li> <li>• TG: L08-16 (pp47-96)</li> <li>• Motion and Design</li> <li>• RB: (pp14-17)</li> <li>• GEMS On Sandy Shores</li> <li>• TG: Act04 (pp59-89)</li> <li>• GEMS Terrarium Habitats</li> <li>• TG: Act03-05 (pp23-48)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.LS2.	Life Science: Matter cycles and energy flows through an ecosystem.
ASSESSMENT TARGET	LS2 (K-4) SAE-5.	Recognize that energy is needed for all organisms to stay alive and grow or identify where a plant or animal gets its energy.
PERFORMANCE STANDARD	LS2 (3-4)-5.	Students demonstrate an understanding of energy flow in an ecosystem by...
GRADE SPAN EXPECTATION	5a.	<p>Identifying sources of energy for survival of organisms (i.e. light or food).</p> <ul style="list-style-type: none"> <li>• Plant Growth and Development</li> <li>• TG: L01 (pp3-8)</li> </ul>

## Carolina™ Curriculum Correlation to Rhode Island Science Grade Span Expectations – Grades K-8

DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.LS2.	Life Science: Matter cycles and energy flows through an ecosystem.
ASSESSMENT TARGET	LS2 (K-4) SAE-6.	Describe ways plants and animals depend on each other (e.g., shelter, nesting, food).
PERFORMANCE STANDARD	LS2 (3-4)-6.	Students demonstrate an understanding of food webs in an ecosystem by...
GRADE SPAN EXPECTATION	6a.	<p>Demonstrating in a food web that all animals' food begins with the sun.</p> <ul style="list-style-type: none"> <li>• GEMS Aquatic Habitats</li> <li>• TG: Act04-05 (pp45-70)</li> <li>• Ecosystems</li> <li>• RB: (pp14-16)</li> <li>• TG: L07 (pp75-82)</li> </ul>
GRADE SPAN EXPECTATION	6b.	<p>Using information about organisms to design a habitat and explain how the habitat provides for the needs of the organisms that live there</p> <ul style="list-style-type: none"> <li>• GEMS Aquatic Habitats</li> <li>• TG: Act01-05 (pp13-70)</li> <li>• TG: Exts (pp70-78)</li> <li>• Animal Studies</li> <li>• RB: (pp09-19)</li> <li>• RB: (pp30-32)</li> <li>• RB: (pp35-42)</li> <li>• RB: (pp50-52)</li> <li>• TG: L01-13 (pp3-142)</li> <li>• TG: L14.Exts (p145)</li> <li>• TG: L15-17 (pp157-172)</li> <li>• GEMS Buzzing a Hive</li> <li>• TG: Les03 (pp27-37)</li> <li>• Ecosystems</li> <li>• RB: (pp07-23)</li> <li>• RB: (pp26-37)</li> <li>• RB: (pp45-51)</li> <li>• Food Chemistry</li> <li>• RB: (pp58-61)</li> <li>• Floating and Sinking</li> <li>• RB: (pp43-45)</li> <li>• RB: (pp51-53)</li> <li>• The Life Cycle of Butterflies</li> <li>• TG: L01-03 (pp3-22)</li> <li>• TG: L12 (pp75-80)</li> <li>• GEMS On Sandy Shores</li> <li>• TG: Act04 (pp59-89)</li> <li>• GEMS Schoolyard Ecology</li> <li>• TG: Act02 (pp21-31)</li> <li>• GEMS Terrarium Habitats</li> <li>• TG: Act01-05 (pp5-48)</li> </ul>

## Carolina™ Curriculum Correlation to Rhode Island Science Grade Span Expectations – Grades K-8

GRADE SPAN EXPECTATION	6c.	<p>Explaining the way that plants and animals in that habitat depend on each other.</p> <ul style="list-style-type: none"> <li>• GEMS Buzzing a Hive</li> <li>• TG: Exts (p67)</li> <li>• Ecosystems</li> <li>• RB: (pp11-23)</li> <li>• RB: (pp49-51)</li> <li>• TG: L01-07 (pp3-82)</li> <li>• TG: L12 (pp117-124)</li> <li>• TG: L17 (pp169-171)</li> <li>• Microworlds</li> <li>• TG: L12.Exts (pp69-70)</li> <li>• The Life Cycle of Butterflies</li> <li>• TG: L10 (pp63-68)</li> <li>• Plant Growth and Development</li> <li>• TG: L11 (pp61-66)</li> <li>• TG: L14.Exts (pp86-87)</li> <li>• GEMS Schoolyard Ecology</li> <li>• TG: Act03-04 (pp33-49)</li> <li>• GEMS Terrarium Habitats</li> <li>• TG: Act03-05 (pp23-48)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.LS4.	Life Science: Humans are similar to other species in many ways, and yet are unique among Earth's life forms.
ASSESSMENT TARGET	LS4 (K-4) FAF-8.	Identify what the physical structures of humans do (e.g., sense organs-eyes, ears, skin, etc.) or compare physical structures of humans to similar structures of animals.
PERFORMANCE STANDARD	LS4 (3-4)-8.	Students demonstrate an understanding of human body systems by...
GRADE SPAN EXPECTATION	8a.	<p>Showing connections between external and internal body structures (i.e., organs and systems) and how they help humans survive.</p> <ul style="list-style-type: none"> <li>• <b>Animal Studies</b></li> <li>• TG: L13 (pp135-142)</li> <li>• <b>Building Blocks of Science: Human Bodyworks</b></li> <li>• TG: Pre Assessment (pp 13-17)</li> <li>• TG: Act 01-12 (pp 19-84)</li> <li>• TG: Post Assessment (pp 85-88)</li> <li>• <b>Building Blocks of Science: Understanding Cells and DNA</b> TG: Act 01 (pp 21-26)</li> <li>• <b>Floating and Sinking</b></li> <li>• RB: (pp60-61)</li> <li>• <b>Sound</b></li> <li>• TG: L08.Exts (pp61-62)</li> <li>• TG: L14.Exts (p98)</li> <li>•</li> </ul>

## Carolina™ Curriculum Correlation to Rhode Island Science Grade Span Expectations – Grades K-8

GRADE SPAN EXPECTATION	8b.	<p>Comparing and analyzing external features and characteristics of humans and other animals.</p> <ul style="list-style-type: none"> <li>• GEMS Aquatic Habitats</li> <li>• TG: Act02-03 (pp25-43)</li> <li>• TG: Exts (pp70-78)</li> <li>• <b>Animal Studies</b></li> <li>• RB: (pp06-08)</li> <li>• TG: (pp16-19)</li> <li>• TG: L03-06 (pp21-74)</li> <li>• TG: L08 (pp87-96)</li> <li>• TG: L13-15 (pp135-164)</li> <li>• TG: L16.Exts (p167)</li> <li>• <b>GEMS Buzzing a Hive</b></li> <li>• TG: Les01-02 (pp5-25)</li> <li>• <b>Building Blocks of Science: Human Bodyworks</b></li> <li>• TG: Pre Assessment (pp 13-17)</li> <li>• TG: Act 01-12 (pp 19-84)</li> <li>• TG: Post Assessment (pp 85-88)</li> <li>• <b>Building Blocks of Science: Understanding Cells and DNA</b></li> <li>• TG: Act 01 (pp 21-26)</li> <li>• <b>Electric Circuits</b></li> <li>• RB: (pp11-12)</li> <li>• RB: (pp47-49)</li> <li>• <b>Floating and Sinking</b></li> <li>• RB: (pp54-61)</li> <li>• <b>Microworlds</b></li> <li>• RB: (pp31-33)</li> <li>• RB: (pp40-43)</li> <li>• RB: (pp58-61)</li> <li>• <b>The Life Cycle of Butterflies</b></li> <li>• TG: L01-11 (pp3-74)</li> <li>• TG: L13-16 (pp81-96)</li> <li>• TG: App-B (pp101-110)</li> <li>• <b>Motion and Design</b></li> <li>• RB: (pp07-09)</li> <li>• <b>GEMS Microscopic Explorations</b></li> <li>• TG: Act08-10 (pp81-97)</li> <li>• <b>Plant Growth and Development</b></li> <li>• TG: L08-09 (pp43-54)</li> <li>• TG: L14 (pp79-88)</li> <li>• <b>GEMS Schoolyard Ecology</b></li> <li>• TG: Act02 (pp21-31)</li> <li>• TG: Act04 (pp43-49)</li> <li>• <b>Sound</b></li> <li>• TG: L04.Exts (pp26-27)</li> <li>• TG: L08.Exts (pp61-62)</li> <li>• TG: L14.Exts (p98)</li> <li>• <b>GEMS Terrarium Habitats</b></li> <li>• TG: Act03-05 (pp23-48)</li> </ul>
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## Carolina™ Curriculum Correlation to Rhode Island Science Grade Span Expectations – Grades K-8

DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.LS4.	Life Science: Humans are similar to other species in many ways, and yet are unique among Earth's life forms.
ASSESSMENT TARGET	LS4 (K-4) POC-9.	Distinguish between characteristics of humans that are inherited from parents (i.e., hair color, height, skin color, eye color) and others that are learned (e.g., riding a bike, singing a song, playing a game, reading)
PERFORMANCE STANDARD	LS4 (3-4)-9.	Students demonstrate an understanding of human heredity by...
GRADE SPAN EXPECTATION	9a.	<p>Identifying similarities that are inherited from a biological parent.</p> <ul style="list-style-type: none"> <li>• Animal Studies</li> <li>• TG: Exts (p119)</li> <li>• TG: L13.Exts (p138)</li> <li>• Building Blocks of Science: Understanding Cells and DNA</li> <li>• TG: Pre Assessment (pp 17-19)</li> <li>• TG: Act 06 (pp 75-79)</li> <li>• TG: Post Assessment (p 85-91)</li> </ul>
GRADE SPAN EXPECTATION	9b.	<p>Identifying that some behaviors are learned and some behaviors are instinctive.</p> <ul style="list-style-type: none"> <li>• Building Blocks of Science: Understanding Cells and DNA</li> <li>• TG: Act 06 (pp 75-79)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.PS1.	Physical Science: All living and nonliving things are composed of matter having characteristic properties that distinguish one substance from another (independent of size or amount of substance).
ASSESSMENT TARGET	PS1 (K-4) INQ-1.	Collect and organize data about physical properties in order to classify objects or draw conclusions about objects and their characteristic properties (e.g., temperature, color, size, shape, weight, texture, flexibility).
PERFORMANCE STANDARD	PS1 (3-4)-1.	Students demonstrate an understanding of characteristic properties of matter by...
GRADE SPAN EXPECTATION	1a.	<p>Identifying, comparing, and sorting objects by similar or different physical properties (e.g., size, shape, color, texture, smell, weight, temperature, flexibility).</p> <ul style="list-style-type: none"> <li>• Balancing and Weighing</li> <li>• TG: L12 (pp101-106)</li> <li>• Changes</li> <li>• TG: L01 (pp3-20)</li> <li>• TG: L11 (pp103-110)</li> <li>• Chemical Tests</li> <li>• TG: L01-09 (pp3-92)</li> <li>• TG: L11-17 (pp101-158)</li> <li>• Electric Circuits</li> <li>• TG: L04 (pp21-24), L07 (pp39-44)</li> <li>• Floating and Sinking</li> <li>• RB: (pp07-10)</li> </ul>

## Carolina™ Curriculum Correlation to Rhode Island Science Grade Span Expectations – Grades K-8

		<ul style="list-style-type: none"> <li>• RB: (pp36-40)</li> <li>• GEMS Microscopic Explorations</li> <li>• TG: Act03-04 (pp49-59)</li> <li>• Rocks and Minerals</li> <li>• TG: L01-02 (pp3-18)</li> <li>• Soils</li> <li>• TG: L01 (pp3-16)</li> <li>• TG: L03-08 (pp27-86)</li> <li>• GEMS Secret Formulas</li> <li>• TG: Ses01-03 (pp15-41)</li> <li>• TG: Ses05-09 (pp53-97)</li> <li>• Sound</li> <li>• TG: L03-04 (pp23-32)</li> <li>• TG: L12.Exts (p88)</li> <li>• TG: L14 (pp91-102)</li> </ul>
GRADE SPAN EXPECTATION	1b.	<p>Citing evidence (e.g., prior knowledge, data) to support conclusions about why objects are grouped/not grouped together.</p> <ul style="list-style-type: none"> <li>• <b>Balancing and Weighing</b></li> <li>• TG: L03.Exts (p20)</li> <li>• TG: L08.Exts (p67)</li> <li>• TG: L09.Exts (p76)</li> <li>• TG: L10.Exts (pp84-85)</li> <li>• TG: L11.Exts (p94)</li> <li>• TG: L12.Exts (p104)</li> <li>• TG: L13.Exts (pp110-111)</li> <li>• <b>Changes</b></li> <li>• TG: L01.Exts (pp10-11)</li> <li>• TG: L06.Exts (pp67-69)</li> <li>• TG: L13.Exts (p123)</li> <li>• TG: L14.Exts (p134)</li> <li>• <b>Chemical Tests</b></li> <li>• TG: L12.Exts (pp109-110)</li> <li>• <b>Floating and Sinking</b></li> <li>• RB: (pp24-26)</li> <li>• <b>GEMS Liquid Explorations</b></li> <li>• TG: Act01 (pp5-13)</li> <li>• <b>Sound</b></li> <li>• TG: L01 (pp11-16)</li> <li>• TG: L02 (pp17-22)</li> <li>• TG: L04.Exts (pp26-27)</li> <li>• TG: L05.Exts (pp35-36)</li> </ul>
GRADE SPAN EXPECTATION	1c.	<p>Observing and describing physical changes (e.g. freezing, thawing, torn piece of paper).</p> <ul style="list-style-type: none"> <li>• <b>Changes</b></li> <li>• TG: L01 (pp3-20)</li> <li>• TG: L03-04 (pp31-52)</li> <li>• TG: L12 (pp111-118)</li> </ul>

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		<ul style="list-style-type: none"> <li>• TG: L13.Exts (p123)</li> <li>• TG: L17 (pp155-158)</li> <li>• Chemical Tests</li> <li>• TG: L11.Exts (pp103-104)</li> <li>• TG: L16.Exts (pp152-153)</li> <li>• TG: L17 (pp155-158)</li> <li>• Ecosystems</li> <li>• TG: L13.Exts (p127)</li> <li>• Floating and Sinking</li> <li>• TG: L06 (pp49-54)</li> <li>• GEMS Liquid Explorations</li> <li>• TG: Act03 (pp25-31)</li> <li>• Microworlds</li> <li>• TG: L09.Exts (p53)</li> </ul>
<b>DOMAIN / STATEMENT OF ENDURING KNOWLEDGE</b>	<b>RI.PS1.</b>	<b>Physical Science: All living and nonliving things are composed of matter having characteristic properties that distinguish one substance from another (independent of size or amount of substance).</b>
<b>ASSESSMENT TARGET</b>	<b>PS1 (K-4) POC-2.</b>	Make a prediction about what might happen to the state of common materials when heated or cooled or categorize materials as solid, liquid, or gas.
<b>PERFORMANCE STANDARD</b>	<b>PS1 (3-4)-2.</b>	Students demonstrate an understanding of states of matter by...
<b>GRADE SPAN EXPECTATION</b>	<b>2a.</b>	Describing properties of solids, liquids, and gases. <ul style="list-style-type: none"> <li>• GEMS Bubble Festival</li> <li>• TG: Act01-12 (pp54-124)</li> <li>• Changes</li> <li>• TG: L01-07 (pp3-78)</li> <li>• TG: L09-11 (pp85-110)</li> <li>• TG: L13-14 (pp119-136)</li> <li>• TG: L17 (pp155-158)</li> <li>• GEMS Crime Lab Chemistry</li> <li>• TG: Act01-03 (pp7-62)</li> <li>• Chemical Tests</li> <li>• TG: L10.Exts (p97)</li> <li>• TG: L16-17 (pp149-158)</li> <li>• Floating and Sinking</li> <li>• RB: (pp36-40)</li> <li>• GEMS Liquid Explorations</li> <li>• TG: Act01-05 (pp5-49)</li> <li>• GEMS Oobleck: What Do Scientists Do?</li> <li>• TG: Ses01 (pp4-8)</li> </ul>
<b>GRADE SPAN EXPECTATION</b>	<b>2b.</b>	Identifying and comparing solids, liquids, and gases. <ul style="list-style-type: none"> <li>• GEMS Bubble Festival</li> <li>• TG: Act01-12 (pp54-124)</li> <li>• GEMS Crime Lab Chemistry</li> </ul>

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		<ul style="list-style-type: none"> <li>• TG: Act01-03 (pp7-62)</li> <li>• Chemical Tests</li> <li>• TG: L08-09 (pp79-92)</li> <li>• TG: L14 (pp125-134)</li> <li>• TG: L17 (pp155-158)</li> <li>• Floating and Sinking</li> <li>• RB: (pp36-40)</li> <li>• TG: L14-15 (pp113-128)</li> <li>• GEMS Liquid Explorations</li> <li>• TG: Act01-05 (pp5-49)</li> </ul>
GRADE SPAN EXPECTATION	2c.	<p>Making logical predictions about the changes in the state of matter when adding or taking away heat (e.g., ice melting, water boiling or freezing, condensation/evaporation).</p> <ul style="list-style-type: none"> <li>• GEMS Bubble Festival</li> <li>• TG: Act10 (pp108-113)</li> <li>• Changes</li> <li>• TG: L01-03 (pp3-42)</li> <li>• TG: L08.Exts (p82)</li> <li>• TG: L09 (pp85-94)</li> <li>• TG: L13.Exts (p123)</li> <li>• TG: L17 (pp155-158)</li> <li>• Chemical Tests</li> <li>• TG: L08.Exts (p82)</li> <li>• TG: L10 (pp93-100)</li> <li>• GEMS Electric Circuits</li> <li>• TG: Ses02 (pp35-71)</li> <li>• Land and Water</li> <li>• TG: L02.Exts (p19)</li> <li>•</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.PS1.	Physical Science: All living and nonliving things are composed of matter having characteristic properties that distinguish one substance from another (independent of size or amount of substance).
ASSESSMENT TARGET	PS1 (K-4) SAE-3.	Use measures of weight (data) to demonstrate that the whole equals the sum of its parts.
PERFORMANCE STANDARD	PS1 (3-4)-3.	Students demonstrate an understanding of conservation of matter by...
GRADE SPAN EXPECTATION	3a.	<p>Measuring the weight of objects to prove that all matter has weight.</p> <ul style="list-style-type: none"> <li>• GEMS 3-5 Space Science Sequence</li> <li>• TG: Ses 2.1-2.6 (pp172-281)</li> <li>• Building Blocks of Science: Measure It!</li> <li>• TG: L03 (pp23-38)</li> <li>• TG: L05 (pp45-47)</li> <li>• Balancing and Weighing</li> <li>• TG: L01-17 (pp3-138)</li> </ul>

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		<ul style="list-style-type: none"> <li>• Floating and Sinking</li> <li>• TG: L03-06 (pp21-54)</li> <li>• TG: L09-14 (pp69-118)</li> <li>• TG: L16 (pp129-134)</li> </ul>
GRADE SPAN EXPECTATION	3b.	<p>Using measures of weight to prove that the whole equals the sum of its parts.</p> <ul style="list-style-type: none"> <li>• GEMS 3-5 Space Science Sequence</li> <li>• TG: Ses 2.1-2.6 (pp172-281)</li> <li>• Building Blocks of Science: Measure It!</li> <li>• TG: L03 (pp23-38)</li> <li>• TG: L05 (pp45-47)</li> <li>• Balancing and Weighing</li> <li>• TG: L01-11 (pp3-100)</li> <li>• TG: L13-17 (pp107-138)</li> <li>• Floating and Sinking</li> <li>• TG: L03-06 (pp21-54)</li> <li>• TG: L09-14 (pp69-118)</li> <li>• TG: L16 (pp129-134)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.PS2.	Physical Science: Energy is necessary for change to occur in matter. Energy can be stored, transferred, and transformed, but cannot be destroyed.
ASSESSMENT TARGET	PS2 (K-4) SAE-4.	Given a specific example or illustration (e.g., simple closed circuit, rubbing hands together), predict the observable effects of energy (i.e., light bulb lights, a bell rings, hands warm up (e.g., a test item might ask, 'what will happen when...?')).
PERFORMANCE STANDARD	PS2 (3-4)-4.	Students demonstrate an understanding of energy by...
GRADE SPAN EXPECTATION	4a.	<p>Experimenting to identify and classify different pitches and volumes of sounds produced by different objects.</p> <ul style="list-style-type: none"> <li>• Building Blocks of Science: Human Bodyworks</li> <li>• TG: Act 12 (pp 81-84)</li> <li>• Sound</li> <li>• TG: L03-06 (pp23-48)</li> <li>• TG: L08.Exts (pp61-62)</li> <li>• TG: L09-13 (pp63-90)</li> <li>• TG: L14.Exts (p98)</li> <li>• TG: L15-17 (pp103-118)</li> </ul>
GRADE SPAN EXPECTATION	4b.	<p>Using data to explain what causes sound to have different pitch or volume</p> <ul style="list-style-type: none"> <li>• Building Blocks of Science: Human Bodyworks</li> <li>• TG: Act 12 (pp 81-84)</li> <li>• Sound</li> <li>• TG: L03-06 (pp23-48)</li> <li>• TG: L08.Exts (pp61-62)</li> </ul>

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		<ul style="list-style-type: none"> <li>• TG: L09-13 (pp63-90)</li> <li>• TG: L14.Exts (p98)</li> <li>• TG: L15-17 (pp103-118)</li> </ul>
GRADE SPAN EXPECTATION	4d.	<p>Drawing, diagramming, building, and explaining a complete electrical circuit.</p> <ul style="list-style-type: none"> <li>• Electric Circuits</li> <li>• RB: (pp13-16)</li> <li>• RB: (pp29-33)</li> <li>• RB: (pp39-44)</li> <li>• TG: L01-17 (pp3-86)</li> <li>• GEMS Electric Circuits</li> <li>• TG: Ses01-11 (pp13-175)</li> </ul>
GRADE SPAN EXPECTATION	4e.	<p>Using experimental data to classify a variety of materials as conductors or insulators</p> <ul style="list-style-type: none"> <li>• Changes</li> <li>• TG: L02.Exts (pp26-27)</li> <li>• Electric Circuits</li> <li>• TG: L07 (pp39-44)</li> <li>• GEMS Electric Circuits</li> <li>• TG: Ses02-03 (pp35-87)</li> <li>• TG: Ses05 (pp111-119)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.PS2.	Physical Science: Energy is necessary for change to occur in matter. Energy can be stored, transferred, and transformed, but cannot be destroyed.
ASSESSMENT TARGET	PS2 (K-4) SAE-5.	Use observations of light in relation to other objects/substances to describe the properties of light (can be reflected, refracted, or absorbed).
PERFORMANCE STANDARD	PS2 (3-4)-5.	Students demonstrate an understanding of energy by...
GRADE SPAN EXPECTATION	5a.	<p>Investigating observable effects of light using a variety of light sources (e.g., light travels in a straight line until it interacts with an object, blocked light rays produce shadows).</p> <ul style="list-style-type: none"> <li>• Chemical Tests</li> <li>• TG: L10.Exts (p97)</li> </ul>
GRADE SPAN EXPECTATION	5b.	<p>Predicting, describing, and investigating how light rays are reflected, refracted, or absorbed.</p> <ul style="list-style-type: none"> <li>• Rocks and Minerals</li> <li>• TG: L08-09 (pp57-70)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.PS2.	Physical Science: Energy is necessary for change to occur in matter. Energy can be stored, transferred, and transformed, but cannot be destroyed.

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ASSESSMENT TARGET	PS2 (K-4) SAE+INQ-6.	Experiment, observe, or predict how heat might move from one object to another.
PERFORMANCE STANDARD	PS2 (3-4)-6.	Students demonstrate an understanding of energy by...
GRADE SPAN EXPECTATION	6a.	Describing how heat moves from warm objects to cold objects until both objects are the same temperature. <ul style="list-style-type: none"> <li>• Floating and Sinking</li> <li>• RB: (pp48-50)</li> </ul>
GRADE SPAN EXPECTATION	6b.	Showing that heat moves from one object to another causing temperature change (e.g., when land heats up it warms the air). <ul style="list-style-type: none"> <li>• Floating and Sinking</li> <li>• RB: (pp48-50)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.PS3.	Physical Science: The motion of an object is affected by forces.
ASSESSMENT TARGET	PS3 (K-4)- INQ+SAE-7.	Use data to predict how a change in force (greater/less) might affect the position, direction of motion, or speed of an object (e.g., ramps and balls).
PERFORMANCE STANDARD	PS3 (3-4)-7.	Students demonstrate an understanding of motion by...
GRADE SPAN EXPECTATION	7a.	Predicting the direction and describing the motion of objects (of different weights, shapes, sizes, etc.) if a force is applied to it. <ul style="list-style-type: none"> <li>• GEMS 3-5 Space Science Sequence</li> <li>• TG: Ses 1.1 (pp28-45)</li> <li>• TG: Ses 2.1-2.6 (pp172-281)</li> <li>• Building Blocks of Science: Measure It!</li> <li>• TG: L03 (pp23-38)</li> <li>• Floating and Sinking</li> <li>• TG: L09 (pp69-78)</li> <li>• Motion and Design</li> <li>• TG: L03-05 (pp25-56)</li> <li>• TG: L07.Exts (pp68-69)</li> <li>• TG: L08-13 (pp73-124)</li> <li>• TG: L15 (pp139-144)</li> <li>• TG: L17 (pp153-156)</li> </ul>
GRADE SPAN EXPECTATION	7c.	Investigating and describing that different amounts of force can change direction/speed of an object in motion. <ul style="list-style-type: none"> <li>• Land and Water</li> <li>• TG: L07 (pp75-84)</li> <li>• TG: L13 (pp143-152)</li> <li>• Motion and Design</li> <li>• TG: L03-05 (pp25-56)</li> </ul>

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		<ul style="list-style-type: none"> <li>• TG: L07-09 (pp65-90)</li> <li>• TG: L15-16 (pp139-152)</li> </ul>
GRADE SPAN EXPECTATION	7d.	<p>Conducting experiments to demonstrate that different objects fall to earth unless something is holding them up.</p> <ul style="list-style-type: none"> <li>• GEMS 3-5 Space Science Sequence</li> <li>• TG: Ses 2.5-2.6 (pp246-281)</li> <li>• Motion and Design</li> <li>• TG: L03.Exts (pp29-30)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.PS3.	Physical Science: The motion of an object is affected by forces.
ASSESSMENT TARGET	PS3 (K-4) INQ+ SAE-8.	Use observations of magnets in relation to other objects to describe the properties of magnetism (i.e., attract or repel certain objects or has no effect)
PERFORMANCE STANDARD	PS3 (3-4)-8.	Students demonstrate an understanding of (magnetic) force by...
GRADE SPAN EXPECTATION	8a.	<p>Using prior knowledge and investigating to predict whether or not an object will be attracted to a magnet.</p> <ul style="list-style-type: none"> <li>• Rocks and Minerals</li> <li>• TG: L11.Exts (p80)</li> </ul>

### 5-6 Science

DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.ESS1.	Earth and Space Science: The earth and earth materials as we know them today have developed over long periods of time, through continual change processes.
ASSESSMENT TARGET	ESS1 (5-8) INQ+ POC-1.	Use geological evidence provided to support the idea that the Earth's crust/lithosphere is composed of plates that move.
PERFORMANCE STANDARD	ESS1 (5-6)-1.	Students demonstrate an understanding of processes and change over time within earth systems by...
GRADE SPAN EXPECTATION	1a.	<p>Identifying and describing the layers of the earth.</p> <ul style="list-style-type: none"> <li>• Land and Water</li> <li>• RB: (pp10-11)</li> <li>• Catastrophic Events</li> <li>• SG: L10 (pp114-119)</li> <li>• SG: L14-18 (pp164-209)</li> <li>• TG: L10 (pp143-148)</li> <li>• TG: L14-18 (pp187-264)</li> </ul>

## Carolina™ Curriculum Correlation to Rhode Island Science Grade Span Expectations – Grades K-8

		<ul style="list-style-type: none"> <li>• Properties of Matter</li> <li>• SG: L05 (pp38-55)</li> <li>• GEMS Plate Tectonics</li> <li>• TG: Ses03 (pp43-55)</li> </ul>
GRADE SPAN EXPECTATION	1b.	<p>Plotting location of volcanoes and earthquakes and explaining the relationship between the location of these phenomena and faults.</p> <ul style="list-style-type: none"> <li>• Catastrophic Events</li> <li>• SG: L18-20 (pp200-231)</li> <li>• SG: L23 (pp252-263)</li> <li>• TG: L18-20 (pp257-292)</li> <li>• TG: L23 (pp217-328)</li> <li>• TG: L24.Exts (pp337-338)</li> <li>• Properties of Matter</li> <li>• TG: L11.Exts (p132)</li> <li>• GEMS Plate Tectonics</li> <li>• TG: Ses04-05 (pp57-77)</li> <li>• GEMS Stories in Stone</li> <li>• TG: Ses07 (pp83-101)</li> <li>• TG: Exts (p114)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.ESS1.	Earth and Space Science: The earth and earth materials as we know them today have developed over long periods of time, through continual change processes.
ASSESSMENT TARGET	ESS1 (5-8) SAE-2.	Explain the processes that cause the cycling of water into and out of the atmosphere and their connections to our planet's weather patterns.
PERFORMANCE STANDARD	ESS1 (5-6)-2.	Students demonstrate an understanding of processes and change over time within earth systems by...
GRADE SPAN EXPECTATION	2a.	<p>Diagramming, labeling and explaining the processes of the water cycle including evaporation, precipitation, and run-off, condensation, transpiration, and groundwater.</p> <ul style="list-style-type: none"> <li>• Land and Water</li> <li>• TG: L01-03 (pp3-36)</li> <li>• TG: L06 (pp63-74)</li> <li>• TG: L09.Exts (p103)</li> <li>• TG: L14.Exts (p156)</li> <li>• TG: L15.Exts (p167)</li> <li>• Catastrophic Events</li> <li>• SG: L06 (pp68-79)</li> <li>• TG: L06 (pp69-82)</li> <li>• Properties of Matter</li> <li>• SG: L01 (pp2-13)</li> </ul>
GRADE SPAN EXPECTATION	2b.	<p>Explaining how condensation of water vapor forms clouds which affects climate and weather.</p> <ul style="list-style-type: none"> <li>• Land and Water</li> <li>• TG: L01-03 (pp3-36)</li> </ul>

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		<ul style="list-style-type: none"> <li>• TG: L06 (pp63-74)</li> <li>• Catastrophic Events</li> <li>• SG: L02-03 (pp12-41)</li> <li>• SG: L05-07 (pp54-95)</li> <li>• TG: L02-03 (pp17-44)</li> <li>• TG: L05-07 (pp57-102)</li> <li>• Properties of Matter</li> <li>• SG: L01 (pp2-13)</li> </ul>
GRADE SPAN EXPECTATION	2c.	<p>Developing models to explain how humidity, temperature, and altitude affect air pressure and how this affects local weather.</p> <ul style="list-style-type: none"> <li>• Catastrophic Events</li> <li>• SG: L02-08 (pp12-101)</li> <li>• SG: L24 (pp264-273)</li> <li>• TG: L02-08 (pp17-126)</li> <li>• TG: L24 (pp329-346)</li> <li>• Properties of Matter</li> <li>• TG: L05.Exts (p56)</li> </ul>
GRADE SPAN EXPECTATION	2d.	<p>Identifying composition and layers of earth's atmosphere.</p> <ul style="list-style-type: none"> <li>• GEMS 3-5 Space Science Sequence</li> <li>• TG: Ses 1.1 (pp28-45)</li> <li>• Floating and Sinking</li> <li>• RB: (pp36-40)</li> <li>• Catastrophic Events</li> <li>• SG: L03 (pp26-41)</li> <li>• TG: L03 (pp27-44)</li> <li>• Earth in Space</li> <li>• SG: L19 (pp312-323)</li> <li>• TG: L19 (pp287-292)</li> <li>• Properties of Matter</li> <li>• SG: L04 (pp30-37)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.ESS1.	Earth and Space Science: The earth and earth materials as we know them today have developed over long periods of time, through continual change processes.
ASSESSMENT TARGET	ESS1 (5-8) POC-3.	Explain how earth events (abruptly and over time) can bring about changes in Earth's surface: landforms, ocean floor, rock features, or climate.
PERFORMANCE STANDARD	ESS1 (5-6)-3.	Students demonstrate an understanding of processes and change over time within earth systems by...
GRADE SPAN EXPECTATION	3a.	<p>Describing events and the effect they may have on climate (e.g. El Nino, deforestation, glacial melting, and an increase in greenhouse gases).</p> <ul style="list-style-type: none"> <li>• Catastrophic Events</li> <li>• SG: L03 (pp26-41)</li> <li>• SG: L07 (pp80-95)</li> <li>• TG: L03 (pp27-44)</li> <li>• TG: L07 (pp83-102)</li> </ul>

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		<ul style="list-style-type: none"> <li>• TG: L08.Exts (p108)</li> <li>• Ecosystems</li> <li>• RB: (pp26-27)</li> <li>• Earth in Space</li> <li>• SG: L17 (pp268-289),</li> <li>• SG: L19 (pp312-323)</li> <li>• TG: L17 (pp269-276)</li> <li>• TG: L19 (pp287-292)</li> <li>• Floating and Sinking</li> <li>• RB: (pp48-50)</li> <li>• GEMS Hot Water Warm Homes from Sunlight</li> <li>• TG: Ses03 (pp19-31)</li> <li>• TG: Ses05 (pp39-41)</li> <li>• Organisms-From Macro to Micro</li> <li>• TG: L17.Exts (pp287-288)</li> </ul>
<b>DOMAIN / STATEMENT OF ENDURING KNOWLEDGE</b>	<b>RI.ESS1.</b>	<b>Earth and Space Science: The earth and earth materials as we know them today have developed over long periods of time, through continual change processes.</b>
<b>ASSESSMENT TARGET</b>	<b>ESS1 (5-8) SAE+ POC-4.</b>	<b>Explain the role of differential heating or convection in ocean currents, winds, weather and weather patterns, atmosphere, or climate</b>
<b>PERFORMANCE STANDARD</b>	<b>ESS1 (5-6)-4.</b>	<b>Students demonstrate an understanding of processes and change over time within earth systems by...</b>
<b>GRADE SPAN EXPECTATION</b>	<b>4b.</b>	<p>Describing how differential heating of the oceans affects ocean currents which in turn influence weather and climate.</p> <ul style="list-style-type: none"> <li>• <b>Catastrophic Events</b></li> <li>• SG: L07 (pp80-95)</li> <li>• TG: L07 (pp83-102)</li> <li>• <b>Floating and Sinking</b></li> <li>• RB: (pp48-50)</li> <li>• <b>Magnets and Motors</b></li> <li>• RB: (pp23-25)</li> <li>• <b>GEMS Ocean Currents</b></li> <li>• TG: Act02-07 (pp29-140)</li> <li>• <b>GEMS Only One Ocean</b></li> <li>• TG: Act01-02 (pp15-87)</li> <li>• <b>Properties of Matter</b></li> <li>• TG: L05.Exts (p56)</li> </ul>
<b>GRADE SPAN EXPECTATION</b>	<b>4c.</b>	<p>Explaining the relationship between differential heating/convection and the production of winds.</p> <ul style="list-style-type: none"> <li>• <b>Catastrophic Events</b></li> <li>• SG: L02 (pp12-25)</li> <li>• SG: L05 (pp54-67)</li> <li>• SG: L07 (pp80-95)</li> <li>• TG: L02 (pp17-26)</li> <li>• TG: L05 (pp57-68)</li> </ul>

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		<ul style="list-style-type: none"> <li>TG: L07 (pp83-102)</li> </ul>
<b>DOMAIN / STATEMENT OF ENDURING KNOWLEDGE</b>	<b>RI.ESS1.</b>	<b>Earth and Space Science: The earth and earth materials as we know them today have developed over long periods of time, through continual change processes.</b>
<b>ASSESSMENT TARGET</b>	<b>ESS1 (5-8) INQ+ POC-5.</b>	Using data about a rock's physical characteristics make and support an inference about the rock's history and connection to rock cycle.
<b>PERFORMANCE STANDARD</b>	<b>ESS1 (5-6)-5.</b>	Students demonstrate an understanding of processes and change over time by...
<b>GRADE SPAN EXPECTATION</b>	<b>5a.</b>	Representing the processes of the rock cycle in words, diagrams, or models. <ul style="list-style-type: none"> <li>Catastrophic Events</li> <li>SG: L21-22 (pp232-251)</li> <li>TG: L21-22 (pp293-316)</li> <li>GEMS Plate Tectonics</li> <li>TG: Ses07 (pp93-111)</li> <li>GEMS Stories in Stone</li> <li>TG: Ses08 (pp103-113)</li> </ul>
<b>GRADE SPAN EXPECTATION</b>	<b>5b.</b>	Citing evidence and developing a logical argument to explain the formation of a rock, given its characteristics and location. (e.g. classifying rock type using identification resources). <ul style="list-style-type: none"> <li>Catastrophic Events</li> <li>SG: L21-22 (pp232-251)</li> <li>SG: L25 (pp274-282)</li> <li>TG: L21-22 (pp293-316)</li> <li>TG: L25 (pp347-372)</li> <li>Earth in Space</li> <li>SG: L18 (pp290-311)</li> <li>L18 (pp277-286)</li> <li>Land and Water</li> <li>RB: (pp15-18)</li> <li>GEMS Stories in Stone</li> <li>TG: Ses01-02 (pp15-31),</li> <li>TG: Ses04-05 (pp47-73)</li> <li>TG: Ses08 (pp103-113)</li> <li>TG: Exts (p114)</li> </ul>
<b>DOMAIN / STATEMENT OF ENDURING KNOWLEDGE</b>	<b>RI.ESS2.</b>	<b>Earth and Space Science: The earth is part of a solar system, made up of distinct parts that have temporal and spatial interrelationships.</b>
<b>ASSESSMENT TARGET</b>	<b>ESS2 (5-8) MAS-6.</b>	Compare and contrast planets based on data provided about size, composition, location, orbital movement, atmosphere, or surface features (includes moons).
<b>PERFORMANCE STANDARD</b>	<b>ESS2 (5-6)-6.</b>	Students demonstrate an understanding of characteristics of the solar system by...
<b>GRADE SPAN</b>	<b>6a.</b>	Identifying and comparing the size, location, distances, and movement

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<p>EXPECTATION</p>		<p>(e.g. orbit of planets, path of meteors) of the objects in our solar system.</p> <ul style="list-style-type: none"> <li>• GEMS 3-5 Space Science Sequence</li> <li>• TG: Ses 1 Pre Assessment (p1)</li> <li>• TG: Ses 1 Post Assessment (pp1-2)</li> <li>• TG: Ses 1.2 (pp46-55)</li> <li>• TG: Ses 1.4-1.9 (pp70-167)</li> <li>• Earth in Space</li> <li>• SG: L01-08 (pp2-121)</li> <li>• SG: L10-13 (pp130-199)</li> <li>• SG: L15 (pp216-243)</li> <li>• SG: L17-22 (pp268-343)</li> <li>• TG: L01-22 (pp3-326)</li> <li>• GEMS Messages From Space</li> <li>• TG: Act02-03 (pp27-87)</li> <li>• TG: Act05 (pp96-123)</li> </ul>
<p>GRADE SPAN EXPECTATION</p>	<p>6b.</p>	<p>Comparing the composition, atmosphere, and surface features of objects in our solar system.</p> <ul style="list-style-type: none"> <li>• GEMS 3-5 Space Science Sequence</li> <li>• TG: Ses 1 Pre Assessment (p1)</li> <li>• TG: Ses 1 Post Assessment (pp1-2)</li> <li>• TG: Ses 1.2 (pp46-55)</li> <li>• TG: Ses 1.4-1.9 (pp70-167)</li> <li>• TG: Ses 3.1-3.3 (pp286-323)</li> <li>• Earth in Space</li> <li>• SG: L02 (pp12-21)</li> <li>• SG: L07-08 (pp88-121)</li> <li>• SG: L10-11 (pp130-159)</li> <li>• SG: L13-16 (pp174-265)</li> <li>• TG: L02 (pp11-20)</li> <li>• TG: L03.Exts (p33)</li> <li>• TG: L04.Exts (pp45-46)</li> <li>• TG: L06.Exts (p81)</li> <li>• TG: L07-11 (pp83-180)</li> <li>• TG: L13-16 (pp197-268)</li> <li>• Light</li> <li>• SG: L02 (pp20-31)</li> <li>• GEMS Living with a Star</li> <li>• TG: Act01-02 (pp15-58)</li> <li>• TG: Act06 (pp113-131)</li> <li>• GEMS Messages From Space</li> <li>• TG: Act03 (pp46-87)</li> <li>• GEMS Moons of Jupiter</li> <li>• TG: Act01-05 (pp7-64)</li> </ul>
<p>DOMAIN / STATEMENT OF ENDURING KNOWLEDGE</p>	<p>RI.ESS2.</p>	<p>Earth and Space Science: The earth is part of a solar system, made up of distinct parts that have temporal and spatial interrelationships.</p>

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ASSESSMENT TARGET	ESS2 (5-8) SAE+ POC-8.	Explain temporal or positional relationships between or among the Earth, sun, and moon (e.g., night/day, seasons, year, tides) or how gravitational force affects objects in the solar system (e.g., moons, tides, orbits, satellites).
PERFORMANCE STANDARD	ESS2 (5-6)-8.	Students demonstrate an understanding of temporal or positional relationships between or among the Earth, sun, and moon by...
GRADE SPAN EXPECTATION	8a.	<p>Using models to describe the relative motion/position of the Earth, sun and moon.</p> <ul style="list-style-type: none"> <li>• GEMS 3-5 Space Science Sequence</li> <li>• TG: Ses 1.1-1.3 (pp28-69)</li> <li>• TG: Ses 3 Pre Assessment (pp1-2)</li> <li>• TG: Ses 3 Post Assessment (pp1-2)</li> <li>• TG: Ses 3 Reading (pp1-2)</li> <li>• TG: Ses 4.1 (pp340-364)</li> <li>• Catastrophic Events</li> <li>• SG: L07 (pp80-95)</li> <li>• TG: L01.Exts (pp10-11)</li> <li>• TG: L07 (pp83-102)</li> <li>• GEMS Earth, Moon, and Stars</li> <li>• TG: Act04 (pp25-32)</li> <li>• Earth in Space</li> <li>• SG: L01-09 (pp2-127)</li> <li>• TG: L01-09 (pp3-146)</li> <li>• Measuring Time</li> <li>• RB: (pp10-14)</li> <li>• TG: L06.Exts (p63)</li> <li>• GEMS The Real Reasons for the Seasons</li> <li>• TG: Act03 (pp29-48)</li> <li>• TG: Act06-08 (pp65-88)</li> </ul>
GRADE SPAN EXPECTATION	8b.	<p>Explaining night/day, seasons, year, and tides as a result of the regular and predictable motion of the Earth, sun, and moon.</p> <ul style="list-style-type: none"> <li>• GEMS 3-5 Space Science Sequence</li> <li>• TG: Ses 3 Pre Assessment (pp1-2)</li> <li>• TG: Ses 3 Post Assessment (pp1-2)</li> <li>• TG: Ses 3.1-3.4 (pp286-335)</li> <li>• TG: Ses 4.1-4.5 (pp340-423)</li> <li>• Catastrophic Events</li> <li>• SG: L03 (pp26-41)</li> <li>• SG: L07 (pp80-95)</li> <li>• TG: L01.Exts (pp10-11)</li> <li>• TG: L03 (pp27-44)</li> <li>• TG: L07 (pp83-102)</li> <li>• GEMS Earth, Moon, and Stars</li> <li>• TG: Act03 (pp17-24)</li> <li>• TG: Act05-06 (pp33-52)</li> <li>• Earth in Space</li> </ul>

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		<ul style="list-style-type: none"> <li>• SG: L02-04 (pp12-61)</li> <li>• SG: L06 (pp74-87)</li> <li>• SG: L08 (pp102-121)</li> <li>• SG: L16 (pp244-265)</li> <li>• TG: L02-04 (pp11-52)</li> <li>• TG: L06 (pp73-82)</li> <li>• TG: L08 (pp97-120)</li> <li>• TG: L16 (pp245-268)</li> <li>• <b>Measuring Time</b></li> <li>• RB: (pp10-14)</li> <li>• RB: (pp24-27)</li> <li>• RB: (pp30-34)</li> <li>• TG: L02 (pp21-30)</li> <li>• <b>Organisms-From Macro to Micro</b></li> <li>• TG: L10.Exts (pp175-176)</li> <li>• <b>GEMS The Real Reasons for the Seasons</b></li> <li>• TG: Act01-02 (pp17-28)</li> <li>• TG: Act04-08 (pp49-88)</li> </ul>
<p><b>GRADE SPAN EXPECTATION</b></p>	<p>8c.</p>	<p>Using a model of the Earth, sun and moon to recreate the phases of the moon.</p> <ul style="list-style-type: none"> <li>• <b>GEMS 3-5 Space Science Sequence</b></li> <li>• TG: Ses 4 Pre Assessment (pp1-2)</li> <li>• TG: Ses 4 Post Assessment (pp1-2)</li> <li>• TG: Ses 4.1-4.5 (pp340-423)</li> <li>• <b>GEMS Earth, Moon, and Stars</b></li> <li>• TG: Act03-04 (pp17-32)</li> <li>• <b>Earth in Space</b></li> <li>• SG: L02 (pp12-21)</li> <li>• SG: L05-06 (pp62-87)</li> <li>• SG: L16 (pp244-265)</li> <li>• TG: L02 (pp11-20)</li> <li>• TG: L05-06 (pp53-82)</li> <li>• TG: L16 (pp245-268)</li> <li>• <b>Measuring Time</b></li> <li>• RB: (pp15-17)</li> <li>• TG: L05-06 (pp49-66)</li> </ul>
<p><b>GRADE SPAN EXPECTATION</b></p>	<p>8d.</p>	<p>Defining the Earth's gravity as a force that pulls any object on or near the Earth toward its center without touching it.</p> <ul style="list-style-type: none"> <li>• <b>GEMS 3-5 Space Science Sequence</b></li> <li>• TG: Ses 1.1 (pp28-45)</li> <li>• TG: Ses 1.8 (pp136-151)</li> <li>• TG: Ses 2.1-2.6 (pp172-281)</li> <li>• TG: Ses 3.1-3.4 (pp286-335)</li> <li>• TG: Ses 4.1-4.5 (pp340-423)</li> <li>• <b>GEMS Earth, Moon, and Stars</b></li> <li>• TG: Act02 (pp9-16)</li> <li>• <b>Earth in Space</b></li> </ul>

## Carolina™ Curriculum Correlation to Rhode Island Science Grade Span Expectations – Grades K-8

		<ul style="list-style-type: none"> <li>• SG: L14 (pp200-215)</li> <li>• Floating and Sinking</li> <li>• TG: L04-05 (pp31-48)</li> <li>• Land and Water</li> <li>• TG: L13 (pp143-152)</li> </ul>
<b>DOMAIN / STATEMENT OF ENDURING KNOWLEDGE</b>	<b>RI.ESS2.</b>	<b>Earth and Space Science: The earth is part of a solar system, made up of distinct parts that have temporal and spatial interrelationships.</b>
<b>ASSESSMENT TARGET</b>	<b>ESS3 (5-8)-9.</b>	No further targets for EK ESS3 at the 5-8 Grade Span. The GSEs listed below are assessed at the local level only.
<b>PERFORMANCE STANDARD</b>	<b>ESS3 (5-6)-9.</b>	Students demonstrate an understanding of the structure of the universe by...
<b>GRADE SPAN EXPECTATION</b>	<b>9a.</b>	<p>Describing the apparent motion/position of the objects in the sky. (e.g. constellations, planets).</p> <ul style="list-style-type: none"> <li>• <b>GEMS 3-5 Space Science Sequence</b></li> <li>• TG: Ses 1 Pre Assessment (p1)</li> <li>• TG: Ses 1 Post Assessment (pp1-2)</li> <li>• TG: Ses 1.2 (pp46-55)</li> <li>• TG: Ses 1.6 (pp104-121)</li> <li>• TG: Ses 3 Pre Assessment (pp1-2)</li> <li>• TG: Ses 3 Post Assessment (pp1-2)</li> <li>• TG: Ses 3.2-3.3 (pp300-323)</li> <li>• <b>GEMS Earth, Moon, and Stars</b></li> <li>• TG: Act05-06 (pp33-52)</li> <li>• <b>Earth in Space</b></li> <li>• SG: L03-05 (pp22-73)</li> <li>• SG: L08 (pp102-121)</li> <li>• SG: L12 (pp160-173)</li> <li>• SG: L17 (pp268-289)</li> <li>• TG: L01.Exts (p10)</li> <li>• TG: L03-05 (pp21-72)</li> <li>• TG: L08 (pp97-120)</li> <li>• TG: L12 (pp181-196)</li> <li>• TG: L13.Exts (p206)</li> <li>• TG: L15 (pp221-244)</li> <li>• TG: L17 (pp269-276)</li> <li>• <b>GEMS Moons of Jupiter</b></li> <li>• TG: Act01 (pp7-17)</li> <li>• <b>Measuring Time</b></li> <li>• TG: L02 (pp21-30)</li> <li>• <b>GEMS The Real Reasons for the Seasons</b></li> <li>• TG: Act06 (pp65-71)</li> </ul>
<b>GRADE SPAN EXPECTATION</b>	<b>9b.</b>	<p>Identifying the sun as a medium-sized star located near the edge of a disk-shaped galaxy of stars.</p> <ul style="list-style-type: none"> <li>• <b>GEMS 3-5 Space Science Sequence</b></li> </ul>

## Carolina™ Curriculum Correlation to Rhode Island Science Grade Span Expectations – Grades K-8

		<ul style="list-style-type: none"> <li>• TG: Ses 1 Pre Assessment (p1)</li> <li>• TG: Ses 1 Post Assessment (pp1-2)</li> <li>• TG: Ses 1.4-1.9 (pp70-167)</li> <li>• TG: Ses 3.1-3.3 (pp286-323)</li> <li>• Earth in Space</li> <li>• SG: L02 (pp12-21)</li> <li>• SG: L07-08 (pp88-121)</li> <li>• TG: L02 (pp11-20)</li> <li>• TG: L03.Exts (p33)</li> <li>• TG: L04.Exts (pp45-46)</li> <li>• TG: L06.Exts (p81)</li> <li>• TG: L07-09 (pp83-146)</li> <li>• TG: L11 (pp159-180)</li> <li>• GEMS Invisible Universe</li> <li>• TG: Act04 (pp58-77)</li> <li>• Light</li> <li>• SG: L02 (pp20-31)</li> <li>• GEMS Living with a Star</li> <li>• TG: Act01-02 (pp15-58)</li> <li>• TG: Act06 (pp113-131)</li> <li>• GEMS Messages From Space</li> <li>• TG: Act02-03 (pp27-87)</li> </ul>
<b>DOMAIN / STATEMENT OF ENDURING KNOWLEDGE</b>	<b>RI.LS1.</b>	<b>Life Science: All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, &amp; species).</b>
<b>ASSESSMENT TARGET</b>	<b>LS1 (5-8)-INQ+SAE-1.</b>	Using data and observations about the biodiversity of an ecosystem make predictions or draw conclusions about how the diversity contributes to the stability of the ecosystem.
<b>PERFORMANCE STANDARD</b>	<b>LS1 (5-6)-1.</b>	Students demonstrate understanding of biodiversity by...
<b>GRADE SPAN EXPECTATION</b>	<b>1a.</b>	<p>Recognizing that organisms have different features and behaviors for meeting their needs to survive (e.g., fish have gills for respiration, mammals have lungs, bears hibernate).</p> <ul style="list-style-type: none"> <li>• GEMS Aquatic Habitats</li> <li>• TG: Act02-03 (pp25-43)</li> <li>• TG: Exts (pp70-78)</li> <li>• Animal Studies</li> <li>• RB: (pp06-08)</li> <li>• RB: (pp16-19)</li> <li>• TG: L03-06 (pp21-74)</li> <li>• TG: L08 (pp87-96)</li> <li>• TG: L13.Exts (p138)</li> <li>• TG: L14-15 (pp143-164)</li> <li>• TG: L16.Exts (p167)</li> <li>• Building Blocks of Science: Human Bodyworks</li> <li>• TG: Ext 01 (p 21)</li> <li>• TG: Ext 04 (pp 41)</li> <li>• TG: Ext 12 (pp 83)</li> </ul>

## Carolina™ Curriculum Correlation to Rhode Island Science Grade Span Expectations – Grades K-8

		<ul style="list-style-type: none"> <li>• Earth in Space</li> <li>• TG: L07.Exts (pp92-93)</li> <li>• Electric Circuits</li> <li>• RB: (pp11-12)</li> <li>• RB: (pp47-49)</li> <li>• Experiments with Plants</li> <li>• RB: (pp07-13)</li> <li>• RB: (pp26-33)</li> <li>• TG: L01-02 (pp9-30)</li> <li>• TG: L05-07 (pp51-70)</li> <li>• TG: L09 (pp75-80)</li> <li>• TG: L12-14 (pp91-114)</li> <li>• TG: L15.Exts (p117)</li> <li>• TG: L16 (pp123-128)</li> <li>• Floating and Sinking</li> <li>• RB: (pp54-61)</li> <li>• Human Body Systems</li> <li>• TG: L04.Exts (p35)</li> <li>• TG: L07.Exts (pp74-75)</li> <li>• TG: L18 (pp209-218)</li> <li>• GEMS Life Through Time</li> <li>• TG: Ses03-06 (pp101-234)</li> <li>• Land and Water</li> <li>• TG: L14.Exts (p156)</li> <li>• Microworlds</li> <li>• RB: (pp31-33)</li> <li>• RB: (pp37-43)</li> <li>• RB: (pp46-47)</li> <li>• RB: (pp58-61)</li> <li>• TG: L13.Exts (p74)</li> <li>• Motion and Design</li> <li>• RB: (pp07-09)</li> <li>• GEMS Microscopic Explorations</li> <li>• TG: Act08-10 (pp81-97)</li> <li>• Measuring Time</li> <li>• RB: (pp59-61)</li> <li>• Organisms-From Macro to Micro</li> <li>• SG: L01 (pp2-11)</li> <li>• SG: L03 (pp28-37)</li> <li>• SG: L05-06 (pp46-81)</li> <li>• SG: L09-11 (pp106-145)</li> <li>• SG: L13-14 (pp158-179)</li> <li>• SG: L16-18 (pp188-215)</li> <li>• TG: L01 (pp3-14)</li> <li>• TG: L02.Exts (p25)</li> <li>• TG: L03 (pp33-48)</li> <li>• TG: L05-06 (pp57-104)</li> <li>• TG: L09-11 (pp151-200)</li> <li>• TG: L13-14 (pp219-252)</li> <li>• TG: L16-18 (pp267-302)</li> <li>• GEMS Only One Ocean</li> <li>• TG: Act02 (pp43-87)</li> </ul>
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## Carolina™ Curriculum Correlation to Rhode Island Science Grade Span Expectations – Grades K-8

		<ul style="list-style-type: none"> <li>• GEMS Schoolyard Ecology</li> <li>• TG: Act02 (pp21-31)</li> <li>• TG: Act04 (pp43-49)</li> <li>• GEMS Terrarium Habitats</li> <li>• TG: Act03-05 (pp23-48)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.LS1.	Life Science: All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species).
ASSESSMENT TARGET	LS1 (5-8) SAE+FAF-2.	Describe or compare how different organisms have mechanisms that work in a coordinated way to obtain energy, grow, move, respond, provide defense, enable reproduction, or maintain internal balance (e.g., cells, tissues, organs and systems).
PERFORMANCE STANDARD	LS1 (5-6)-2.	Students demonstrate understanding of structure and function-survival requirements by...
GRADE SPAN EXPECTATION	2a.	<p>Describing structures or behaviors that help organisms survive in their environment (e.g., defense, obtaining nutrients, reproduction, and eliminating waste).</p> <ul style="list-style-type: none"> <li>• GEMS Aquatic Habitats</li> <li>• TG: Act02-03 (pp25-43)</li> <li>• TG: Act05 (pp61-70)</li> <li>• Animal Studies</li> <li>• RB: (pp06-11)</li> <li>• RB: (pp16-19)</li> <li>• RB: (pp30-32)</li> <li>• RB: (pp45-49)</li> <li>• TG: L01-04 (pp3-48)</li> <li>• TG: L06-16 (pp65-168)</li> <li>• Building Blocks of Science: Human Bodyworks</li> <li>• TG: Ext 01 (p 21)</li> <li>• Ecosystems</li> <li>• RB: (pp11-13)</li> <li>• Experiments with Plants</li> <li>• RB: (pp07-13)</li> <li>• RB: (pp20-21)</li> <li>• RB: (pp26-33)</li> <li>• TG: L04 (pp39-50)</li> <li>• TG: L07 (pp65-70)</li> <li>• TG: L15.Exts (p117)</li> <li>• Floating and Sinking</li> <li>• RB: (pp51-61)</li> <li>• Human Body Systems</li> <li>• TG: L22.Exts (p258)</li> <li>• GEMS Life Through Time</li> <li>• TG: Ses02 (pp37-100)</li> <li>• TG: Ses07 (pp235-269)</li> <li>• Motion and Design</li> <li>• RB: (pp14-17)</li> </ul>

## Carolina™ Curriculum Correlation to Rhode Island Science Grade Span Expectations – Grades K-8

		<ul style="list-style-type: none"> <li>• Organisms-From Macro to Micro</li> <li>• SG: L06 (pp64-81)</li> <li>• SG: L09 (pp106-119)</li> <li>• SG: L13 (pp158-171)</li> <li>• TG: L06 (pp73-104)</li> <li>• TG: L10.Exts (pp175-176)</li> <li>• TG: L13 (pp219-236)</li> <li>• TG: L18.Exts (pp299-300)</li> <li>• GEMS Terrarium Habitats</li> <li>• TG: Act03-05 (pp23-48)</li> <li>•</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.LS1.	Life Science: All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species).
ASSESSMENT TARGET	LS1 (5-8) POC-3.	Compare and contrast sexual reproduction with asexual reproduction.
PERFORMANCE STANDARD	LS1 (5-6)-3.	Students demonstrate an understanding of reproduction by...
GRADE SPAN EXPECTATION	3a.	<p>Defining reproduction as a process through which organisms produce offspring.</p> <ul style="list-style-type: none"> <li>• <b>Animal Studies</b></li> <li>• RB: (pp40-42)</li> <li>• <b>GEMS Chemical Reactions</b></li> <li>• TG: Part1 (pp9-14)</li> <li>• TG: Part2 (pp15-21)</li> <li>• <b>Experiments with Plants</b></li> <li>• RB: (pp07-13)</li> <li>• RB: (p62)</li> <li>• TG: L05-09 (pp51-80)</li> <li>• TG: L13 (pp101-104)</li> <li>• <b>Microworlds</b></li> <li>• TG: L13 (pp71-74)</li> <li>• <b>Organisms-From Macro to Micro</b></li> <li>• SG: L03 (pp28-37)</li> <li>• SG: L05 (pp46-63)</li> <li>• SG: L09 (pp106-119)</li> <li>• SG: L14 (pp172-179)</li> <li>• SG: L18 (pp204-215)</li> <li>• TG: L03 (pp33-48)</li> <li>• TG: L05 (pp57-72)</li> <li>• TG: L09 (pp151-166)</li> <li>• TG: L12.Exts (p207)</li> <li>• TG: L14 (pp237-252)</li> <li>• TG: L18 (pp293-302)</li> </ul>
GRADE SPAN EXPECTATION	3b.	Describing reproduction in terms of being essential for the continuation of a species.

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		<ul style="list-style-type: none"> <li>• Animal Studies</li> <li>• RB: (pp40-42)</li> <li>• GEMS Chemical Reactions</li> <li>• TG: Part1 (pp9-14)</li> <li>• TG: Part2 (pp15-21)</li> <li>• Experiments with Plants</li> <li>• RB: (pp07-13)</li> <li>• RB: (p62)</li> <li>• TG: L05-09 (pp51-80)</li> <li>• TG: L13 (pp101-104)</li> <li>• Microworlds</li> <li>• TG: L13 (pp71-74)</li> <li>• Organisms-From Macro to Micro</li> <li>• SG: L03 (pp28-37)</li> <li>• SG: L05 (pp46-63)</li> <li>• SG: L09 (pp106-119)</li> <li>• SG: L14 (pp172-179)</li> <li>• SG: L18 (pp204-215)</li> <li>• TG: L03 (pp33-48)</li> <li>• TG: L05 (pp57-72)</li> <li>• TG: L09 (pp151-166)</li> <li>• TG: L12.Exts (p207)</li> <li>• TG: L14 (pp237-252)</li> <li>• TG: L18 (pp293-302)</li> </ul>
<p><b>GRADE SPAN EXPECTATION</b></p>	<p>3c.</p>	<p>Investigating and comparing a variety of plant and animal life cycles.</p> <ul style="list-style-type: none"> <li>• GEMS Aquatic Habitats</li> <li>• TG: Act04-05 (pp45-70)</li> <li>• Animal Studies</li> <li>• RB: (pp06-08)</li> <li>• RB: (pp12-15)</li> <li>• RB: (pp35-39)</li> <li>• TG: L04.Exts (pp41-42)</li> <li>• TG: L07.Exts (pp79-80)</li> <li>• TG: L09.Exts (pp101-102)</li> <li>• Ecosystems</li> <li>• RB: (pp31-34)</li> <li>• TG: L03.Exts (p29)</li> <li>• TG: L05 (pp53-60)</li> <li>• TG: L06 (pp61-74)</li> <li>• Experiments with Plants</li> <li>• RB: (pp07-10)</li> <li>• TG: L02 (pp21-30)</li> <li>• TG: L06.Exts (p62)</li> <li>• TG: L08 (pp71-74)</li> <li>• TG: L12-13 (pp91-104)</li> <li>• TG: L14.Exts (pp109-110)</li> <li>• Earth in Space</li> <li>• SG: L16 (pp244-265)</li> <li>• TG: L16 (pp245-268)</li> </ul>

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		<ul style="list-style-type: none"> <li>• Food Chemistry</li> <li>• RB: (pp21-23)</li> <li>• Microworlds</li> <li>• RB: (pp28-30)</li> <li>• Measuring Time</li> <li>• RB: (pp59-61)</li> <li>• Organisms-From Macro to Micro</li> <li>• SG: L05-06 (pp46-81)</li> <li>• SG: L09 (pp106-119)</li> <li>• SG: L14 (pp172-179)</li> <li>• SG: L16 (pp188-193)</li> <li>• SG: L18 (pp204-215)</li> <li>• TG: L05-06 (pp57-104)</li> <li>• TG: L09 (pp151-166)</li> <li>• TG: L14 (pp237-252)</li> <li>• TG: L18 (pp293-302)</li> </ul>
<b>DOMAIN / STATEMENT OF ENDURING KNOWLEDGE</b>	<b>RI.LS1.</b>	<b>Life Science: All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, &amp; species).</b>
<b>ASSESSMENT TARGET</b>	<b>LS1 (5-8) FAF-4.</b>	Explain relationships between or among the structure and function of the cells, tissues, organs, and organ systems in an organism.
<b>PERFORMANCE STANDARD</b>	<b>LS1 (5-6)-4.</b>	Students demonstrate understanding of differentiation by...
<b>GRADE SPAN EXPECTATION</b>	<b>4a.</b>	Identifying cells as the building blocks of organisms. <ul style="list-style-type: none"> <li>• <b>Building Blocks of Science: Understanding Cells and DNA</b></li> <li>• TG: Pre Assessment (pp 17-19)</li> <li>• TG: Act 02 (pp 27-33)</li> <li>• TG: Post Assessment (p 85-91)</li> </ul>
<b>GRADE SPAN EXPECTATION</b>	<b>4b.</b>	Recognizing and illustrating (e.g. flow chart) the structural organization of an organism from a cell to tissue to organs to organ systems to organisms. <ul style="list-style-type: none"> <li>• <b>Building Blocks of Science: Understanding Cells and DNA</b></li> <li>• TG: Pre Assessment (pp 17-19)</li> <li>• TG: Act 01 (pp 21-26)</li> <li>• TG: Post Assessment (p 85-91)</li> </ul>
<b>DOMAIN / STATEMENT OF ENDURING KNOWLEDGE</b>	<b>RI.LS2.</b>	<b>Life Science: Matter cycles and energy flows through an ecosystem.</b>
<b>ASSESSMENT TARGET</b>	<b>LS2 (5-8) INQ+SAE-5.</b>	Using data and observations, predict outcomes when abiotic/biotic factors are changed in an ecosystem.
<b>PERFORMANCE STANDARD</b>	<b>LS2 (5-6)-5.</b>	Students demonstrate an understanding of equilibrium in an ecosystem by...
<b>GRADE SPAN</b>	<b>5a.</b>	Identifying and defining an ecosystem and the variety of relationships

# Carolina™ Curriculum Correlation to Rhode Island Science Grade Span Expectations – Grades K-8

<p><b>EXPECTATION</b></p>		<p>within it (e.g., predator/prey, consumer/ producer/decomposer, host/parasite, catastrophic events).</p> <ul style="list-style-type: none"> <li>• GEMS Aquatic Habitats</li> <li>• TG: Act03-04 (pp35-59)</li> <li>• TG: Exts (pp70-78)</li> <li>• GEMS Acid Rain</li> <li>• TG: Ses06-07 (pp87-113)</li> <li>• <b>Animal Studies</b></li> <li>• RB: (pp06-11)</li> <li>• RB: (pp16-19)</li> <li>• TG: L01-17 (pp3-172)</li> <li>• <b>Catastrophic Events</b></li> <li>• SG: L24 (pp264-273)</li> <li>• TG: L24 (pp329-346)</li> <li>• <b>Ecosystems</b></li> <li>• RB: (pp07-23)</li> <li>• RB: (pp26-37)</li> <li>• RB: (pp40-51)</li> <li>• RB: (pp54-61)</li> <li>• TG: L01-15 (pp3-164)</li> <li>• TG: L17 (pp169-171)</li> <li>• <b>GEMS Environmental Detectives</b></li> <li>• TG: Act05 (pp113-141)</li> <li>• <b>Experiments with Plants</b></li> <li>• RB: (pp24-25)</li> <li>• RB: (pp30-33)</li> <li>• TG: L02.Exts (p24)</li> <li>• TG: L07 (pp65-70)</li> <li>• <b>Earth in Space</b></li> <li>• TG: L07.Exts (pp92-93)</li> <li>• <b>Light</b></li> <li>• TG: L11.Exts (p131)</li> <li>• <b>Microworlds</b></li> <li>• RB: (pp34-36)</li> <li>• TG: L14-16 (pp75-86)</li> <li>• <b>Organisms-From Macro to Micro</b></li> <li>• SG: L02 (pp12-27)</li> <li>• SG: L04 (pp38-45)</li> <li>• SG: L12 (pp146-155)</li> <li>• SG: L17 (pp194-203)</li> <li>• TG: L02 (pp15-32)</li> <li>• TG: L04 (pp49-56)</li> <li>• TG: L12 (pp201-218)</li> <li>• <b>GEMS Schoolyard Ecology</b></li> <li>• TG: Act03-05 (pp33-59)</li> <li>• <b>GEMS Terrarium Habitats</b></li> <li>• TG: Act03-05 (pp23-48)</li> </ul>
<p><b>DOMAIN / STATEMENT OF ENDURING</b></p>	<p><b>RI.LS2.</b></p>	<p><b>Life Science: Matter cycles and energy flows through an ecosystem.</b></p>

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KNOWLEDGE		
ASSESSMENT TARGET	LS2 (5-8) SAE-6.	Given a scenario trace the flow of energy through an ecosystem, beginning with the sun, through organisms in the food web, and into the environment (includes photosynthesis and respiration).
PERFORMANCE STANDARD	LS2 (5-6)-6.	Students demonstrate an understanding of energy flow in an ecosystem by...
GRADE SPAN EXPECTATION	6a.	<p>Identifying the sun as the major source of energy for life on earth and sequencing the energy flow in an ecosystem.</p> <ul style="list-style-type: none"> <li>• <b>Ecosystems</b></li> <li>• TG: L01 (pp3-12)</li> <li>• <b>Earth in Space</b></li> <li>• SG: L07 (pp88-101)</li> <li>• TG: L07 (pp83-96)</li> <li>• <b>Human Body Systems</b></li> <li>• SG: L13 (pp110-119)</li> <li>• TG: L13 (pp153-158)</li> <li>• <b>Light</b></li> <li>• SG: L01 (pp2-19)</li> <li>• SG: L11 (pp116-131)</li> <li>• <b>Organisms-From Macro to Micro</b></li> <li>• TG: L18.Exts (pp299-300)</li> <li>• <b>The Technology of Paper</b></li> <li>• TG: L02.Exts (p35)</li> </ul>
GRADE SPAN EXPECTATION	6b.	<p>Describing the basic processes and recognizing the substances involved in photosynthesis and respiration.</p> <ul style="list-style-type: none"> <li>• <b>Experiments with Plants</b></li> <li>• RB: (pp07-10)</li> <li>• <b>Human Body Systems</b></li> <li>• SG: L12-13 (pp98-119)</li> <li>• TG: L12-13 (pp137-158)</li> <li>• <b>Land and Water</b></li> <li>• TG: L07.Exts (p79)</li> <li>• <b>Light</b></li> <li>• SG: L11 (pp116-131)</li> <li>• TG: L11.Exts (p131)</li> <li>• <b>Microworlds</b></li> <li>• TG: L12.Exts (pp69-70)</li> <li>• <b>Organisms-From Macro to Micro</b></li> <li>• SG: L07 (pp82-93)</li> <li>• SG: L10 (pp120-131)</li> <li>• TG: L07 (pp105-130)</li> <li>• TG: L10 (pp167-184)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.LS2.	Life Science: Matter cycles and energy flows through an ecosystem.

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ASSESSMENT TARGET	LS2 (5-8) SAE-7.	Given an ecosystem, trace how matter cycles among and between organisms and the physical environment (includes water, oxygen, food web, decomposition, recycling but not carbon cycle or nitrogen cycle).
PERFORMANCE STANDARD	LS2 (5-6)-7.	Students demonstrate an understanding of recycling in an ecosystem by...
GRADE SPAN EXPECTATION	7a.	<p>Explaining the processes of precipitation, evaporation, condensation as parts of the water cycle.</p> <ul style="list-style-type: none"> <li>• Catastrophic Events</li> <li>• SG: L06 (pp68-79)</li> <li>• TG: L06 (pp69-82)</li> <li>• Land and Water</li> <li>• TG: L01-03 (pp3-36)</li> <li>• TG: L06 (pp63-74)</li> <li>• Properties of Matter</li> <li>• SG: L01 (pp2-13)</li> </ul>
GRADE SPAN EXPECTATION	7b.	<p>Completing a basic food web for a given ecosystem.</p> <ul style="list-style-type: none"> <li>• Ecosystems</li> <li>• RB: (pp14-16)</li> <li>• TG: L07 (pp75-82)</li> <li>• TG: L12.Exts (p120)</li> <li>• Earth in Space</li> <li>• TG: L07.Exts (pp92-93)</li> <li>• Light</li> <li>• TG: L11.Exts (p131)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.LS3.	Life Science: Groups of organisms show evidence of change over time (structures, behaviors, and biochemistry).
ASSESSMENT TARGET	LS3 (5-8) MAS+FAF-8.	Use a model, classification system, or dichotomous key to illustrate, compare, or interpret possible relationships among groups of organisms (e.g., internal and external structures, anatomical features).
PERFORMANCE STANDARD	LS3 (5-6)-8.	Students demonstrate an understanding of classification of organisms by...
GRADE SPAN EXPECTATION	8a.	<p>Stating the value of, or reasons for, classification systems.</p> <ul style="list-style-type: none"> <li>• Experiments with Plants</li> <li>• RB: (pp07-10)</li> <li>• RB: (pp54-56)</li> <li>• GEMS Life Through Time</li> <li>• TG: Ses01-06 (pp13-234)</li> <li>• Organisms-From Macro to Micro</li> <li>• SG: L01 (pp2-11)</li> <li>• SG: L20 (pp236-243)</li> <li>• TG: L20 (pp331-350)</li> <li>• GEMS Schoolyard Ecology</li> </ul>

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		<ul style="list-style-type: none"> <li>TG: Act03 (pp33-41)</li> </ul>
GRADE SPAN EXPECTATION	8b.	<p>Following a taxonomic key to identify a given organism (e.g. flowering and non-flowering plants).</p> <ul style="list-style-type: none"> <li>Organisms-From Macro to Micro</li> <li>SG: L01 (pp2-11)</li> <li>SG: L06 (pp64-81)</li> <li>SG: L11 (pp132-145)</li> <li>TG: L01 (pp3-14)</li> <li>TG: L06 (pp73-104)</li> <li>TG: L11 (pp185-200)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.LS3.	Life Science: Groups of organisms show evidence of change over time (structures, behaviors, and biochemistry).
ASSESSMENT TARGET	LS3 (5-8) POC-9.	Cite examples supporting the concept that certain traits of organisms may provide a survival advantage in a specific environment and therefore, an increased likelihood to produce offspring.
PERFORMANCE STANDARD	LS3 (5-6)-9.	Students demonstrate an understanding of Natural Selection/evolution by...
GRADE SPAN EXPECTATION	9a.	<p>Explaining how a population's or species' traits affect their ability to survive over time.</p> <ul style="list-style-type: none"> <li>Animal Studies</li> <li>RB: (pp45-49)</li> <li>GEMS Life Through Time</li> <li>TG: Ses05-07 (pp173-269)</li> <li>Organisms-From Macro to Micro</li> <li>SG: L13 (pp158-171)</li> <li>TG: L13 (pp219-236)</li> </ul>
GRADE SPAN EXPECTATION	9b.	<p>Researching or reporting on possible causes for the extinction of an animal or plant.</p> <ul style="list-style-type: none"> <li>Ecosystems</li> <li>RB: (pp20-23)</li> <li>GEMS Life Through Time</li> <li>TG: Ses05 (pp173-204)</li> <li>TG: Ses07 (pp235-269)</li> </ul>
GRADE SPAN EXPECTATION	9c.	<p>Explaining how fossil evidence can be used to understand the history of life on Earth.</p> <ul style="list-style-type: none"> <li>Earth in Space</li> <li>SG: L18 (pp290-311)</li> <li>TG: L18 (pp277-286)</li> </ul>

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		<ul style="list-style-type: none"> <li>Measuring Time</li> <li>RB: (pp18-21)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.LS4.	Life Science: Humans are similar to other species in many ways, and yet are unique among Earth's life forms.
ASSESSMENT TARGET	LS4 (5-8) INQ-10.	Use data and observations to support the concept that environmental or biological factors affect human body systems (biotic & abiotic).
PERFORMANCE STANDARD	LS4 (5-6)-10.	Students demonstrate an understanding of human body systems by...
GRADE SPAN EXPECTATION	10a.	<p>Identifying the biotic factors (e.g., microbes, parasites, food availability, aging process) that have an effect on human body systems.</p> <ul style="list-style-type: none"> <li>Organisms-From Macro to Micro</li> <li>SG: L11-13 (pp132-171)</li> <li>TG: L12-13 (pp201-236)</li> </ul>
GRADE SPAN EXPECTATION	10b.	<p>Identifying the abiotic factors (e.g., drugs, altitude, weather, pollution) that have an effect on human body systems.</p> <ul style="list-style-type: none"> <li>Organisms-From Macro to Micro</li> <li>SG: L12-13 (pp146-171)</li> <li>TG: L12-13 (pp201-236)</li> </ul>
GRADE SPAN EXPECTATION	10c.	<p>Identifying the biotic (e.g., microbes, parasites, food availability, aging process) and abiotic (e.g., radiation, toxic materials, carcinogens) factors that cause disease and affect human health.</p> <ul style="list-style-type: none"> <li>Building Blocks of Science: Human Bodyworks</li> <li>TG: Ext 02 (p 26)</li> <li>TG: Ext 07 (pp 57)</li> <li>Food Chemistry</li> <li>RB: (pp41-43)</li> <li>Human Body Systems</li> <li>SG: L09 (pp68-75)</li> <li>SG: L16 (pp138-143)</li> <li>TG: L05.Exts (p52)</li> <li>TG: L08.Exts (p85)</li> <li>TG: L09 (pp103-112)</li> <li>TG: L12.Exts (pp147-148)</li> <li>TG: L16 (pp183-190)</li> <li>TG: L19.Exts (p225)</li> <li>Microworlds</li> <li>RB: (pp52-57)</li> <li>Organisms-From Macro to Micro</li> <li>SG: L11 (pp132-145)</li> <li>SG: L15 (pp180-187)</li> </ul>

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		<ul style="list-style-type: none"> <li>TG: L15 (pp253-266)</li> </ul>
<b>DOMAIN / STATEMENT OF ENDURING KNOWLEDGE</b>	<b>RI.LS4.</b>	<b>Life Science: Humans are similar to other species in many ways, and yet are unique among Earth's life forms</b>
<b>ASSESSMENT TARGET</b>	<b>LS4 (5-8) INQ+POC-11.</b>	Using data provided, select evidence that supports the concept that genetic information is passed on from both parents to offspring.
<b>PERFORMANCE STANDARD</b>	<b>LS4 (5-6)-11.</b>	Students demonstrate an understanding of human heredity by...
<b>GRADE SPAN EXPECTATION</b>	<b>11a.</b>	<p>Differentiating between inherited and acquired traits.</p> <ul style="list-style-type: none"> <li><b>Animal Studies</b></li> <li>TG: L11.Exts (p119)</li> <li>TG: L13.Exts (p138)</li> <li><b>Building Blocks of Science: Understanding Cells and DNA</b></li> <li>TG: Pre Assessment (pp 17-19)</li> <li>TG: Act 06 (pp 75-79)</li> <li>TG: Post Assessment (p 85-91)</li> <li><b>Experiments with Plants</b></li> <li>RB: (pp11-13)</li> <li>RB: (pp36-40)</li> <li>RB: (pp44-46)</li> <li>RB: (pp50-56)</li> <li><b>Human Body Systems</b></li> <li>TG: L04.Exts (p35)</li> <li><b>Organisms-From Macro to Micro</b></li> <li>SG: L01 (pp2-11)</li> <li>SG: L19 (pp216-235)</li> <li>TG: L01 (pp3-14)</li> <li>TG: L19 (pp303-330)</li> </ul>
<b>GRADE SPAN EXPECTATION</b>	<b>11b.</b>	<p>Observing, recording and comparing differences in inherited traits (e.g. connected earlobe, tongue rolling).</p> <ul style="list-style-type: none"> <li><b>Animal Studies</b></li> <li>TG: L11.Exts (p119)</li> <li>TG: L13.Exts (p138)</li> <li><b>Building Blocks of Science: Understanding Cells and DNA</b></li> <li>TG: Pre Assessment (pp 17-19)</li> <li>TG: Act 06 (pp 75-79)</li> <li>TG: Post Assessment (p 85-91)</li> <li><b>Experiments with Plants</b></li> <li>RB: (pp11-13)</li> <li>RB: (pp36-40)</li> <li>RB: (pp44-46)</li> <li>RB: (pp50-56)</li> <li><b>Organisms-From Macro to Micro</b></li> <li>SG: L01 (pp2-11)</li> <li>SG: L19 (pp216-235)</li> <li>TG: L01 (pp3-14)</li> </ul>

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		<ul style="list-style-type: none"> <li>• TG: L19 (pp303-330)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.PS1.	Physical Science: All living and nonliving things are composed of matter having characteristic properties that distinguish one substance from another (independent of size or amount of substance).
ASSESSMENT TARGET	PS1 (5-8) INQ-1.	Investigate the relationships among mass, volume and density.
PERFORMANCE STANDARD	PS1 (5-6)-1.	Students demonstrate an understanding of characteristic properties of matter by...
GRADE SPAN EXPECTATION	1a.	<p>Comparing the masses of objects of equal volume made of different substances.</p> <ul style="list-style-type: none"> <li>• Catastrophic Events</li> <li>• SG: L04 (pp42-53)</li> <li>• TG: L04 (pp45-56)</li> <li>• GEMS Discovering Density</li> <li>• TG: Ses01-05 (pp5-46)</li> <li>• TG: Exts (p48)</li> <li>• Floating and Sinking</li> <li>• RB: (pp07-10)</li> <li>• RB: (pp15-17)</li> <li>• RB: (pp36-42)</li> <li>• RB: (pp48-50)</li> <li>• RB: (pp60-61)</li> <li>• TG: L02 (pp13-20)</li> <li>• TG: L10 (pp79-86)</li> <li>• TG: L13-15 (pp103-128)</li> <li>• GEMS Ocean Currents</li> <li>• TG: Act03-05 (pp47-93)</li> <li>• Properties of Matter</li> <li>• SG: L01-03 (pp2-29)</li> <li>• SG: L05 (pp38-55)</li> <li>• SG: L09 (pp78-83)</li> <li>• SG: L19 (pp162-167)</li> <li>• SG: L26 (pp230-235)</li> <li>• TG: L01-03 (pp3-38)</li> <li>• TG: L04.Exts (p45)</li> <li>• TG: L05 (pp49-64)</li> <li>• TG: L09 (pp101-112)</li> <li>• TG: L19 (pp209-226)</li> <li>• TG: L26 (pp313-332)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.PS1.	Physical Science: All living and nonliving things are composed of matter having characteristic properties that distinguish one substance from another (independent of size or amount of substance).
ASSESSMENT TARGET	PS1 (5-8) INQ+POC-2.	Given data about characteristic properties of matter (e.g., melting and boiling points, density, solubility) identify, compare, or classify different substances.

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PERFORMANCE STANDARD	PS1 (5-6)-2.	Students demonstrate an understanding of characteristic properties of matter by...
GRADE SPAN EXPECTATION	2a.	<p>Recognizing that different substances have properties, which allow them to be identified regardless of the size of the sample.</p> <ul style="list-style-type: none"> <li>• GEMS Bubble-ology</li> <li>• TG: Act03 (pp19-27)</li> <li>• Ecosystems</li> <li>• RB: (pp45-48)</li> <li>• RB: (pp57-59)</li> <li>• Energy, Machines, and Motion</li> <li>• SG: L01-22 (pp2-236)</li> <li>• TG: L01-22 (pp3-254)</li> <li>• Food Chemistry</li> <li>• TG: L03.Exts (p32)</li> <li>• TG: L09.Exts (p89)</li> <li>• TG: L10.Exts (p97)</li> <li>• TG: L11.Exts (pp102-103)</li> <li>• TG: L12.Exts (pp112-113)</li> <li>• Floating and Sinking</li> <li>• RB: (pp07-10)</li> <li>• RB: (pp36-40)</li> <li>• Human Body Systems</li> <li>• TG: L03.Exts (p24)</li> <li>• TG: L07.Exts (pp74-75)</li> <li>• Land and Water</li> <li>• RB: (pp36-38)</li> <li>• GEMS Microscopic Explorations</li> <li>• TG: Act03-04 (pp49-59)</li> <li>• GEMS Only One Ocean</li> <li>• TG: Act03 (pp89-144)</li> <li>• Properties of Matter</li> <li>• SG: L18 (pp150-161)</li> <li>• SG: L20-23 (pp170-217)</li> <li>• TG: L18 (pp193-208)</li> <li>• TG: L20-23 (pp227-294)</li> <li>• The Technology of Paper</li> <li>• RB: (pp38-43)</li> <li>• RB: (pp52-54)</li> </ul>
GRADE SPAN EXPECTATION	2b.	<p>Classifying and comparing substances using characteristic properties (e.g., solid, liquid, gas).</p> <ul style="list-style-type: none"> <li>• Floating and Sinking</li> <li>• RB: (pp24-26)</li> <li>• Magnets and Motors</li> <li>• TG: L03 (pp15-20)</li> <li>• Properties of Matter</li> <li>• SG: L11-12 (pp98-111)</li> <li>• SG: L22 (pp198-207)</li> </ul>

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		<ul style="list-style-type: none"> <li>• TG: L11-12 (pp125-142)</li> <li>• TG: L22 (pp263-274)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.PS1.	Physical Science: All living and nonliving things are composed of matter having characteristic properties that distinguish one substance from another (independent of size or amount of substance).
ASSESSMENT TARGET	PS1 (5-8) INQ+SAE-3.	Collect data or use data provided to infer or predict that the total amount of mass in a closed system stays the same, regardless of how substances interact (conservation of matter).
PERFORMANCE STANDARD	PS1 (5-6)-3.	Students demonstrate an understanding of conservation of matter by...
GRADE SPAN EXPECTATION	3a.	<p>Explaining that regardless of how parts of an object are arranged, the mass of the whole is always the same as the sum of the masses of its parts.</p> <ul style="list-style-type: none"> <li>• <b>Properties of Matter</b></li> <li>• SG: L08 (pp74-77)</li> <li>• SG: L14 (pp116-121)</li> <li>• SG: L25 (pp224-229)</li> <li>• TG: L08 (pp91-100)</li> <li>• TG: L14 (pp153-160)</li> <li>• TG: L25 (pp303-312)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.PS1.	Physical Science: All living and nonliving things are composed of matter having characteristic properties that distinguish one substance from another (independent of size or amount of substance).
ASSESSMENT TARGET	PS1 (5-8) SAE+MAS-4.	Represent or explain the relationship between or among energy, molecular motion, temperature, and states of matter.
PERFORMANCE STANDARD	PS1 (5-6)-4.	Students demonstrate an understanding of states of matter by...
GRADE SPAN EXPECTATION	4a.	<p>Differentiating among the characteristics of solids, liquids, and gases.</p> <ul style="list-style-type: none"> <li>• <b>GEMS Bubble Festival</b></li> <li>• TG: Act01-12 (pp54-124)</li> <li>• <b>GEMS Bubble-ology</b></li> <li>• TG: Act02-06 (pp11-44)</li> <li>• <b>Catastrophic Events</b></li> <li>• SG: L20 (pp224-231)</li> <li>• TG: L20 (pp279-292)</li> <li>• <b>GEMS Crime Lab Chemistry</b></li> <li>• TG: Act01-03 (pp7-62)</li> <li>• <b>Floating and Sinking</b></li> <li>• RB: (pp36-40)</li> <li>• <b>GEMS Oobleck: What Do Scientists Do?</b></li> <li>• TG: Ses01 (pp4-8)</li> <li>• <b>Properties of Matter</b></li> </ul>

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		<ul style="list-style-type: none"> <li>• SG: L04-05 (pp30-55)</li> <li>• SG: L20 (pp170-185)</li> <li>• TG: L03.Exts (p32)</li> <li>• TG: L04-05 (pp39-64)</li> <li>• TG: L20 (pp227-240)</li> <li>• The Technology of Paper</li> <li>• TG: L04.Exts (pp65-66)</li> </ul>
<p><b>GRADE SPAN EXPECTATION</b></p>	<p><b>4b.</b></p>	<p>Predicting the effects of heating and cooling on the physical state, volume and mass of a substance.</p> <ul style="list-style-type: none"> <li>• GEMS Bubble Festival</li> <li>• TG: Act10 (pp108-113)</li> <li>• GEMS Bubble-ology</li> <li>• TG: Act02-03 (pp11-27)</li> <li>• TG: Act05-06 (pp35-44)</li> <li>• Catastrophic Events</li> <li>• SG: L03-05 (pp26-67)</li> <li>• SG: L20-22 (pp224-251)</li> <li>• TG: L03-05 (pp27-68)</li> <li>• TG: L20-22 (pp279-316)</li> <li>• GEMS Chemical Reactions</li> <li>• TG: Part1 (pp9-14)</li> <li>• Ecosystems</li> <li>• TG: L13.Exts (p127)</li> <li>• Floating and Sinking</li> <li>• TG: L06 (pp49-54)</li> <li>• GEMS Electric Circuits</li> <li>• TG: Ses02 (pp35-71)</li> <li>• Land and Water</li> <li>• TG: L02.Exts (p19)</li> <li>• Light</li> <li>• TG: L10.Exts (p124)</li> <li>• Microworlds</li> <li>• TG: L09.Exts (p53)</li> <li>• Properties of Matter</li> <li>• SG: L05-08 (pp38-77)</li> <li>• SG: L13 (pp112-115)</li> <li>• SG: L18 (pp150-161)</li> <li>• SG: L25 (pp224-229)</li> <li>• TG: L02.Exts (p21)</li> <li>• TG: L05-08 (pp49-100)</li> <li>• TG: L11.Exts (p132)</li> <li>• TG: L12.Exts (p140)</li> <li>• TG: L13 (pp143-152)</li> <li>• TG: L14.Exts (p157)</li> <li>• TG: L15.Exts (p166)</li> <li>• TG: L17.Exts (p185)</li> <li>• TG: L18 (pp193-208)</li> </ul>

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		<ul style="list-style-type: none"> <li>• TG: L22.Exts (p270)</li> <li>• TG: L25 (pp303-312)</li> <li>•</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.PS1.	Physical Science: All living and nonliving things are composed of matter having characteristic properties that distinguish one substance from another (independent of size or amount of substance).
ASSESSMENT TARGET	PS1 (5-8) MAS-5.	Given graphic or written information, classify matter as atom/molecule or element/compound (Not the structure of an atom).
PERFORMANCE STANDARD	PS1 (5-6)-5.	Students demonstrate an understanding of the structure of matter by...
GRADE SPAN EXPECTATION	5a.	<p>Distinguishing between solutions, mixtures, and 'pure' substances, i.e. compounds and elements.</p> <ul style="list-style-type: none"> <li>• <b>GEMS Bubble Festival</b></li> <li>• TG: Act01-02 (pp54-65)</li> <li>• TG: Act04-12 (pp74-124)</li> <li>• <b>GEMS Bubble-ology</b></li> <li>• TG: Act01-04 (pp5-32)</li> <li>• TG: Act06 (pp41-44)</li> <li>• <b>Catastrophic Events</b></li> <li>• SG: L22 (pp240-251)</li> <li>• TG: L22 (pp303-316)</li> <li>• <b>GEMS Crime Lab Chemistry</b></li> <li>• TG: Act01-03 (pp7-62)</li> <li>• TG: Exts (pp63-64)</li> <li>• <b>Floating and Sinking</b></li> <li>• TG: L13-14 (pp103-118)</li> <li>• <b>Light</b></li> <li>• TG: L10.Exts (p124)</li> <li>• <b>Microworlds</b></li> <li>• TG: L09.Exts (p53)</li> <li>• <b>Properties of Matter</b></li> <li>• SG: L01 (pp2-13)</li> <li>• SG: L11-15 (pp98-129)</li> <li>• SG: L17-22 (pp140-207)</li> <li>• TG: L01 (pp3-14)</li> <li>• TG: L11-15 (pp125-168)</li> <li>• TG: L16.Exts (p178)</li> <li>• TG: L17-22 (pp179-274)</li> <li>• TG: L23.Exts (p284)</li> <li>• <b>The Technology of Paper</b></li> <li>• TG: L04.Exts (pp65-66)</li> <li>• TG: L11 (pp149-156)</li> </ul>
DOMAIN / STATEMENT OF ENDURING	RI.PS2.	Physical Science: Energy is necessary for change to occur in matter. Energy can be stored, transferred, and transformed, but cannot be destroyed.

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KNOWLEDGE		
ASSESSMENT TARGET	PS2 (5-8)-SAE+ POC-6.	Given a real-world example, show that within a system, energy transforms from one form to another (i.e., chemical, heat, electrical, gravitational, light, sound, mechanical).
PERFORMANCE STANDARD	PS2 (5-6)-6.	Students demonstrate an understanding of energy by...
GRADE SPAN EXPECTATION	6a.	<p>Differentiating among the properties of various forms of energy.</p> <ul style="list-style-type: none"> <li>• GEMS Bubble Festival</li> <li>• TG: Act05 (pp80-85)</li> <li>• Building Blocks of Science: Human Bodyworks</li> <li>• TG: Act 12 (pp 81-84)</li> <li>• Electric Circuits</li> <li>• RB: (pp07-21)</li> <li>• RB: (pp24-44)</li> <li>• RB: (pp47-61)</li> <li>• TG: L01-17 (pp3-86)</li> <li>• Electrical Energy and Circuit Design</li> <li>• SG: L01-24 (pp2-251)</li> <li>• TG: L01- (pp3-326)</li> <li>• Energy, Machines, and Motion</li> <li>• SG: L02-04 (pp12-35)</li> <li>• SG: L09-10 (pp82-97)</li> <li>• SG: L20 (pp200-213)</li> <li>• TG: L01-04 (pp3-46)</li> <li>• TG: L09 (pp99-106)</li> <li>• TG: L20-21 (pp235-246)</li> <li>• GEMS Electric Circuits</li> <li>• TG: Ses01-11 (pp13-175)</li> <li>• GEMS Invisible Universe</li> <li>• TG: Act02 (pp26-38)</li> <li>• Light</li> <li>• SG: L01-26 (pp2-297)</li> <li>• TG: L01-26 (pp3-367)</li> <li>• Magnets and Motors</li> <li>• RB: (pp41-44)</li> <li>• TG: L14 (pp89-94)</li> <li>• TG: L16-17 (pp99-108)</li> <li>• Motion and Design</li> <li>• TG: L06 (pp57-64)</li> <li>• TG: L11-12 (pp101-116)</li> <li>• Properties of Matter</li> <li>• SG: L20 (pp170-185)</li> <li>• TG: L20 (pp227-240)</li> </ul>
GRADE SPAN EXPECTATION	6b.	<p>Explaining how energy may be stored in various ways (e.g. batteries, springs, height in terms of potential energy).</p> <ul style="list-style-type: none"> <li>• Electric Circuits</li> <li>• RB: (pp13-16)</li> <li>• Electrical Energy and Circuit Design</li> </ul>

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		<ul style="list-style-type: none"> <li>• SG: L07 (pp70-83)</li> <li>• SG: L09 (pp94-103)</li> <li>• TG: L07 (pp93-110)</li> <li>• TG: L09 (pp123-142)</li> <li>• Energy, Machines, and Motion</li> <li>• SG: L02-04 (pp12-35)</li> <li>• TG: L02-04 (pp23-46)</li> <li>• TG: L21 (pp239-246)</li> <li>• Light</li> <li>• TG: L02 (pp21-36)</li> <li>• Motion and Design</li> <li>• TG: L06 (pp57-64)</li> </ul>
GRADE SPAN EXPECTATION	6c.	<p>Describing sound as the transfer of energy through various materials (e.g. solids, liquids, gases).</p> <ul style="list-style-type: none"> <li>• Catastrophic Events</li> <li>• TG: L14.Exts (pp193-194)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.PS2.	Physical Science: Energy is necessary for change to occur in matter. Energy can be stored, transferred, and transformed, but cannot be destroyed.
ASSESSMENT TARGET	PS2 (5-8) INQ+SAE+POC-7.	Use data to draw conclusions about how heat can be transferred (convection, conduction, radiation).
PERFORMANCE STANDARD	PS2 (5-6)-7.	Students demonstrate an understanding of heat energy by...
GRADE SPAN EXPECTATION	7a.	<p>Identifying real world applications where heat energy is transferred and showing the direction that the heat energy flows.</p> <ul style="list-style-type: none"> <li>• Catastrophic Events</li> <li>• SG: L03-04 (pp26-53)</li> <li>• TG: L03-04 (pp27-56)</li> <li>• Human Body Systems</li> <li>• TG: L13.Exts (p158)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.PS3.	Physical Science: The motion of an object is affected by forces.
ASSESSMENT TARGET	PS3 (5-8) INQ+POC-8.	Use data to determine or predict the overall (net effect of multiple forces (e.g., friction, gravitational, magnetic) on the position, speed, and direction of motion of objects.
PERFORMANCE STANDARD	PS3 (5-6)-8.	Students demonstrate an understanding of motion by...
GRADE SPAN EXPECTATION	8a.	Using data or graphs to compare the relative speed of objects.

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		<ul style="list-style-type: none"> <li>• Energy, Machines, and Motion</li> <li>• SG: L06 (pp48-61)</li> <li>• SG: L18-19 (pp174-199)</li> <li>• SG: L21 (pp214-225)</li> <li>• TG: L01.Exts (p14)</li> <li>• TG: L06.Exts (pp68-69)</li> <li>• TG: L18-19 (pp217-234)</li> <li>• TG: L21 (pp239-246)</li> <li>• Land and Water</li> <li>• TG: L07 (pp75-84)</li> <li>• TG: L13 (pp143-152)</li> <li>• Motion and Design</li> <li>• TG: L03-05 (pp25-56)</li> <li>• TG: L07-09 (pp65-90)</li> <li>• TG: L15-16 (pp139-152)</li> </ul>
<p><b>GRADE SPAN EXPECTATION</b></p>	<p><b>8b.</b></p>	<p>Recognizing that a force is a push or a pull.</p> <ul style="list-style-type: none"> <li>• GEMS 3-5 Space Science Sequence</li> <li>• TG: Ses 1.1 (pp28-45)</li> <li>• TG: Ses 2.1-2.6 (pp172-281)</li> <li>• Building Blocks of Science: Measure It!</li> <li>• TG: L03 (pp 23-38)</li> <li>• Catastrophic Events</li> <li>• SG: L11-12 (pp120-153)</li> <li>• SG: L15 (pp170-189)</li> <li>• TG: L11-12 (pp149-176)</li> <li>• TG: L15 (pp197-218)</li> <li>• Energy, Machines, and Motion</li> <li>• SG: L01 (pp2-11)</li> <li>• SG: L05-13 (pp36-129)</li> <li>• SG: L15-22 (pp140-236)</li> <li>• TG: L01 (pp3-22)</li> <li>• TG: L05-13 (pp47-166)</li> <li>• TG: L15-22 (pp177-254)</li> <li>• GEMS Earth, Moon, and Stars</li> <li>• TG: Act01 (pp3-8)</li> <li>• Earth in Space</li> <li>• SG: L15 (pp216-243)</li> <li>• TG: L15 (pp221-244)</li> <li>• Floating and Sinking</li> <li>• TG: L09 (pp69-78)</li> <li>• Motion and Design</li> <li>• TG: L03-05 (pp25-56)</li> <li>• TG: L07.Exts (pp68-69)</li> <li>• TG: L08-13 (pp73-124)</li> <li>• TG: L15 (pp139-144)</li> <li>• TG: L17 (pp153-156)</li> </ul>

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GRADE SPAN EXPECTATION	8c.	<p>Explaining that changes in speed or direction of motion are caused by forces.</p> <ul style="list-style-type: none"> <li>• Catastrophic Events</li> <li>• SG: L12 (pp134-153)</li> <li>• TG: L12 (pp163-176)</li> <li>• Energy, Machines, and Motion</li> <li>• SG: L21 (pp214-225)</li> <li>• TG: L18.Exts (p224)</li> <li>• Earth in Space</li> <li>• SG: L15 (pp216-243)</li> <li>• TG: L15 (pp221-244)</li> </ul>
GRADE SPAN EXPECTATION	8d.	<p>Showing that electric currents and magnets can exert a force on each other.</p> <ul style="list-style-type: none"> <li>• Magnets and Motors</li> <li>• RB: (pp28-38)</li> <li>• RB: (pp60-61)</li> <li>• TG: L07-13 (pp43-88)</li> <li>• TG: L15-17 (pp95-108)</li> </ul>

### 7-8 Science

DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.ESS1.	Earth and Space Science: The earth and earth materials as we know them today have developed over long periods of time, through continual change processes.
ASSESSMENT TARGET	ESS1 (5-8) INQ+ POC-1.	Use geological evidence provided to support the idea that the Earth's crust/lithosphere is composed of plates that move.
PERFORMANCE STANDARD	ESS1 (7-8)-1.	Students demonstrate an understanding of processes and change over time within earth systems by...
GRADE SPAN EXPECTATION	1a.	<p>Citing evidence and developing a logical argument for plate movement using fossil evidence, layers of sedimentary rock, location of mineral deposits, and shape of the continents.</p> <ul style="list-style-type: none"> <li>• GEMS Convection: A Current Event</li> <li>• TG: Exts (pp27-29)</li> <li>• Catastrophic Events</li> <li>• SG: L10 (pp114-119)</li> <li>• SG: L13-17 (pp154-256)</li> <li>• Earth in Space</li> <li>• SG: L13 (pp174-199)</li> <li>• TG: L13 (pp197-208)</li> <li>• Properties of Matter</li> <li>• SG: L05 (pp38-55)</li> <li>• GEMS Plate Tectonics</li> <li>• TG: Ses01-03 (pp21-55)</li> </ul>

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		<ul style="list-style-type: none"> <li>TG: Ses08 (pp113-129)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.ESS1.	Earth and Space Science: The earth and earth materials as we know them today have developed over long periods of time, through continual change processes.
ASSESSMENT TARGET	ESS1 (5-8) POC-3.	Explain how earth events (abruptly and over time) can bring about changes in Earth's surface: landforms, ocean floor, rock features, or climate.
PERFORMANCE STANDARD	ESS1 (7-8)-3.	Students demonstrate an understanding of processes and change over time within earth systems by...
GRADE SPAN EXPECTATION	3a.	<p>Evaluating slow processes (e.g. weathering, erosion, mountain building, sea floor spreading) to determine how the earth has changed and will continue to change over time.</p> <ul style="list-style-type: none"> <li>Catastrophic Events</li> <li>SG: L09 (pp102-112)</li> <li>SG: L13 (pp154-163)</li> <li>SG: L15-16 (pp170-193)</li> <li>SG: L18 (pp200-209)</li> <li>SG: L24 (pp264-273)</li> <li>TG: L09 (pp127-142)</li> <li>TG: L13 (pp177-186)</li> <li>TG: L15-16 (pp197-232)</li> <li>TG: L18 (pp257-264)</li> <li>TG: L19.Exts (pp274-275)</li> <li>TG: L24 (pp329-346)</li> <li>Earth in Space</li> <li>SG: L13 (pp174-199)</li> <li>TG: L13 (pp197-208)</li> <li>GEMS Plate Tectonics</li> <li>TG: Ses07 (pp93-111)</li> <li>GEMS River Cutters</li> <li>TG: Ses02-04 (pp27-54)</li> <li>TG: Ses06-07 (pp59-72)</li> <li>GEMS Stories in Stone</li> <li>TG: Ses05 (pp65-73)</li> </ul>
GRADE SPAN EXPECTATION	3b.	<p>Evaluating fast processes (e.g. erosion, volcanoes and earthquakes) to determine how the earth has changed and will continue to change over time.</p> <ul style="list-style-type: none"> <li>Catastrophic Events</li> <li>SG: L01-25 (pp2-282)</li> <li>TG: L01-25 (pp3-372)</li> <li>Earth in Space</li> <li>SG: L13 (pp174-199)</li> <li>TG: L13 (pp197-208)</li> </ul>
GRADE SPAN EXPECTATION	3c.	Investigating the effect of flowing water on landforms (e.g. stream

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		<p>table, local environment).</p> <ul style="list-style-type: none"> <li>• GEMS Environmental Detectives</li> <li>• TG: Act04 (pp91-111)</li> <li>• Earth in Space</li> <li>• SG: L13 (pp174-199)</li> <li>• TG: L13 (pp197-208)</li> <li>• Human Body Systems</li> <li>• TG: L13.Exts (p158)</li> <li>• GEMS Invisible Universe</li> <li>• TG: Act05 (pp78-91)</li> <li>• GEMS River Cutters</li> <li>• TG: Ses02 (pp27-34)</li> <li>• TG: Ses06 (pp59-65)</li> </ul>
<b>DOMAIN / STATEMENT OF ENDURING KNOWLEDGE</b>	<b>RI.ESS1.</b>	<b>Earth and Space Science: The earth and earth materials as we know them today have developed over long periods of time, through continual change processes.</b>
<b>ASSESSMENT TARGET</b>	<b>ESS1 (5-8) SAE+ POC-4.</b>	<b>Explain the role of differential heating or convection in ocean currents, winds, weather and weather patterns, atmosphere, or climate.</b>
<b>PERFORMANCE STANDARD</b>	<b>ESS1 (7-8)-4.</b>	<b>Students demonstrate an understanding of processes and change over time within earth systems by...</b>
<b>GRADE SPAN EXPECTATION</b>	<b>4a.</b>	<p>Explaining cause and effect relationships between global climate and energy transfer.</p> <ul style="list-style-type: none"> <li>• Catastrophic Events</li> <li>• SG: L13 (pp154-163)</li> <li>• TG: L13 (pp177-186)</li> <li>• Earth in Space</li> <li>• SG: L07 (pp88-101)</li> <li>• TG: L07 (pp83-96)</li> <li>• GEMS Global Warming and the Greenhouse Effect</li> <li>• TG: Ses02-03 (pp17-57)</li> <li>• GEMS Hot Water Warm Homes from Sunlight</li> <li>• TG: Ses03-04 (pp19-37)</li> </ul>
<b>GRADE SPAN EXPECTATION</b>	<b>4b.</b>	<p>Using evidence to make inferences or predictions about global climate issues.</p> <ul style="list-style-type: none"> <li>• GEMS Acid Rain</li> <li>• TG: Exts (pp120-122)</li> <li>• Earth in Space</li> <li>• SG: L17 (pp268-289)</li> <li>• SG: L19 (pp312-323)</li> <li>• TG: L17 (pp269-276)</li> <li>• TG: L19 (pp287-292)</li> </ul>

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		<ul style="list-style-type: none"> <li>• GEMS Global Warming and the Greenhouse Effect</li> <li>• TG: Ses01 (pp5-15)</li> <li>• TG: Ses03-08 (pp29-124)</li> <li>• Organisms-From Macro to Micro</li> <li>• TG: L17.Exts (pp287-288)</li> <li>• Properties of Matter</li> <li>• SG: L12 (pp106-111)</li> <li>• TG: L12.Exts (p140)</li> </ul>
<b>DOMAIN / STATEMENT OF ENDURING KNOWLEDGE</b>	RI.ESS2.	Earth and Space Science: The earth is part of a solar system, made up of distinct parts that have temporal and spatial interrelationships.
<b>ASSESSMENT TARGET</b>	ESS2 (5-8) NOS-7.	Explain how technological advances have allowed scientists to re-evaluate or extend existing ideas about the solar system.
<b>PERFORMANCE STANDARD</b>	ESS2 (7-8)-7.	Students demonstrate an understanding of how technological advances have allowed scientists to re-evaluate or extend existing ideas about the solar system by...
<b>GRADE SPAN EXPECTATION</b>	7a.	<p>Identifying major discoveries from different scientists and cultures and describing how these discoveries have contributed to our understanding of the solar system (e.g. timeline, research project, picture book).</p> <ul style="list-style-type: none"> <li>• GEMS Earth, Moon, and Stars</li> <li>• TG: Act01-06 (pp3-52)</li> <li>• Earth in Space</li> <li>• SG: L01 (pp2-11)</li> <li>• SG: L19 (pp312-323)</li> <li>• TG: L01 (pp3-10)</li> <li>• TG: L02.Exts (pp18-19)</li> <li>• TG: L04.Exts (pp45-46)</li> <li>• TG: L05.Exts (p64)</li> <li>• TG: L12.Exts (pp192-193)</li> <li>• TG: L14.Exts (p217)</li> <li>• GEMS Living with a Star</li> <li>• TG: Act01-06 (pp15-131)</li> <li>• GEMS Messages from Space</li> <li>• TG: Act01-05 (pp6-123)</li> <li>• GEMS Moons of Jupiter</li> <li>• TG: Act01-05 (pp7-64)</li> </ul>
<b>DOMAIN / STATEMENT OF ENDURING KNOWLEDGE</b>	RI.ESS2.	Earth and Space Science: The earth is part of a solar system, made up of distinct parts that have temporal and spatial interrelationships.
<b>ASSESSMENT TARGET</b>	ESS2 (5-8) SAE+ POC-8.	Explain temporal or positional relationships between or among the Earth, sun, and moon (e.g., night/day, seasons, year, tides) or how gravitational force affects objects in the solar system (e.g., moons, tides, orbits, satellites).
<b>PERFORMANCE STANDARD</b>	ESS2 (7-8)-8.	Students demonstrate an understanding of temporal or positional relationships between or among the Earth, sun, and moon by...

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<p><b>GRADE SPAN EXPECTATION</b></p>	<p>8a.</p>	<p>Using or creating a model of the Earth, sun and moon system to show rotation and revolution.</p> <ul style="list-style-type: none"> <li>• Catastrophic Events</li> <li>• SG: L03 (pp26-41)</li> <li>• SG: L07 (pp80-95)</li> <li>• TG: L01.Exts (pp10-11)</li> <li>• TG: L03 (pp27-44)</li> <li>• TG: L07 (pp83-102)</li> <li>• <b>GEMS Earth, Moon, and Stars</b></li> <li>• TG: Act03 (pp17-24)</li> <li>• TG: Act05-06 (pp33-52)</li> <li>• <b>Earth in Space</b></li> <li>• SG: L02-04 (pp12-61)</li> <li>• SG: L06 (pp74-87)</li> <li>• SG: L08 (pp102-121)</li> <li>• SG: L16 (pp244-265)</li> <li>• TG: L02-04 (pp11-52)</li> <li>• TG: L06 (pp73-82)</li> <li>• TG: L08 (pp97-120)</li> <li>• TG: L16 (pp245-268)</li> <li>• <b>GEMS The Real Reasons for the Seasons</b></li> <li>• TG: Act02 (pp22-28)</li> <li>• TG: Act04 (pp49-56)</li> <li>• TG: Act06-08 (pp65-88)</li> </ul>
<p><b>GRADE SPAN EXPECTATION</b></p>	<p>8b.</p>	<p>Explaining night/day, seasons, year, and tides as a result of the regular and predictable motion of the Earth, sun, and moon.</p> <ul style="list-style-type: none"> <li>• Catastrophic Events</li> <li>• SG: L03 (pp26-41)</li> <li>• SG: L07 (pp80-95)</li> <li>• TG: L01.Exts (pp10-11)</li> <li>• TG: L03 (pp27-44)</li> <li>• TG: L07 (pp83-102)</li> <li>• <b>GEMS Earth, Moon, and Stars</b></li> <li>• TG: Act03 (pp17-24)</li> <li>• TG: Act05-06 (pp33-52)</li> <li>• <b>Earth in Space</b></li> <li>• SG: L02-04 (pp12-61)</li> <li>• SG: L06 (pp74-87)</li> <li>• SG: L08 (pp102-121)</li> <li>• SG: L16 (pp244-265)</li> <li>• TG: L01.Exts (p10)</li> <li>• TG: L02-04 (pp11-52)</li> <li>• TG: L05.Exts (p64)</li> <li>• TG: L06 (pp73-82)</li> <li>• TG: L08 (pp97-120)</li> <li>• TG: L13.Exts (p206)</li> <li>• TG: L16 (pp245-268)</li> <li>• <b>GEMS Moons of Jupiter</b></li> </ul>

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		<ul style="list-style-type: none"> <li>• TG: Act01 (pp7-17)</li> <li>• Organisms-From Macro to Micro</li> <li>• TG: L10.Exts (pp175-176)</li> <li>• GEMS The Real Reasons for the Seasons</li> <li>• TG: Act01-02 (pp17-28)</li> <li>• TG: Act04-08 (pp49-88)</li> </ul>
GRADE SPAN EXPECTATION	8c.	<p>Using a model of the Earth, sun and moon to recreate the phases of the moon.</p> <ul style="list-style-type: none"> <li>• Catastrophic Events</li> <li>• SG: L07 (pp80-95)</li> <li>• TG: L01.Exts (pp10-11)</li> <li>• TG: L07 (pp83-102)</li> <li>• GEMS Earth, Moon, and Stars</li> <li>• TG: Act03-04 (pp17-32)</li> <li>• Earth in Space</li> <li>• SG: L01-09 (pp2-127)</li> <li>• SG: L16 (pp244-265)</li> <li>• TG: L01-09 (pp3-146)</li> <li>• TG: L16 (pp245-268)</li> <li>• GEMS The Real Reasons for the Seasons</li> <li>• TG: Act03 (pp29-48)</li> <li>• TG: Act06-08 (pp65-88)</li> </ul>
GRADE SPAN EXPECTATION	8d.	<p>Describing the relationship between mass and the gravitational force between objects.</p> <ul style="list-style-type: none"> <li>• Energy, Machines, and Motion</li> <li>• TG: L05.Exts (pp53-54)</li> <li>• GEMS Earth, Moon, and Stars</li> <li>• TG: Act02 (pp9-16)</li> <li>• Earth in Space</li> <li>• SG: L14-16 (pp200-265)</li> <li>• TG: L14-16 (pp209-268)</li> </ul>
GRADE SPAN EXPECTATION	8e.	<p>Describing the relationship between distance and the gravitational force between objects.</p> <ul style="list-style-type: none"> <li>• Energy, Machines, and Motion</li> <li>• TG: L05.Exts (pp53-54)</li> <li>• GEMS Earth, Moon, and Stars</li> <li>• TG: Act02 (pp9-16)</li> <li>• Earth in Space</li> <li>• SG: L14-16 (pp200-265)</li> <li>• TG: L14-16 (pp209-268)</li> </ul>
GRADE SPAN EXPECTATION	8f.	<p>Explaining that the sun's gravitational pull holds the Earth and other planets in their orbits, just as the planet's gravitational pull keeps their</p>

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		<p>moons in orbit.</p> <ul style="list-style-type: none"> <li>• Energy, Machines, and Motion</li> <li>• TG: L05.Exts (pp53-54)</li> <li>• GEMS Earth, Moon, and Stars</li> <li>• TG: Act02 (pp9-16)</li> <li>• Earth in Space</li> <li>• SG: L14-16 (pp200-265)</li> <li>• TG: L14-16 (pp209-268)</li> </ul>
<b>DOMAIN / STATEMENT OF ENDURING KNOWLEDGE</b>	<b>RI.ESS3.</b>	<b>Earth and Space Science: The origin and evolution of galaxies and the universe demonstrate fundamental principles of physical science across vast distances and time.</b>
<b>ASSESSMENT TARGET</b>	<b>ESS3 (5-8)-9.</b>	No further targets for EK ESS3 at the 5-8 Grade Span. The GSEs listed below are assessed at the local level only.
<b>PERFORMANCE STANDARD</b>	<b>ESS3 (7-8)-9.</b>	Students demonstrate an understanding of the structure of the universe by...
<b>GRADE SPAN EXPECTATION</b>	<b>9a.</b>	<p>Describing the universe as containing many billions of galaxies, and each galaxy contains many billions of stars.</p> <ul style="list-style-type: none"> <li>• GEMS Invisible Universe</li> <li>• TG: Act04-05 (pp58-91)</li> </ul>
<b>DOMAIN / STATEMENT OF ENDURING KNOWLEDGE</b>	<b>RI.LS1.</b>	<b>Life Science: All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, &amp; species).</b>
<b>ASSESSMENT TARGET</b>	<b>LS1 (5-8)-INQ+ SAE-1.</b>	Using data and observations about the biodiversity of an ecosystem make predictions or draw conclusions about how the diversity contributes to the stability of the ecosystem.
<b>PERFORMANCE STANDARD</b>	<b>LS1 (7-8)-1.</b>	Students demonstrate understanding of biodiversity by...
<b>GRADE SPAN EXPECTATION</b>	<b>1a.</b>	<p>Giving examples of adaptations or behaviors that are specific to a niche (role) within an ecosystem.</p> <ul style="list-style-type: none"> <li>• Organisms-From Macro to Micro</li> <li>• SG: L04 (pp38-45)</li> <li>• SG: L06 (pp64-81)</li> <li>• SG: L13 (pp158-171)</li> <li>• TG: L06 (pp73-104)</li> <li>• TG: L13 (pp219-236)</li> </ul>
<b>GRADE SPAN EXPECTATION</b>	<b>1b.</b>	<p>Explaining how organisms with different structures and behaviors have roles that contribute to each other's survival and the stability of the ecosystem.</p> <ul style="list-style-type: none"> <li>• Organisms-From Macro to Micro</li> </ul>

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		<ul style="list-style-type: none"> <li>• SG: L09 (pp106-119)</li> <li>• SG: L12 (pp146-155)</li> <li>• TG: L09 (pp151-166)</li> <li>• TG: L12 (pp201-218)</li> <li>• TG: L18.Exts (pp299-300)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.LS1.	Life Science: All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species).
ASSESSMENT TARGET	LS1 (5-8) SAE+FAF-2.	Describe or compare how different organisms have mechanisms that work in a coordinated way to obtain energy, grow, move, respond, provide defense, enable reproduction, or maintain internal balance (e.g., cells, tissues, organs and systems).
PERFORMANCE STANDARD	LS1 (7-8)-2.	Students demonstrate understanding of structure and function-survival requirements by...
GRADE SPAN EXPECTATION	2a.	<p>Explaining how the cell, as the basic unit of life, has the same survival needs as an organism (i.e., obtain energy, grow, eliminate waste, reproduce, provide for defense).</p> <ul style="list-style-type: none"> <li>• <b>Human Body Systems</b></li> <li>• SG: L06 (pp40-49)</li> <li>• <b>Organisms-From Macro to Micro</b></li> <li>• SG: L07-08 (pp82-105)</li> <li>• TG: L07-08 (pp105-150)</li> </ul>
GRADE SPAN EXPECTATION	2b.	<p>Observing and describing (e.g., drawing, labeling) individual cells as seen through a microscope targeting cell membrane, cell wall, nucleus, and chloroplasts.</p> <ul style="list-style-type: none"> <li>• <b>Human Body Systems</b></li> <li>• SG: L06 (pp40-49)</li> <li>• <b>Organisms-From Macro to Micro</b></li> <li>• SG: L07-08 (pp82-105)</li> <li>• TG: L07-08 (pp105-150)</li> </ul>
GRADE SPAN EXPECTATION	2c.	<p>Observing, describing and charting the growth, motion, responses of living organisms</p> <ul style="list-style-type: none"> <li>• <b>Organisms-From Macro to Micro</b></li> <li>• SG: L14 (pp172-179)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.LS1.	Life Science: All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species).
ASSESSMENT TARGET	LS1 (5-8) POC-3.	Compare and contrast sexual reproduction with asexual reproduction.
PERFORMANCE STANDARD	LS1 (7-8)-3.	Students demonstrate an understanding of reproduction by...
GRADE SPAN	3a.	Explaining reproduction as a fundamental process by which the new

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EXPECTATION		<p>individual receives genetic information from parent(s).</p> <ul style="list-style-type: none"> <li>• Organisms-From Macro to Micro</li> <li>• SG: L09 (pp106-119)</li> <li>• SG: L14 (pp172-179)</li> <li>• TG: L09 (pp151-166)</li> <li>• TG: L14 (pp237-252)</li> </ul>
GRADE SPAN EXPECTATION	3b.	<p>Describing forms of asexual reproduction that involve the genetic contribution of only one parent (e.g., binary fission, budding, vegetative propagation, regeneration).</p> <ul style="list-style-type: none"> <li>• Organisms-From Macro to Micro</li> <li>• SG: L03 (pp28-37)</li> <li>• SG: L09 (pp106-119)</li> <li>• SG: L12 (pp146-155)</li> <li>• SG: L14 (pp172-179)</li> <li>• SG: L17-18 (pp194-215)</li> <li>• TG: L03 (pp33-48)</li> <li>• TG: L09 (pp151-166)</li> <li>• TG: L12 (pp201-218)</li> <li>• TG: L14 (pp237-252)</li> <li>• TG: L17 (pp281-292)</li> </ul>
GRADE SPAN EXPECTATION	3c.	<p>Describing sexual reproduction as a process that combines genetic material of two parents to produce a new organism (e.g., sperm/egg, pollen/ova)</p> <ul style="list-style-type: none"> <li>• Organisms-From Macro to Micro</li> <li>• SG: L03 (pp28-37)</li> <li>• SG: L09 (pp106-119)</li> <li>• SG: L12 (pp146-155)</li> <li>• SG: L14 (pp172-179)</li> <li>• SG: L17-18 (pp194-215)</li> <li>• TG: L03 (pp33-48)</li> <li>• TG: L09 (pp151-166)</li> <li>• TG: L12 (pp201-218)</li> <li>• TG: L14 (pp237-252)</li> <li>• TG: L17 (pp281-292)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.LS1.	Life Science: All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species).
ASSESSMENT TARGET	LS1 (5-8) FAF-4.	Explain relationships between or among the structure and function of the cells, tissues, organs, and organ systems in an organism.
PERFORMANCE STANDARD	LS1 (7-8)-4.	Students demonstrate understanding of differentiation by...
GRADE SPAN EXPECTATION	4b.	Comparing individual cells of tissues and recognizing the similarities of cells and how they work together to perform specific functions.

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		<ul style="list-style-type: none"> <li>Human Body Systems</li> <li>SG: L18 (pp150-159)</li> <li>TG: L18 (pp209-218)</li> <li>GEMS Only One Ocean</li> <li>TG: Act02 (pp43-87)</li> </ul>
GRADE SPAN EXPECTATION	4c.	<p>Explaining how each type of cell, tissue, and organ has a distinct structure and set of functions that serve the organism as a whole.</p> <ul style="list-style-type: none"> <li>Human Body Systems</li> <li>TG: L07.Exts (pp74-75)</li> <li>Organisms-From Macro to Micro</li> <li>SG: L01 (pp2-11)</li> <li>SG: L03 (pp28-37)</li> <li>SG: L11 (pp132-145)</li> <li>SG: L14 (pp172-179)</li> <li>TG: L01 (pp3-14)</li> <li>TG: L02.Exts (p25)</li> <li>TG: L03 (pp33-48)</li> <li>TG: L11 (pp185-200)</li> <li>TG: L14 (pp237-252)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.LS2.	Life Science: Matter cycles and energy flows through an ecosystem.
ASSESSMENT TARGET	LS2 (5-8) INQ+SAE-5.	Using data and observations, predict outcomes when abiotic/biotic factors are changed in an ecosystem.
PERFORMANCE STANDARD	LS2 (7-8)-5.	Students demonstrate an understanding of equilibrium in an ecosystem by...
GRADE SPAN EXPECTATION	5a.	<p>Identifying which biotic (e.g., bacteria, fungi, plants, animals) and abiotic (e.g., weather, climate, light, water, temperature, soil composition, catastrophic events) factors affect a given ecosystem.</p> <ul style="list-style-type: none"> <li>Organisms-From Macro to Micro</li> <li>SG: L12-13 (pp146-171)</li> <li>TG: L12-13 (pp201-236)</li> </ul>
GRADE SPAN EXPECTATION	5b.	<p>Analyzing how biotic and abiotic factors affect a given ecosystem.</p> <ul style="list-style-type: none"> <li>Organisms-From Macro to Micro</li> <li>SG: L12-13 (pp146-171)</li> <li>TG: L12-13 (pp201-236)</li> </ul>
GRADE SPAN EXPECTATION	5c.	<p>Predicting the outcome of a given change in biotic and abiotic factors in an ecosystem.</p> <ul style="list-style-type: none"> <li>Catastrophic Events</li> <li>SG: L24 (pp264-273)</li> </ul>

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		<ul style="list-style-type: none"> <li>• TG: L24 (pp329-346)</li> <li>• Organisms-From Macro to Micro</li> <li>• SG: L12-13 (pp146-171)</li> <li>• TG: L12-13 (pp201-236)</li> <li>•</li> </ul>
GRADE SPAN EXPECTATION	5d.	<p>Using a visual model (e.g., graph) to track population changes in an ecosystem.</p> <ul style="list-style-type: none"> <li>• GEMS Environmental Detectives</li> <li>• TG: Act05 (pp113-141)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.LS2.	Life Science: Matter cycles and energy flows through an ecosystem.
ASSESSMENT TARGET	LS2 (5-8) SAE-6.	Given a scenario trace the flow of energy through an ecosystem, beginning with the sun, through organisms in the food web, and into the environment (includes photosynthesis and respiration).
PERFORMANCE STANDARD	LS2 (7-8)-6.	Students demonstrate an understanding of energy flow in an ecosystem by...
GRADE SPAN EXPECTATION	6a.	<p>Explaining the transfer of the sun's energy through living systems and its effect upon them.</p> <ul style="list-style-type: none"> <li>• Earth in Space</li> <li>• TG: L07.Exts (pp92-93)</li> <li>• Human Body Systems</li> <li>• SG: L13 (pp110-119)</li> <li>• TG: L13 (pp153-158)</li> <li>• Light</li> <li>• SG: L11 (pp116-131)</li> <li>• TG: L11.Exts (p131)</li> </ul>
GRADE SPAN EXPECTATION	6b.	<p>Describing the basic processes and recognizing the names and chemical formulas of the substances involved in photosynthesis and respiration.</p> <ul style="list-style-type: none"> <li>• Human Body Systems</li> <li>• SG: L12-13 (pp98-119)</li> <li>• TG: L12-13 (pp137-158)</li> <li>• Light</li> <li>• SG: L11 (pp116-131)</li> <li>• TG: L11.Exts (p131)</li> <li>• Organisms-From Macro to Micro</li> <li>• SG: L07 (pp82-93)</li> <li>• SG: L10 (pp120-131)</li> <li>• TG: L07 (pp105-130)</li> <li>• TG: L10 (pp167-184)</li> </ul>

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GRADE SPAN EXPECTATION	6c.	<p>Explaining the relationship between photosynthesis and respiration.</p> <ul style="list-style-type: none"> <li>• Human Body Systems</li> <li>• SG: L12-13 (pp98-119)</li> <li>• TG: L12-13 (pp137-158)</li> <li>• Light</li> <li>• SG: L11 (pp116-131)</li> <li>• TG: L11.Exts (p131)</li> <li>• Organisms-From Macro to Micro</li> <li>• SG: L07 (pp82-93)</li> <li>• SG: L10 (pp120-131)</li> <li>• TG: L07 (pp105-130)</li> <li>• TG: L10 (pp167-184)</li> </ul>
GRADE SPAN EXPECTATION	6d.	<p>Creating or interpreting a model that traces the flow of energy in a food web.</p> <ul style="list-style-type: none"> <li>• Earth in Space</li> <li>• TG: L07.Exts (pp92-93)</li> <li>• Light</li> <li>• TG: L11.Exts (p131)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.LS2.	Life Science: Matter cycles and energy flows through an ecosystem.
ASSESSMENT TARGET	LS2 (5-8) SAE-7.	Given an ecosystem, trace how matter cycles among and between organisms and the physical environment (includes water, oxygen, food web, decomposition, recycling but not carbon cycle or nitrogen cycle).
PERFORMANCE STANDARD	LS2 (7-8)-7.	Students demonstrate an understanding of recycling in an ecosystem by...
GRADE SPAN EXPECTATION	7b.	<p>Developing a model for a food web of local aquatic and local terrestrial environments.</p> <ul style="list-style-type: none"> <li>• Earth in Space</li> <li>• TG: L07.Exts (pp92-93)</li> <li>• Light</li> <li>• TG: L11.Exts (p131)</li> </ul>
GRADE SPAN EXPECTATION	7c.	<p>Explaining the inverse nature or complementary aspects of photosynthesis/respiration in relation to carbon dioxide, water and oxygen exchange.</p> <ul style="list-style-type: none"> <li>• Organisms-From Macro to Micro</li> <li>• SG: L10 (pp120-131)</li> </ul>
GRADE SPAN EXPECTATION	7d.	<p>Conducting a controlled investigation that shows that the total amount of matter remains constant, even though its form and location change as matter is transferred among and between organisms and the physical</p>

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		environment (e.g., bottle biology, mass of a closed system over time).  <ul style="list-style-type: none"> <li>• Properties of Matter</li> <li>• SG: L25 (pp224-229)</li> <li>• TG: L25 (pp303-312)</li> </ul>
<b>DOMAIN / STATEMENT OF ENDURING KNOWLEDGE</b>	<b>RI.LS3.</b>	<b>Life Science: Groups of organisms show evidence of change over time (structures, behaviors, and biochemistry).</b>
<b>ASSESSMENT TARGET</b>	<b>LS3 (5-8) MAS+FAF-8.</b>	Use a model, classification system, or dichotomous key to illustrate, compare, or interpret possible relationships among groups of organisms (e.g., internal and external structures, anatomical features).
<b>PERFORMANCE STANDARD</b>	<b>LS3 (7-8)-8.</b>	Students demonstrate an understanding of classification of organisms by...

<b>GRADE SPAN EXPECTATION</b>	<b>8a.</b>	Sorting organisms with similar characteristics into groups based on internal and external structures.  <ul style="list-style-type: none"> <li>• GEMS Life Through Time</li> <li>• TG: Ses01-06 (pp13-234)</li> <li>• Organisms-From Macro to Micro</li> <li>• SG: L01 (pp2-11)</li> <li>• SG: L20 (pp236-243)</li> <li>• TG: L20 (pp331-350)</li> </ul>
<b>GRADE SPAN EXPECTATION</b>	<b>8b.</b>	Explaining how species with similar evolutionary histories/characteristics are classified more closely together with some organisms than others (e.g., a fish and human have more common with each other than a fish and jelly fish)  <ul style="list-style-type: none"> <li>• GEMS Life Through Time</li> <li>• TG: Ses01-06 (pp13-234)</li> <li>• Organisms-From Macro to Micro</li> <li>• SG: L01 (pp2-11)</li> <li>• SG: L20 (pp236-243)</li> <li>• TG: L20 (pp331-350)</li> </ul>
<b>GRADE SPAN EXPECTATION</b>	<b>8c.</b>	Recognizing the classification system used in modern biology.  <ul style="list-style-type: none"> <li>• GEMS Life Through Time</li> <li>• TG: Ses01-06 (pp13-234)</li> <li>• Organisms-From Macro to Micro</li> <li>• SG: L01 (pp2-11)</li> <li>• SG: L20 (pp236-243)</li> </ul>

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		<ul style="list-style-type: none"> <li>TG: L20 (pp331-350)</li> </ul>
<b>DOMAIN / STATEMENT OF ENDURING KNOWLEDGE</b>	<b>RI.LS3.</b>	<b>Life Science: Groups of organisms show evidence of change over time (structures, behaviors, and biochemistry).</b>
<b>ASSESSMENT TARGET</b>	<b>LS3 (5-8) POC-9.</b>	Cite examples supporting the concept that certain traits of organisms may provide a survival advantage in a specific environment and therefore, an increased likelihood to produce offspring.
<b>PERFORMANCE STANDARD</b>	<b>LS3 (7-8)-9.</b>	Students demonstrate an understanding of Natural Selection/ evolution by...
<b>GRADE SPAN EXPECTATION</b>	<b>9c.</b>	Differentiating between acquired and inherited characteristics and giving examples of each. <ul style="list-style-type: none"> <li>Human Body Systems</li> <li>TG: L04.Exts (p35)</li> <li>Organisms-From Macro to Micro</li> <li>SG: L18-19 (pp204-235)</li> <li>TG: L02.Exts (p25)</li> <li>TG: L18-19 (pp293-330)</li> </ul>
<b>GRADE SPAN EXPECTATION</b>	<b>9d.</b>	Explaining how natural selection leads to evolution (e.g., survival of the fittest). <ul style="list-style-type: none"> <li>GEMS Life Through Time</li> <li>TG: Ses05-07 (pp173-269)</li> <li>Organisms-From Macro to Micro</li> <li>SG: L13 (pp158-171)</li> <li>TG: L13 (pp219-236)</li> </ul>
<b>GRADE SPAN EXPECTATION</b>	<b>9e.</b>	Describing how scientists' understanding of the way species originate or become extinct has changed over time. <ul style="list-style-type: none"> <li>GEMS Life Through Time</li> <li>TG: Ses02-07 (pp37-269)</li> <li>Organisms-From Macro to Micro</li> <li>SG: L13 (pp158-171)</li> <li>TG: L13 (pp219-236)</li> <li>TG: L19.Exts (pp317-318)</li> </ul>
<b>DOMAIN / STATEMENT OF ENDURING KNOWLEDGE</b>	<b>RI.LS 4.</b>	<b>Life Science: Humans are similar to other species in many ways, and yet are unique among Earth's life forms.</b>
<b>ASSESSMENT TARGET</b>	<b>LS4 (5-8) INQ-10.</b>	Use data and observations to support the concept that environmental or biological factors affect human body systems (biotic & abiotic).
<b>PERFORMANCE</b>	<b>LS4 (7-8)-10.</b>	Students demonstrate an understanding of human body systems by...

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STANDARD		
GRADE SPAN EXPECTATION	10c.	<p>Researching and reporting on how biotic (e.g., microbes, parasites, food availability, aging process) and abiotic (e.g., radiation, toxic materials, carcinogens) factors cause disease and affect human health.</p> <ul style="list-style-type: none"> <li>• Human Body Systems</li> <li>• SG: L09 (pp68-75)</li> <li>• SG: L16 (pp138-143)</li> <li>• TG: L05.Exts (p52)</li> <li>• TG: L08.Exts (p85)</li> <li>• TG: L09 (pp103-112)</li> <li>• TG: L12.Exts (pp147-148)</li> <li>• TG: L16 (pp183-190)</li> <li>• TG: L19.Exts (p225)</li> <li>• Organisms-From Macro to Micro</li> <li>• SG: L11 (pp132-145)</li> <li>• SG: L15 (pp180-187)</li> <li>• TG: L15 (pp253-266)</li> </ul>

DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.LS 4.	Life Science: Humans are similar to other species in many ways, and yet are unique among Earth's life forms.
ASSESSMENT TARGET	LS4 (5-8) INQ+POC-11.	Using data provided, select evidence that supports the concept that genetic information is passed on from both parents to offspring.
PERFORMANCE STANDARD	LS4 (7-8)-11.	Students demonstrate an understanding of human heredity by...
GRADE SPAN EXPECTATION	11a.	<p>Recognizing that characteristics of an organism result from inherited traits of one or more genes from the parents and others result from interactions with the environment.</p> <ul style="list-style-type: none"> <li>• Human Body Systems</li> <li>• TG: L04.Exts (p35)</li> <li>• Organisms-From Macro to Micro</li> <li>• SG: L18-19 (pp204-235)</li> <li>• TG: L02.Exts (p25)</li> <li>• TG: L18-19 (pp293-330)</li> </ul>
GRADE SPAN EXPECTATION	11c.	Identifying that genetic material (i.e. chromosomes and genes) is

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		<p>located in the cell's nucleus.</p> <ul style="list-style-type: none"> <li>• Organisms-From Macro to Micro</li> <li>• SG: L08 (pp96-105)</li> <li>• SG: L19 (pp216-235)</li> <li>• TG: L08 (pp131-150)</li> <li>• TG: L19 (pp303-330)</li> </ul>
<b>DOMAIN / STATEMENT OF ENDURING KNOWLEDGE</b>	<b>RI.LS 4.</b>	<b>Life Science: Humans are similar to other species in many ways, and yet are unique among Earth's life forms.</b>
<b>ASSESSMENT TARGET</b>	<b>LS4 (5-8) POC-12.</b>	Describe the major changes that occur over time in human development from single cell through embryonic development to new born (i.e., trimesters: 1st-group of cells, 2nd-organs form, 3rd-organs mature.
<b>PERFORMANCE STANDARD</b>	<b>LS4 (7-8)-12.</b>	Students demonstrate an understanding of patterns of human development by...
<b>GRADE SPAN EXPECTATION</b>	<b>12d.</b>	<p>Comparing the patterns of human development after birth to life stages of other species.</p> <ul style="list-style-type: none"> <li>• Earth in Space</li> <li>• SG: L16 (pp244-265)</li> <li>• Organisms-From Macro to Micro</li> <li>• SG: L06 (pp64-81)</li> <li>• SG: L16 (pp188-193)</li> <li>• SG: L18 (pp204-215)</li> <li>• TG: L06 (pp73-104)</li> </ul>
<b>DOMAIN / STATEMENT OF ENDURING KNOWLEDGE</b>	<b>RI.PS1.</b>	<b>Physical Science: All living and nonliving things are composed of matter having characteristic properties that distinguish one substance from another (independent of size or amount of substance).</b>
<b>ASSESSMENT TARGET</b>	<b>PS1 (5-8) INQ-1.</b>	Investigate the relationships among mass, volume and density.
<b>PERFORMANCE STANDARD</b>	<b>PS1 (7-8)-1.</b>	Students demonstrate an understanding of characteristic properties of matter by...
<b>GRADE SPAN EXPECTATION</b>	<b>1a.</b>	<p>Measuring mass and volume of both regular and irregular objects and using those values as well as the relationship <math>D=m/v</math> to calculate density.</p> <ul style="list-style-type: none"> <li>• GEMS Bubble-ology</li> <li>• TG: Act02 (pp11-16)</li> <li>• Catastrophic Events</li> <li>• SG: L04 (pp42-53)</li> </ul>

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		<ul style="list-style-type: none"> <li>• TG: L04 (pp45-56)</li> <li>• GEMS Discovering Density</li> <li>• TG: Ses01-05 (pp5-46)</li> <li>• TG: Exts (p48)</li> <li>• Energy, Machines, and Motion</li> <li>• SG: L05 (pp36-47)</li> <li>• TG: L05 (pp47-58)</li> <li>• TG: L07.Exts (p83)</li> <li>• TG: L18.Exts (p224)</li> <li>• TG: L21.Exts (p245)</li> <li>• Earth in Space</li> <li>• SG: L15 (pp216-243)</li> <li>• TG: L15 (pp221-244)</li> <li>• GEMS Ocean Currents</li> <li>• TG: Act03-05 (pp47-93)</li> <li>• Properties of Matter</li> <li>• SG: L01-05 (pp2-55)</li> <li>• SG: L08-09 (pp74-83)</li> <li>• SG: L14 (pp116-121)</li> <li>• SG: L19 (pp162-167)</li> <li>• SG: L25-26 (pp224-235)</li> <li>• TG: L01-05 (pp3-64)</li> <li>• TG: L08-09 (pp91-112)</li> <li>• TG: L14 (pp153-160)</li> <li>• TG: L19 (pp209-226)</li> <li>• TG: L25-26 (pp303-332)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.PS1.	Physical Science: All living and nonliving things are composed of matter having characteristic properties that distinguish one substance from another (independent of size or amount of substance).
ASSESSMENT TARGET	PS1 (5-8) INQ+POC-2.	Given data about characteristic properties of matter (e.g., melting and boiling points, density, solubility) identify, compare, or classify different substances.
PERFORMANCE STANDARD	PS1 (7-8)-2.	Students demonstrate an understanding of characteristic properties of matter by...
GRADE SPAN EXPECTATION	2a.	Identifying an unknown substance given its characteristic properties. <ul style="list-style-type: none"> <li>• Properties of Matter</li> <li>• SG: L11-12 (pp98-111)</li> <li>• SG: L22 (pp198-207)</li> <li>• TG: L11-12 (pp125-142)</li> <li>• TG: L22 (pp263-274)</li> </ul>
GRADE SPAN EXPECTATION	2b.	Classifying and comparing substances using characteristic properties (e.g., solid, liquid, gas; metal, non-metal). <ul style="list-style-type: none"> <li>• Properties of Matter</li> <li>• SG: L11-12 (pp98-111)</li> </ul>

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		<ul style="list-style-type: none"> <li>• SG: L22 (pp198-207)</li> <li>• TG: L11-12 (pp125-142)</li> <li>• TG: L22 (pp263-274)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.PS1.	Physical Science: All living and nonliving things are composed of matter having characteristic properties that distinguish one substance from another (independent of size or amount of substance).
ASSESSMENT TARGET	PS1 (5-8) INQ+SAE-3.	Collect data or use data provided to infer or predict that the total amount of mass in a closed system stays the same, regardless of how substances interact (conservation of matter).
PERFORMANCE STANDARD	PS1 (7-8)-3.	Students demonstrate an understanding of conservation of matter by...
GRADE SPAN EXPECTATION	3a.	<p>Citing evidence to conclude that the amount of matter before and after undergoing a physical or a chemical change in a closed system remains the same.</p> <ul style="list-style-type: none"> <li>• <b>Electrical Energy and Circuit Design</b></li> <li>• SG: L01 (pp2-11)</li> <li>• SG: L12 (pp122-133)</li> <li>• TG: L01 (pp3-22)</li> <li>• TG: L12 (pp169-180)</li> <li>• <b>Energy, Machines, and Motion</b></li> <li>• SG: L19 (pp188-199)</li> <li>• TG: L19 (pp229-234)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.PS1.	Physical Science: All living and nonliving things are composed of matter having characteristic properties that distinguish one substance from another (independent of size or amount of substance).
ASSESSMENT TARGET	PS1 (5-8) SAE+MAS-4.	Represent or explain the relationship between or among energy, molecular motion, temperature, and states of matter.
PERFORMANCE STANDARD	PS1 (7-8)-4.	Students demonstrate an understanding of states of matter by...
GRADE SPAN EXPECTATION	4a.	<p>Creating diagrams or models that represent the states of matter at the molecular level.</p> <ul style="list-style-type: none"> <li>• <b>Properties of Matter</b></li> <li>• TG: L02.Exts (p21)</li> <li>• TG: L07.Exts (p86)</li> <li>• TG: L08.Exts (p96)</li> <li>• TG: L12.Exts (p140)</li> <li>• TG: L14.Exts (p157)</li> <li>• TG: L15.Exts (p166)</li> </ul>
GRADE SPAN EXPECTATION	4b.	<p>Explaining the effect of increased and decreased heat energy on the motion and arrangement of molecules.</p> <ul style="list-style-type: none"> <li>• <b>Catastrophic Events</b></li> </ul>

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		<ul style="list-style-type: none"> <li>• SG: L04 (pp42-53)</li> <li>• TG: L04 (pp45-56)</li> <li>• <b>Properties of Matter</b></li> <li>• SG: L06-08 (pp56-77)</li> <li>• SG: L25 (pp224-229)</li> <li>• TG: L02.Exts (p21)</li> <li>• TG: L06-08 (pp65-100)</li> <li>• TG: L12.Exts (p140)</li> <li>• TG: L14.Exts (p157)</li> <li>• TG: L15.Exts (p166)</li> <li>• TG: L25 (pp303-312)</li> </ul>
GRADE SPAN EXPECTATION	4c.	<p>Observing the physical processes of evaporation and condensation, or freezing and melting, and describe these changes in terms of molecular motion and conservation of mass.</p> <ul style="list-style-type: none"> <li>• <b>Catastrophic Events</b></li> <li>• SG: L04 (pp42-53)</li> <li>• TG: L04 (pp45-56)</li> <li>• <b>Properties of Matter</b></li> <li>• SG: L06-08 (pp56-77)</li> <li>• SG: L25 (pp224-229)</li> <li>• TG: L06-08 (pp65-100)</li> <li>• TG: L25 (pp303-312)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.PS1.	Physical Science: All living and nonliving things are composed of matter having characteristic properties that distinguish one substance from another (independent of size or amount of substance).
ASSESSMENT TARGET	PS1 (5-8) MAS-5.	Given graphic or written information, classify matter as atom/molecule or element/compound (Not the structure of an atom).
PERFORMANCE STANDARD	PS1 (7-8)-5.	Students demonstrate an understanding of the structure of matter by...

GRADE SPAN EXPECTATION	5a.	<p>Using models or diagrams to show the difference between atoms and molecules.</p> <ul style="list-style-type: none"> <li>• <b>GEMS Crime Lab Chemistry</b></li> <li>• TG: Act01-03 (pp7-62)</li> </ul>
GRADE SPAN EXPECTATION	5c.	<p>Interpreting the symbols and formulas of simple chemical equations.</p> <ul style="list-style-type: none"> <li>• <b>Properties of Matter</b></li> <li>• SG: L22 (pp198-207)</li> <li>• TG: L22 (pp263-274)</li> </ul>

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GRADE SPAN EXPECTATION	5d.	<p>Using symbols and chemical formulas to show simple chemical rearrangements that produce new substances (chemical change).</p> <ul style="list-style-type: none"> <li>• Properties of Matter</li> <li>• SG: L22 (pp198-207)</li> <li>• TG: L22 (pp263-274)</li> </ul>
GRADE SPAN EXPECTATION	5e.	<p>Explaining that when substances undergo physical changes, the appearance may change but the chemical makeup and chemical properties do not.</p> <ul style="list-style-type: none"> <li>• GEMS Bubble-ology</li> <li>• TG: Act02-03 (pp11-27)</li> <li>• TG: Act05-06 (pp35-44)</li> <li>• GEMS Chemical Reactions</li> <li>• TG: Part1 (pp9-14)</li> <li>• Properties of Matter</li> <li>• SG: L18 (pp150-161)</li> <li>• TG: L17.Exts (p185)</li> <li>• TG: L18 (pp193-208)</li> </ul>
GRADE SPAN EXPECTATION	5f.	<p>Explaining that when substances undergo chemical changes to form new substances, the properties of the new combinations may be very different from those of the old.</p> <ul style="list-style-type: none"> <li>• GEMS Of Cabbages and Chemistry</li> <li>• TG: Ses01-02 (pp9-28)</li> <li>• TG: Ses04 (pp41-46)</li> <li>• Properties of Matter</li> <li>• SG: L06 (pp56-63)</li> <li>• SG: L18 (pp150-161)</li> <li>• SG: L20 (pp170-185)</li> <li>• SG: L24 (pp218-223)</li> <li>• TG: L06 (pp65-78)</li> <li>• TG: L18 (pp193-208)</li> <li>• TG: L20 (pp227-240)</li> <li>• TG: L22.Exts (p270)</li> <li>• TG: L24 (pp295-302)</li> <li>• GEMS Vitamin C Testing</li> <li>• TG: Ses01 (pp5-17)</li> <li>• TG: Ses03 (pp25-29)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.PS2.	Physical Science: Energy is necessary for change to occur in matter. Energy can be stored, transferred, and transformed, but cannot be destroyed.
ASSESSMENT TARGET	PS2 (5-8)-SAE+ POC-6.	Given a real-world example, show that within a system, energy transforms from one form to another (i.e., chemical, heat, electrical, gravitational, light, sound, mechanical).
PERFORMANCE STANDARD	PS2 (7-8)-6.	Students demonstrate an understanding of energy by...

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<p><b>GRADE SPAN EXPECTATION</b></p>	<p>6a.</p>	<p>Using a real world example to explain the transfer of potential energy to kinetic energy.</p> <ul style="list-style-type: none"> <li>• <b>Electrical Energy and Circuit Design</b></li> <li>• SG: L01-02 (pp2-25)</li> <li>• SG: L07-10 (pp70-117)</li> <li>• SG: L12 (pp122-133)</li> <li>• SG: L15-19 (pp156-209)</li> <li>• TG: L01-02 (pp3-36)</li> <li>• TG: L07-10 (pp93-156)</li> <li>• TG: L12 (pp169-180)</li> <li>• TG: L15-19 (pp213- -276)</li> <li>• <b>Energy, Machines, and Motion</b></li> <li>• SG: L02-04 (pp12-35)</li> <li>• SG: L09-10 (pp82-97)</li> <li>• SG: L17 (pp164-173)</li> <li>• SG: L19-22 (pp188-236)</li> <li>• TG: L01-04 (pp3-46)</li> <li>• TG: L09-10 (pp99-130)</li> <li>• TG: L17 (pp203-216)</li> <li>• TG: L19-22 (pp229-254)</li> <li>• <b>Light</b></li> <li>• SG: L02 (pp20-31)</li> <li>• SG: L07 (pp68-81)</li> <li>• SG: L26 (pp294-297)</li> <li>• TG: L02 (pp21-36)</li> <li>• TG: L26 (pp349-367)</li> </ul>
<p><b>GRADE SPAN EXPECTATION</b></p>	<p>6b.</p>	<p>Constructing a model to explain the transformation of energy from one form to another. (e.g. an electrical circuit changing electrical energy to light energy in a light bulb).</p> <ul style="list-style-type: none"> <li>• <b>Electrical Energy and Circuit Design</b></li> <li>• SG: L01-02 (pp2-25)</li> <li>• SG: L08-10 (pp84-117)</li> <li>• SG: L12 (pp122-133)</li> <li>• SG: L15-19 (pp156-209)</li> <li>• TG: L01-02 (pp3-36)</li> <li>• TG: L08-10 (pp111-156)</li> <li>• TG: L12 (pp169-180)</li> <li>• TG: L15-19 (pp213-276)</li> <li>• <b>Energy, Machines, and Motion</b></li> <li>• SG: L02-04 (pp12-35)</li> <li>• SG: L10 (pp92-97)</li> <li>• SG: L17 (pp164-173)</li> <li>• SG: L19-20 (pp188-213)</li> <li>• SG: L22 (pp226-236)</li> <li>• TG: L02-04 (pp23-46)</li> <li>• TG: L09-10 (pp99-130)</li> <li>• TG: L17 (pp203-216)</li> <li>• TG: L19-22 (pp229-254)</li> </ul>

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		<ul style="list-style-type: none"> <li>• Light</li> <li>• SG: L02 (pp20-31)</li> <li>• SG: L07 (pp68-81)</li> <li>• SG: L26 (pp294-297)</li> <li>• TG: L02 (pp21-36)</li> <li>• TG: L26 (pp349-367)</li> </ul>
GRADE SPAN EXPECTATION	6c.	<p>Explaining that while energy may be stored, transferred, or transformed, the total amount of energy is conserved.</p> <ul style="list-style-type: none"> <li>• Electrical Energy and Circuit Design</li> <li>• SG: L01 (pp2-11)</li> <li>• SG: L12 (pp122-133)</li> <li>• TG: L01 (pp3-22)</li> <li>• TG: L12 (pp169-180)</li> <li>• Energy, Machines, and Motion</li> <li>• SG: L19 (pp188-199)</li> <li>• TG: L19 (pp229-234)</li> </ul>
GRADE SPAN EXPECTATION	6d.	<p>Describing the effect of changing voltage in an electrical circuit.</p> <ul style="list-style-type: none"> <li>• Electrical Energy and Circuit Design</li> <li>• SG: L08 (pp84-93)</li> <li>• TG: L08 (pp111-122)</li> <li>• TG: L15 (pp213-226)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.PS2.	Physical Science: Energy is necessary for change to occur in matter. Energy can be stored, transferred, and transformed, but cannot be destroyed.
ASSESSMENT TARGET	PS2 (5-8) INQ+SAE+POC-7.	Use data to draw conclusions about how heat can be transferred (convection, conduction, radiation).
PERFORMANCE STANDARD	PS2 (7-8)-7.	Students demonstrate an understanding of heat energy by...
GRADE SPAN EXPECTATION	7b.	<p>Explaining the difference among conduction, convection and radiation and creating a diagram to explain how heat energy travels in different directions and through different materials by each of these methods.</p> <ul style="list-style-type: none"> <li>• Catastrophic Events</li> <li>• SG: L03-04 (pp26-53)</li> <li>• TG: L03-04 (pp27-56)</li> <li>• Human Body Systems</li> <li>• TG: L13.Exts (p158)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.PS3.	Physical Science: The motion of an object is affected by forces.
ASSESSMENT	PS3 (5-8) INQ+	Use data to determine or predict the overall (net effect of multiple

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TARGET	POC-8.	forces (e.g., friction, gravitational, magnetic) on the position, speed, and direction of motion of objects.
PERFORMANCE STANDARD	PS3 (7-8)-8.	Students demonstrate an understanding of motion by...
GRADE SPAN EXPECTATION	8a.	<p>Measuring distance and time for a moving object and using those values as well as the relationship <math>s=d/t</math> to calculate speed and graphically represent the data.</p> <ul style="list-style-type: none"> <li>• Energy, Machines, and Motion</li> <li>• SG: L06 (pp48-61)</li> <li>• SG: L18-19 (pp174-199)</li> <li>• SG: L21 (pp214-225)</li> <li>• TG: L01.Exts (p14)</li> <li>• TG: L06.Exts (pp68-69)</li> <li>• TG: L18-19 (pp217-234)</li> <li>• TG: L21 (pp239-246)</li> </ul>
GRADE SPAN EXPECTATION	8b.	<p>Solving for any unknown in the expression <math>s=d/t</math> given values for the other two variables.</p> <ul style="list-style-type: none"> <li>• Energy, Machines, and Motion</li> <li>• SG: L06 (pp48-61)</li> <li>• SG: L18-19 (pp174-199)</li> <li>• SG: L21 (pp214-225)</li> <li>• TG: L01.Exts (p14)</li> <li>• TG: L06.Exts (pp68-69)</li> <li>• TG: L18-19 (pp217-234)</li> <li>• TG: L21 (pp239-246)</li> </ul>
GRADE SPAN EXPECTATION	8c.	<p>Differentiating among speed, velocity and acceleration.</p> <ul style="list-style-type: none"> <li>• Energy, Machines, and Motion</li> <li>• SG: L06 (pp48-61)</li> <li>• SG: L18-19 (pp174-199)</li> <li>• SG: L21 (pp214-225)</li> <li>• TG: L01.Exts (p14)</li> <li>• TG: L06.Exts (pp68-69)</li> <li>• TG: L18-19 (pp217-234)</li> <li>• TG: L21 (pp239-246)</li> <li>• Earth in Space</li> <li>• SG: L15 (pp216-243)</li> <li>• TG: L15-16 (pp221-268)</li> </ul>
GRADE SPAN EXPECTATION	8d.	<p>Making and testing predictions on how unbalanced forces acting on objects change speed or direction of motion, or both.</p> <ul style="list-style-type: none"> <li>• Energy, Machines, and Motion</li> <li>• SG: L01 (pp2-11)</li> <li>• SG: L05-08 (pp36-81)</li> <li>• SG: L11-13 (pp100-129)</li> </ul>

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		<ul style="list-style-type: none"> <li>• SG: L18-19 (pp174-199)</li> <li>• SG: L21 (pp214-225)</li> <li>• TG: L01 (pp3-22)</li> <li>• TG: L05-08 (pp47-98)</li> <li>• TG: L11-13 (pp131-166)</li> <li>• TG: L18-19 (pp217-234)</li> <li>• TG: L21 (pp239-246)</li> </ul>
GRADE SPAN EXPECTATION	8e.	<p>Describing or graphically representing that the acceleration of an object is proportional to the force on the object and inversely proportional to the object's mass.</p> <ul style="list-style-type: none"> <li>• <b>Energy, Machines, and Motion</b></li> <li>• SG: L18 (pp174-187)</li> <li>• SG: L21 (pp214-225)</li> <li>• TG: L18 (pp217-228)</li> <li>• TG: L21 (pp239-246)</li> <li>• <b>Earth in Space</b></li> <li>• TG: L15 (pp221-244)</li> </ul>
GRADE SPAN EXPECTATION	8f.	<p>Differentiating between mass and weight.</p> <ul style="list-style-type: none"> <li>• <b>Earth in Space</b></li> <li>• SG: L14 (pp200-215)</li> <li>• TG: L14 (pp209-220)</li> </ul>
DOMAIN / STATEMENT OF ENDURING KNOWLEDGE	RI.PS3.	Physical Science: The motion of an object is affected by forces.
ASSESSMENT TARGET	PS3 (5-8) SAE+INQ.	Experiment, observe, or predict how energy might be transferred by means of waves (Local Assessment Only).
PERFORMANCE STANDARD	PS3 (7-8)-LA.	Students demonstrate an understanding of the visible spectrum of light by...
GRADE SPAN EXPECTATION	LAa.	<p>Experiment how light from the sun is made up of a mixture of many different colors of light (e.g. using prisms, spectrometers, crystals).</p> <ul style="list-style-type: none"> <li>• <b>Energy, Machines, and Motion</b></li> <li>• SG: L19 (pp188-199)</li> <li>• TG: L19 (pp229-234)</li> <li>• <b>Earth in Space</b></li> <li>• SG: L07 (pp88-101)</li> <li>• TG: L07 (pp83-96)</li> <li>• <b>GEMS Invisible Universe</b></li> <li>• TG: Act01-03 (pp15-57)</li> <li>• TG: Act05 (pp78-91)</li> <li>• <b>Light</b></li> <li>• SG: L09-11 (pp92-131)</li> <li>• TG: L08.Exts (p105)</li> </ul>

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		<ul style="list-style-type: none"> <li>• TG: L09-10 (pp107-126)</li> <li>• TG: L17.Exts (p216)</li> <li>• GEMS Living with a Star</li> <li>• TG: Act02-04 (pp41-99)</li> </ul>
<p><b>GRADE SPAN EXPECTATION</b></p>	<p><b>Lab.</b></p>	<p>Representing in words, diagrams, or other models the visible spectrum as a part of the electromagnetic spectrum (consisting of visible light, infrared, and ultraviolet radiation) and composed of all colors of light</p> <ul style="list-style-type: none"> <li>• <b>Energy, Machines, and Motion</b></li> <li>• SG: L19 (pp188-199)</li> <li>• TG: L19 (pp229-234)</li> <li>• <b>Earth in Space</b></li> <li>• SG: L07 (pp88-101)</li> <li>• TG: L07 (pp83-96)</li> <li>• <b>GEMS Invisible Universe</b></li> <li>• TG: Act01-03 (pp15-57)</li> <li>• TG: Act05 (pp78-91)</li> <li>• <b>Light</b></li> <li>• SG: L09-11 (pp92-131)</li> <li>• TG: L08.Exts (p105)</li> <li>• TG: L09-10 (pp107-126)</li> <li>• TG: L17.Exts (p216)</li> <li>• GEMS Living with a Star</li> <li>• TG: Act02-04 (pp41-99)</li> </ul>

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