

Carolina™ Curriculum Correlation to



Colorado Model Content Standards Science Grades K-8

0803

CAROLINA
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Carolina™ Curriculum Correlation to Colorado Model Content Standards - Science Grades K-8

Although each unit was developed for use at a specific grade level, there is some flexibility in grade placement. Recommended grade ranges are indicated in the chart below. Carolina publishes additional that are not included in this document. For more information visit www.carolinacurriculum.com.

Carolina™ Curriculum Units with Recommended Grade Ranges		
GRADE	STC® and STC/MS™ Units	GEMS Kits®/ GEMS® Space Science Building Blocks of Science of Science™
K-2	<ul style="list-style-type: none"> Balancing and Weighing Changes Comparing and Measuring The Life Cycle of Butterflies Organisms Rocks and Minerals Soils Solids and Liquids Weather 	<ul style="list-style-type: none"> Sky Watchers (BBS) Terrarium Habitats (GEMS) Tree Homes (GEMS) Understanding My Body (BBS)
3-5	<ul style="list-style-type: none"> Animal Studies Ecosystems Electric Circuits Experiments with Plants Land and Water Motion and Design Plant Growth and Development 	<ul style="list-style-type: none"> 3-5 Space Science Sequence (GEMS) Measure It! (BBS) Oobleck: What Do Scientists Do? (GEMS) Stories in Stone (GEMS) Understanding Cells and DNA (BBS)
6-8	<ul style="list-style-type: none"> Catastrophic Events Earth in Space Energy, Machines, and Motion Human Body Systems Organisms—From Macro to Micro Properties of Matter 	<ul style="list-style-type: none"> Earth, Moon, and Stars (GEMS) Invisible Universe (GEMS) Life Through Time (GEMS) Plate Tectonics (GEMS)

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



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



GEMS® Space Science 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.

TG = Teacher's Guide

L01, Act07, Ses01 = Lesson 1, Activity 1, Session 1

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)

App-A, App-B = Appendix A, Appendix B (found at the end of Section 4 in the Teacher's Guide)

Grades K-2 Science
Colorado Content Standards

STANDARD	CO.1. Students apply the processes of scientific investigation and design, conduct, communicate about, and evaluate such investigations.	
STRAND/BENCHMARK	1.1.	<p>Use their senses to make and describe careful observations</p> <ul style="list-style-type: none"> • Building Blocks of Science: Understanding My Body • TG: Act 01 (pp 1-7) • Changes • TG: L01.Exts (pp10-11) • Organisms • TG: L02 (pp11-20) • Rocks and Minerals • TG: L06 (pp43-50) • Soils • TG: L03-05 (pp27-56) • Solids and Liquids • TG: L05.Exts (pp43-45) • Weather • TG: L02 (pp11-24)
STRAND/BENCHMARK	1.2.	<p>Ask questions and make predictions</p> <ul style="list-style-type: none"> • Balancing and Weighing • TG: L01-17 (pp3-138) • Building Blocks of Science: Sky Watchers • TG: Act 02 (pp 1-6), Act 03 (pp 1-6), Act 04 (pp 1-7), Act 05 (pp 1-5) • Building Blocks of Science: Understanding My Body • TG: Act 01 (pp 1-7), Act 02 (pp 1-4), Act 03 (pp 1-5), Act 04 (pp 1-4) • Act 05 (pp 1-6), Act 06 (pp 1-5) • Changes • TG: L01-17 (pp3-158) • Comparing and Measuring • TG: L01-16 (pp3-116) • The Life Cycle of Butterflies • TG: L04 (pp23-28), L07.Exts (p43), L08-10 (pp47-68) • Organisms • TG: L01-17 (pp3-182) • Rocks and Minerals • TG: L01-16 (pp3-126) • Soils • TG: L01-02 (pp3-26), L06 (pp57-64), L14 (pp139-148), L17 (pp169-172) • Solids and Liquids • TG: L01-16 (pp3-136) • Weather • TG: L01-16 (pp3-148)
STRAND/BENCHMARK	1.3.	<p>Conduct simple experiments using tools and technology (for example: computers, thermometers, magnifiers, rulers, balances)</p> <ul style="list-style-type: none"> • Balancing and Weighing • TG: L02-17 (pp9-138) • Building Blocks of Science: Sky Watchers • TG: Act 02 (pp 1-6), Act 03 (pp 1-6), Act 04 (pp 1-7), Act 05 (pp 1-5) • Building Blocks of Science: Understanding My Body • TG: Act 01 (pp 1-7), Act 02 (pp 1-4), Act 03 (pp 1-5), Act 04 (pp 1-4)

		<ul style="list-style-type: none"> • Act 05 (pp 1-6), Act 06 (pp 1-5) • The Life Cycle of Butterflies • TG: L01.Exts (p7), L02-09 (pp11-62), L11.Exts (pp71-73), L12 (pp75-80) • L14 (pp85-88) • Rocks and Minerals • TG: L01-16 (pp3-126) • Soils • TG: L01.Exts (p12), L02-03 (pp17-36), L05-08 (pp45-86) • L10-15 (pp97-158) • Solids and Liquids • TG: L11 (pp87-94) • GEMS: Terrarium Habitats • TG: Act01-05 (pp5-48) • GEMS: Tree Homes • TG: Act01-06 (pp15-68) • Weather • TG: L05-10 (pp43-100), App-A (pp151-152), App-B (pp153-167)
STRAND/BENCHMARK	1.4.	<p>Record data, report on findings and explain with reasons</p> <ul style="list-style-type: none"> • Balancing and Weighing • TG: L01-17 (pp3-138) • Building Blocks of Science: Sky Watchers • TG: Act 01 (pp 1-3), Act 02 (pp 1-6), Act 03 (pp 1-6), Act 04 (pp 1-7) • Act 05 (pp 1-5) • Building Blocks of Science: Understanding My Body • TG: Act 01 (pp 1-7), Act 02 (pp 1-4), Act 03 (pp 1-5), Act 04 (pp 1-4) • Act 05 (pp 1-6), Act 06 (pp 1-5) • Changes • TG: L01-17 (pp3-158) • Comparing and Measuring • TG: L01-17 (pp3-120) • The Life Cycle of Butterflies • TG: L01-16 (pp3-96) • Organisms • TG: L01-17 (pp3-182) • Rocks and Minerals • TG: L01-16 (pp3-126) • Soils • TG: L01-17 (pp3-172) • Solids and Liquids • TG: L01-17 (pp3-140) • GEMS: Terrarium Habitats • TG: Act01-05 (pp5-48) • GEMS: Tree Homes • TG: Act01-06 (pp15-68) • Weather • TG: L01-17 (pp3-150), App-B (pp153-167)
STANDARD	CO.2.	Physical Science: Students know and understand common properties, forms, and changes in matter and energy. (Focus: Physics and Chemistry)
STRAND/BENCHMARK	2.1.	<p>Solids and liquids (matter) can be identified, compared, sorted/classified by their physical properties (for example: size, shape, texture, flexibility, temperature, color and patterns)</p> <ul style="list-style-type: none"> • Balancing and Weighing • TG: L03.Exts (p20), L08-09 (pp61-78), L10.Exts (pp84-85), L11.Exts (p94)

		<ul style="list-style-type: none"> • L12.Exts (p104), L13 (pp107-114) • Building Blocks of Science: Sky Watchers • TG: Act 01 (pp 1-3), Act 04 (pp 1-7), Act 05 (pp 1-5) • Building Blocks of Science: Understanding My Body • TG: Act 03 (pp 1-5), Act 04 (pp 1-4), Act 05 (pp 1-6), Act 06 (pp 1-5) • Changes • TG: L01.Exts (pp10-11), L02.Exts (pp26-27), L03 (pp31-42) • L05 (pp53-62), L06.Exts (pp67-69), L07-09 (pp71-94), L12-16 (pp111-154) • Comparing and Measuring • TG: L01-17 (pp3-120) • The Life Cycle of Butterflies • TG: L02 (pp11-18), L10 (pp63-68), L14-15 (pp85-94) • Organisms • TG: L01-02 (pp3-20), L04.Exts (pp43-45), L05.Exts (p59), L06 (pp65-74) • L08 (pp87-96), L09.Exts (p101), L10-17 (pp105-182) • Rocks and Minerals • TG: L01-16 (pp3-126) • Soils • TG: L02.Exts (p23), L04 (pp37-44), L06-08 (pp57-86), L11 (pp109-114) • L13-17 (pp125-172) • Solids and Liquids • TG: L01-17 (pp3-140) • GEMS: Tree Homes • TG: Act02 (pp25-31), Act06 (pp65-68) • Weather • TG: L03 (pp25-32), L05 (pp43-54), L12 (pp113-122), L14 (pp129-134)
STRAND/BENCHMARK	2.2.	<p>Mixtures can be created and separated based on physical properties (for example: salt and sand, iron filings and soil, oil and water)</p> <ul style="list-style-type: none"> • Changes • TG: L04-06 (pp43-70), L07.Exts (p76), L08.Exts (p82), L10-13 (pp95-128) • L16 (pp147-154) • Soils • TG: L08 (pp73-86) • Solids and Liquids • TG: L09.Exts (p73), L14-15 (pp109-130)
STRAND/BENCHMARK	2.3.	<p>The only way to change the motion of an object is by pushing or pulling on it (force)</p> <ul style="list-style-type: none"> • Solids and Liquids • TG: L04 (pp29-40)
STANDARD	CO.3.	<p>Life Science: Students know and understand the characteristics and structure of living things, the processes of life, and how living things interact with each other and their environment. (Focus: Biology-- Anatomy, Physiology, Botany, Zoology, Ecology)</p>
STRAND/BENCHMARK	3.1.	<p>An organism (plant, animal) is a living thing that has physical characteristics that help it to survive</p> <ul style="list-style-type: none"> • Building Blocks of Science: Understanding My Body • TG: Act 01 (pp 1-7), Act 05 (pp 1-6), Act 06 (pp 1-5) • The Life Cycle of Butterflies • TG: L01-11 (pp3-74), L13-16 (pp81-96), App-B (pp101-110) • Organisms • TG: L01 (pp3-10), L07-10 (pp75-118), L13-17 (pp135-182) • Soils

		<ul style="list-style-type: none"> • TG: L01-10 (pp3-108), L13 (pp125-138), L16.Exts (pp164-166) • GEMS: Terrarium Habitats • TG: Act03-05 (pp23-48) • GEMS: Tree Homes • TG: Act01 (pp15-23), Act04-05 (pp41-63)
STRAND/BENCHMARK	3.2.	<p>Offspring have characteristics that are similar to but not exactly like their parents</p> <ul style="list-style-type: none"> • Building Blocks of Science: Understanding My Body • TG: Act 04 (pp 1-4)
STRAND/BENCHMARK	3.4.	<p>There are similarities and differences in growth and development of organisms (for example: insect, plant, mammal)</p> <ul style="list-style-type: none"> • Comparing and Measuring • TG: L12.Exts (p84) • Organisms • TG: L03 (pp21-36), L06 (pp65-74), L10.Exts (p115), L11-12 (pp119-134) • L16.Exts (pp172-173) • GEMS: Tree Homes • TG: Act05 (pp51-63) • Weather • TG: L10.Exts (p95)
STRAND/BENCHMARK	3.5.	<p>Organisms interact with each other and with nonliving parts of their habitat to meet their basic needs (for example: food, water, air, shelter, space)</p> <ul style="list-style-type: none"> • The Life Cycle of Butterflies • TG: L02-03 (pp11-22), L05-08 (pp29-52), L10-12 (pp63-80) • L15-16 (pp89-96) • Organisms • TG: L03-04 (pp21-52), L06-10 (pp65-118), L13 (pp135-148) • L15-16 (pp155-178) • Soils • TG: L09-10 (pp87-108) • GEMS: Terrarium Habitats • TG: Act01-02 (pp5-21) • GEMS: Tree Homes • TG: Act04 (pp41-49) • Weather • TG: L10.Exts (p95)
STANDARD	CO.4.	<p>Earth and Space Science: Students know and understand the processes and interactions of Earth's systems and the structure and dynamics of Earth and other objects in space. (Focus: Geology, Meteorology, Astronomy, Oceanography)</p>
STRAND/BENCHMARK	4.1.	<p>There are different types of Earth's materials that come in different shapes and sizes (for example: rocks and soil)</p> <ul style="list-style-type: none"> • Rocks and Minerals • TG: L01-02 (pp3-18), L03.Exts (p22), L04 (pp27-34), L16-17 (pp113-128) • Soils • TG: L01-17 (pp3-172) • Solids and Liquids • TG: L04.Exts (p34) • GEMS: Terrarium Habitats • TG: Act01 (pp5-13)

STRAND/BENCHMARK	4.4.	Our activities are affected by the daily weather and changing seasons (for example: types of clothing, travel plans, recreational activity) <ul style="list-style-type: none"> • GEMS: Tree Homes • TG: Act03 (pp33-39) • Weather • TG: L01 (pp3-10), L06 (pp55-62), L15 (pp135-140), L17 (pp149-150)
STRAND/BENCHMARK	4.5.	The Sun is the source of Earth's heat and light <ul style="list-style-type: none"> • Building Blocks of Science: Sky Watchers • TG: Act 03 (pp 1-6)
STRAND/BENCHMARK	4.6.	Objects can be readily observed in the daytime and nighttime sky (for example: the Sun, Moon, stars) <ul style="list-style-type: none"> • Building Blocks of Science: Sky Watchers • TG: Act 01 (pp 1-3), Act 02 (pp 1-6)
STANDARD	CO.5.	Students understand that the nature of science involves a particular way of building knowledge and making meaning of the natural world.
STRAND/BENCHMARK	5.1.	Basic observable patterns and changes in the world can help to predict future events based on those patterns (for example: seasonal weather patterns, day/night) <ul style="list-style-type: none"> • Building Blocks of Science: Sky Watchers • TG: Act 02 (pp 1-6), Act 03 (pp 1-6), Act 04 (pp 1-7)

Grades 3-5 Science
Colorado Content Standards

STANDARD	CO.1. Students apply the processes of scientific investigation and design, conduct, communicate about, and evaluate such investigations.
STRAND/BENCHMARK	<p>1.1. Design, plan and conduct a variety of simple investigations (for example: formulate a testable question, state a hypothesis, make systematic observations, develop and communicate logical conclusions based on evidence)</p> <ul style="list-style-type: none"> • GEMS: 3-5 Space Science Sequence • TG: Ses 1.1 (pp 28-45), Ses 1.4-1.5 (pp 70-103), Ses 1.7-1.9 (pp 122-167) • Ses 2.4-2.5 (pp 226-259), Ses 3.2-3.4 (pp 300-335) • Ses 4.1-4.5 (pp 340-423) • Animal Studies • RB: (pp12-15) • TG: L01-04 (pp3-48), L06 (pp65-74), L10.Exts (p110), L12-13 (pp123-142) • L17 (pp169-172) • Building Blocks of Science: Measure It! • TG: L01-05 (pp 11-47) • Building Blocks of Science: Understanding Cells and DNA • TG: Act 01-06 (pp 21-79) • Ecosystems • RB: (pp43-44) • TG: L02-15 (pp13-164), L16.Exts (p167), L17 (pp169-171) • Electric Circuits • RB: (pp13-16 and 60-61) • TG: L01-17 (pp3-86) • Experiments with Plants • RB: (pp14-17) • TG: L01-16 (pp9-128) • Land and Water • RB: (pp07-18, 21-38, and 41-61) • TG: L01-17 (pp3-186) • Motion and Design • RB: (pp23-28) • TG: L01 (pp1-14), L03-15 (pp25-144), L17 (pp153-156) • GEMS: Oobleck: What Do Scientists Do? • TG: TG: Ses01-04 (pp4-18), Exts (p19) • Plant Growth and Development • TG: L01-16 (pp3-98) • GEMS: Stories in Stone • TG: Ses01-08 (pp15-113)
STRAND/BENCHMARK	<p>1.2. Select and use appropriate tools and technology to gather and display (for example: graphs, charts, diagrams) quantitative and qualitative data related to an investigation (for example: length, volume, and mass measuring instruments, thermometers, watches, magnifiers, microscopes, calculators, and computers)</p> <ul style="list-style-type: none"> • GEMS: 3-5 Space Science Sequence • TG: Ses 1.1-1.3 (pp 28-69), Ses 1.6-1.7 (pp 104-135) • Ses 2.2-2.4 (pp 182-245), Ses 2.6 (pp 260-281) • Ses 3 Pre-Assessment (pp 1-2), Ses 3.1 (pp 286-299) • Ses 3.3-3.4 (pp 312-335), Ses 3 Post Assessment (pp 1-2) • Ses 4 Pre-Assessment (pp 1-2), Ses 4.1-4.5 (pp 340-423) • Ses 4 Post Assessment (pp 1-2) • Animal Studies • TG: L02-15 (pp11-164)

		<ul style="list-style-type: none"> • Building Blocks of Science: Measure It! • TG: L01-05 (pp 11-47) • Building Blocks of Science: Understanding Cells and DNA • TG: Act 02-03 (pp 27-50), Act 05-06 (pp 65-79) • Ecosystems • TG: L02-12 (pp13-124), L14 (pp133-144) • Experiments with Plants • RB: (pp07-10, 30-33, 50-53, and 57-59) • TG: L01-08 (pp9-74), L09.Exts (p78), L10-12 (pp81-100), L14 (pp105-114) • L15.Exts (p117), L16 (pp123-128) • Electric Circuits • RB: (pp07-21, 24-44, and 47-61) • TG: L01-17 (pp3-86) • Land and Water • RB: (pp32-35) • TG: L01-16 (pp3-182) • Motion and Design • TG: L02-04 (pp15-46), L06 (pp57-64), L08-09 (pp73-90) • L11-16 (pp101-152) • GEMS: Oobleck: What Do Scientists Do? • TG: Ses01-04 (pp4-18), Exts (p19) • Plant Growth and Development • TG: L01-16 (pp3-98), App-A (pp101-103) • GEMS: Stories in Stone • TG: Ses01-08 (pp15-113)
STANDARD	CO.2.	Physical Science: Students know and understand common properties, forms, and changes in matter and energy. (Focus: Physics and Chemistry)
STRAND/BENCHMARK	2.1.	<p>Objects have physical properties that can be measured (for example: length, mass, volume and temperature)</p> <ul style="list-style-type: none"> • Ecosystems • TG: L11 (pp111-116) • Electric Circuits • RB: (pp34-38) • Land and Water • TG: L05.Exts (p56) • Motion and Design • TG: L04 (pp35-46)
STRAND/BENCHMARK	2.2.	<p>Measurable physical properties can be compared before and after effecting a change to verify a change has occurred and used to predict its outcome in similar circumstances.</p> <ul style="list-style-type: none"> • Ecosystems • TG: L13.Exts (p127)
STRAND/BENCHMARK	2.4.	<p>Matter exists in physical states (solid, liquid, gas) and can change from one state to another</p> <ul style="list-style-type: none"> • Land and Water • TG: L02.Exts (p19) • GEMS: Oobleck: What Do Scientists Do? • TG: Ses01 (pp4-8)
STRAND/BENCHMARK	2.5.	<p>There are different types and sources of energy (for example: light, heat, motion)</p> <ul style="list-style-type: none"> • Electric Circuits • TG: L01-17 (pp3-86)

		<ul style="list-style-type: none"> • Motion and Design • TG: L06 (pp57-64)
STRAND/BENCHMARK	2.7.	<p>There are different types of forces (for example: gravity and magnetism)</p> <ul style="list-style-type: none"> • Electric Circuits • TG: L02 (pp7-14), L08 (pp45-48) • Motion and Design • TG: L03.Exts (pp29-30)
STRAND/BENCHMARK	2.8.	<p>Changes in speed or direction of motion are caused by forces</p> <ul style="list-style-type: none"> • Land and Water • TG: L07 (pp75-84), L13 (pp143-152) • Motion and Design • TG: L03-05 (pp25-56), L07-09 (pp65-90), L15-16 (pp139-152)
STANDARD	CO.3.	<p>Life Science: Students know and understand the characteristics and structure of living things, the processes of life, and how living things interact with each other and their environment. (Focus: Biology-- Anatomy, Physiology, Botany, Zoology, Ecology)</p>
STRAND/BENCHMARK	3.1.	<p>Each plant or animal has different structures and behaviors that serve different functions in growth, survival, and reproduction</p> <ul style="list-style-type: none"> • Animal Studies • RB: (pp06-11, 16-19, 30-32, and 45-49) • TG: L01-04 (pp3-48), L06-16 (pp65-168) • Ecosystems • RB: (pp11-13) • Experiments with Plants • RB: (pp07-13, 20-21, and 26-33) • TG: L04 (pp39-50), L07 (pp65-70), L15.Exts (p117) • Motion and Design • RB: (pp14-17)
STRAND/BENCHMARK	3.2.	<p>Green plants need energy from sunlight and various raw materials to live, and animals consume plants and other organisms to live</p> <ul style="list-style-type: none"> • Animal Studies • RB: (pp09-11) • Ecosystems • RB: (pp14-16) • TG: L03-04 (pp25-52), L07 (pp75-82), L12 (pp117-124)
STRAND/BENCHMARK	3.3.	<p>Human body systems have basic structures, functions and needs (for example: digestive, respiratory, circulatory, skeletal, muscular)</p> <ul style="list-style-type: none"> • Animal Studies • TG: L13 (pp135-142) • Building Blocks of Science: Understanding Cells and DNA • TG: Act 01 (pp 21-26) • Electric Circuits • RB: (pp53-55)
STRAND/BENCHMARK	3.4.	<p>There is interaction and interdependence between and among nonliving and living components of ecosystems (for example: food webs, symbiotic and parasitic relationships, dependence on rainfall, pollination)</p> <ul style="list-style-type: none"> • Animal Studies • TG: L01-17 (pp3-172) • Ecosystems

		<ul style="list-style-type: none"> • RB: (pp11-23 and 49-51) • TG: L01-07 (pp3-82), L12 (pp117-124), L17 (pp169-171) • Experiments with Plants • RB: (pp30-33) • TG: L06 (pp57-70) • Plant Growth and Development • TG: L11 (pp61-66), L14.Exts (pp86-87)
STRAND/BENCHMARK	3.5.	<p>Life cycles vary from organism to organism (for example: frog, chicken, butterfly, radish, bean plant)</p> <ul style="list-style-type: none"> • Animal Studies • RB: (pp06-08, 12-15, and 35-39) • TG: L04.Exts (pp41-42), L07.Exts (pp79-80), L09.Exts (pp101-102) • Ecosystems • RB: (pp31-34) • TG: L03.Exts (p29), L05-06 (pp53-74) • Experiments with Plants • RB: (pp07-10) • TG: L02 (pp21-30), L06.Exts (p62), L08 (pp71-74), L12-13 (pp91-104) • L14.Exts (pp109-110) • Plant Growth and Development • TG: L10 (pp55-60), L12 (pp67-70), L15-16 (pp89-98)
STRAND/BENCHMARK	3.8.	<p>There are similarities and differences between organisms (for example: plants vs. animals, vertebrate vs. invertebrate)</p> <ul style="list-style-type: none"> • Animal Studies • TG: L05.Exts (p58), L09 (pp97-106), L13.Exts (p138), L14.Exts (p145) • L15 (pp157-164), L17 (pp169-172) • Building Blocks of Science: Understanding Cells and DNA • TG: Act 03-04 (pp 35-63) • Ecosystems • TG: L03.Exts (p29), L06 (pp61-74) • Experiments with Plants • TG: L12.Exts (p95) • Plant Growth and Development • TG: L09.Exts (p50)
STANDARD	CO.4.	<p>Earth and Space Science: Students know and understand the processes and interactions of Earth's systems and the structure and dynamics of Earth and other objects in space. (Focus: Geology, Meteorology, Astronomy, Oceanography)</p>
STRAND/BENCHMARK	4.2.	<p>Natural processes change Earth's surface (for example: weathering, erosion, mountain building, volcanic activity, earthquakes and floods)</p> <ul style="list-style-type: none"> • Land and Water • RB: (pp10-14 and 36-38) • TG: L03-07 (pp29-84), L09-15 (pp99-172) • GEMS: Stories in Stone • TG: Ses05 (pp65-73)
STRAND/BENCHMARK	4.3.	<p>Many of the Earth's resources can be conserved, recycled and depleted</p> <ul style="list-style-type: none"> • Ecosystems • RB: (pp45-48 and 57-59) • Land and Water • RB: (pp36-38) • TG: L14-15 (pp153-172)

STRAND/BENCHMARK	4.5.	Most of the Earth's surface is covered by water, that most of the water is salt water in the oceans, and that fresh water is found in rivers, lakes, underground sources and glaciers <ul style="list-style-type: none"> • Land and Water • RB: (pp21-29) • TG: L01 (pp3-10)
STRAND/BENCHMARK	4.6.	Water exists on Earth in different states (solid, liquid, gas) and changes from one state to another (for example: evaporation, condensation and precipitation) <ul style="list-style-type: none"> • Ecosystems • TG: L11.Exts (p114) • Land and Water • RB: (pp21-25) • TG: L01-02 (pp3-28)
STRAND/BENCHMARK	4.7.	There are basic components of the solar system (for example: Sun, planets, moons) <ul style="list-style-type: none"> • GEMS: 3-5 Space Science Sequence • TG: Ses 1 Pre-Assessment (p 1), Ses 1 Post Assessment (pp 1-2) • Ses 1.2 (pp 46-55), Ses 1.4-1.9 (pp 70-167), Ses 3.1-.3 (pp 286-323)
STRAND/BENCHMARK	4.8.	The Earth and Sun provide a diversity of resources (for example: soils, fuels, minerals, medicines and food) <ul style="list-style-type: none"> • GEMS: Stories in Stone • TG: Ses03 (pp33-45), Ses08 (pp103-113)
STRAND/BENCHMARK	4.9.	The rotation of the Earth on its axis, in relation to the Sun, produces the day-and-night cycle and the orbit of the Earth around the Sun completes one year <ul style="list-style-type: none"> • GEMS: 3-5 Space Science Sequence • TG: Ses 3 Pre-Assessment (pp 1-2), Ses 3 Post Assessment (pp 1-2) • Ses 3.1-3.4 (pp 286-335), Ses 4.1-4.5 (pp 340-423)
STANDARD	CO.5.	Students understand that the nature of science involves a particular way of building knowledge and making meaning of the natural world.
STRAND/BENCHMARK	5.1.	When a science experiment is repeated with the same conditions, the experiment generally works the same way <ul style="list-style-type: none"> • Building Blocks of Science: Measure It! • TG: L03 (pp 23-38), Ext 05 (pp 46) • Experiments with Plants • TG: L14.Exts (pp109-110)
STRAND/BENCHMARK	5.2.	Models are used to represent events and objects (for example: comparing a map of the school to the actual school; a model of the Earth to the Earth itself) <ul style="list-style-type: none"> • GEMS: 3-5 Space Science Sequence • TG: Ses 1.1-1.9 (pp 28-167), Ses 2.1-2.6 (pp 172-281) • Ses 3 Reading (pp 1-2), Ses 3.1-3.4 (pp 286-335), Ses 4.1-4.5 (pp 340-423) • Building Blocks of Science: Measure It! • TG: L02-05 (pp 17--47) • Building Blocks of Science: Understanding Cells and DNA • TG: Act 04 (pp 51-63), Act 06 (pp 75-79) • Ecosystems • TG: L02-07 (pp13-82), L10 (pp99-110), L13 (pp125-132) • Electric Circuits • TG: L02-16 (pp7-84)

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| | <ul style="list-style-type: none">• Experiments with Plants• TG: L06.Exts (p62)• Land and Water• TG: L02-04 (pp11-50), L09-12 (pp99-142), L15.Exts (p167)• L16 (pp173-182)• Plant Growth and Development• TG: L02.Exts (p11), L13-14 (pp71-88)• GEMS: Stories in Stone• TG: Ses03 (pp33-45) |
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Grades 6-8 Science
Colorado Content Standards

STANDARD	CO.1	Students apply the processes of scientific investigation and design, conduct, communicate about, and evaluate such investigations.
STRAND/BENCHMARK	1.1.	<p>Ask questions and state hypotheses that lead to different types of scientific investigations (for example: experimentation, collecting specimens, constructing models, researching scientific literature)</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L13-14 (pp154-169), L20 (pp224-231), L22-23 (pp240-263) • TG: L13-14 (pp177-196), L20 (pp279-292), L22-23 (pp303-328) • Earth in Space • SG: L01 (pp2-11), L21 (pp334-339) • TG: L01 (pp3-10), L21 (pp309-310)
STRAND/BENCHMARK	1.2.	<p>Use appropriate tools, technologies and metric measurements to gather and organize data and report results</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L01-25 (pp2-282) • TG: L01-25 (pp3-372) • Energy, Machines, and Motion • SG: L01-13 (pp2-129), L15-16 (pp140-161), L18-21 (pp174-225) • TG: L01-13 (pp3-166), L15-16 (pp177-202), L18-21 (pp217-246) • GEMS: Earth, Moon, and Stars • TG: Act01-06 (pp3-52) • Earth in Space • SG: L01-22 (pp2-343) • TG: L01-22 (pp3-326) • Human Body Systems • SG: L11-23 (pp90-195) • TG: L01-07 (pp3-80), L09-23 (pp103-276) • GEMS: Invisible Universe • TG: Act01-05 (pp15-91) • GEMS: Life Through Time • TG: Ses01-07 (pp13-269) • Organisms-From Macro to Micro • SG: L02-20 (pp12-243) • TG: L02-20 (pp15-350) • Properties of Matter • SG: L01-26 (pp2-235) • TG: L01-26 (pp3-332) • GEMS: Plate Tectonics • TG: Ses01-08 (pp21-129)
STRAND/BENCHMARK	1.3.	<p>Interpret and evaluate data in order to formulate logical conclusions</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L03 (pp26-41), L06 (pp68-79), L08 (pp96-101), L12-13 (pp134-163) • L15 (pp170-189), L17 (pp194-197), L25 (pp274-282) • TG: L01.Exts (pp10-11), L03 (pp27-44), L06 (pp69-82), L08 (pp103-126) • L12-13 (pp163-186), L15 (pp197-218), L17 (pp233-256), L25 (pp347-372) • Energy, Machines, and Motion • SG: L07 (pp62-71), L10 (pp92-97), L13 (pp120-129), L15 (pp140-147) • TG: L04 (pp37-46), L07 (pp75-84), L08.Exts (pp92-93), L10 (pp107-130) • TG: L13 (pp157-166), L15-16 (pp177-202) • GEMS: Earth, Moon, and Stars

		<ul style="list-style-type: none"> • TG: Act01-06 (pp3-52) • Earth in Space • SG: L03 (pp22-41), L07-09 (pp88-127), L14 (pp200-215), L16 (pp244-265) • L22 (pp340-343) • TG: L03 (pp21-36), L07-09 (pp83-146), L14 (pp209-220), L16 (pp245-268) • L22 (pp311-326) • Human Body Systems • SG: L21 (pp174-181) • TG: L09 (pp103-112), L21 (pp245-252) • GEMS: Invisible Universe • TG: Act01-05 (pp15-91) • GEMS: Life Through Time • TG: Ses01-07 (pp13-269) • Properties of Matter • SG: L03-04 (pp24-37), L08-09 (pp74-83), L13-14 (pp112-121) • L17 (pp140-149), L19 (pp162-167), L23-24 (pp208-223), L26 (pp230-235) • TG: L03-04 (pp27-48), L08-09 (pp91-112), L13-14 (pp143-160) • L17 (pp179-192), L19 (pp209-226), L23-24 (pp275-302), L26 (pp313-332) • GEMS: Plate Tectonics • TG: Ses01-08 (pp21-129)
STRAND/BENCHMARK	1.4.	<p>Demonstrate that scientific ideas are used to explain previous observations and to predict future events (for example: plate tectonics and future earthquake activity)</p> <ul style="list-style-type: none"> • GEMS: Life Through Time • TG: Ses01-07 (pp13-269) • Properties of Matter • TG: L01.Exts (p9) • GEMS: Plate Tectonics • TG: Ses01-08 (pp21-129)
STRAND/BENCHMARK	1.5.	<p>Identify and evaluate alternative explanations and procedures</p> <ul style="list-style-type: none"> • Catastrophic Events • TG: L23.Exts (pp325-326) • Energy, Machines, and Motion • TG: L11 (pp131-146) • Earth in Space • SG: L21 (pp334-339) • TG: L20.Exts (p297), L21 (pp309-310) • Human Body Systems • SG: L10 (pp76-89) • TG: L10 (pp113-130)
STRAND/BENCHMARK	1.6.	<p>Communicate results of their investigations in appropriate ways (for example: written reports, graphic displays, oral presentations)</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L01-25 (pp2-282) • TG: L01-25 (pp3-372) • Energy, Machines, and Motion • SG: L12 (pp108-119), L17 (pp164-173), L22 (pp226-236) • TG: L04.Exts (pp41-42), L06 (pp59-74), L08.Exts (pp92-93), L12-13 (pp147-166), L17 (pp203-216), L22 (pp247-254) • Earth in Space • SG: L01 (pp2-11), L05 (pp62-73), L09-11 (pp122-159), L14 (pp200-215) • L18-19 (pp290-323), L21-22 (pp334- -343)

		<ul style="list-style-type: none"> • TG: L01 (pp3-10), L02.Exts (pp18-19), L05 (pp53-72), L09-11 (pp121-180) • L13-14 (pp197-220), L18-19 (pp277-292), L20.Exts (p297) • L21-22 (pp309-326) • Human Body Systems • SG: L09 (pp68-75) • TG: L04.Exts (p35), L05.Exts (p52), L09 (pp103-112), L10.Exts (p122) • L11.Exts (p135), L13.Exts (p158), L14.Exts (p165), L15.Exts (p178) • L16.Exts (p188), L18.Exts (pp215-216), L19.Exts (p225), L20.Exts (p239) • L22.Exts (p258) • Organisms-From Macro to Micro • SG: L02-10 (pp12-131), L16-17 (pp188-203) • TG: L02-11 (pp15-200), L13 (pp219-236), L14.Exts (p247), L15.Exts (p260) • L16-17 (pp267-292), L18.Exts (pp299-300), L19.Exts (pp317-318) • Properties of Matter • SG: L01-26 (pp2-235) • TG: L01-26 (pp3-332) • GEMS: Plate Tectonics • TG: Ses08 (pp113-129)
STANDARD	CO.2	Physical Science: Students know and understand common properties, forms, and changes in matter and energy. (Focus: Physics and Chemistry)
STRAND/BENCHMARK	2.1.	<p>Physical properties of solids, liquids, gases and the plasma state and their changes can be explained using the particulate nature of matter model</p> <ul style="list-style-type: none"> • Properties of Matter • TG: L02.Exts (p21), L07.Exts (p86), L08.Exts (p96), L12.Exts (p140) • L14.Exts (p157), L15.Exts (p166)
STRAND/BENCHMARK	2.2.	<p>Mixtures of substances can be separated based on their properties (for example: solubilities, boiling points, magnetic properties, densities and specific heat)</p> <ul style="list-style-type: none"> • Properties of Matter • SG: L15 (pp122-129), L17 (pp140-149) • TG: L15 (pp161-168), L17 (pp179-192)
STRAND/BENCHMARK	2.3.	<p>Mass is conserved in a chemical or physical change</p> <ul style="list-style-type: none"> • Properties of Matter • SG: L08 (pp74-77), L14 (pp116-121), L25 (pp224-229) • TG: L08 (pp91-100), L14 (pp153-160), L25 (pp303-312)
STRAND/BENCHMARK	2.4.	<p>Mass and weight can be distinguished</p> <ul style="list-style-type: none"> • Energy, Machines, and Motion • SG: L05-06 (pp36-61) • TG: L05-06 (pp47-74), L07.Exts (p83), L18.Exts (p224), L21.Exts (p245) • Earth in Space • SG: L14-15 (pp200-243) • TG: L14-15 (pp209-244) • Properties of Matter • SG: L01-02 (pp2-23), L04 (pp30-37), L08-09 (pp74-83), L14 (pp116-121) • L25-26 (pp224-235) • TG: L01-02 (pp3-26), L04 (pp39-48), L08-09 (pp91-112), L14 (pp153-160) • L25-26 (pp303-332)
STRAND/BENCHMARK	2.5.	<p>All matter is made up of atoms that are comprised of protons, neutrons and electrons and when a substance is made up of only one type of atom it is an element</p> <ul style="list-style-type: none"> • Properties of Matter

		<ul style="list-style-type: none"> • SG: L20-22 (pp170-207) • TG: L20-22 (pp227-274)
STRAND/BENCHMARK	2.6.	<p>When two or more elements are combined a compound is formed which is made up of molecules</p> <ul style="list-style-type: none"> • Properties of Matter • SG: L20-22 (pp170-207) • TG: L20-22 (pp227-274), L23.Exts (p284)
STRAND/BENCHMARK	2.7.	<p>Quantities (for example: time, distance, mass, force) that characterize moving objects and their interactions within a system (for example, force, speed, velocity, potential energy, kinetic energy) can be described, measured and calculated</p> <ul style="list-style-type: none"> • Energy, Machines, and Motion • SG: L18 (pp174-187), L21 (pp214-225) • TG: L18 (pp217-228), L21 (pp239-246)
STRAND/BENCHMARK	2.8.	<p>That there are different forms of energy and those forms of energy can be transferred and stored (for example: kinetic, potential) but total energy is conserved</p> <ul style="list-style-type: none"> • Energy, Machines, and Motion • SG: L02-04 (pp12-35), L09-10 (pp82-97), L19-20 (pp188-213) • TG: L01-04 (pp3-46), L09 (pp99-106), L19-21 (pp229-246)
STRAND/BENCHMARK	2.9.	<p>Electric circuits provide a means of transferring electrical energy when heat, light, sound, magnetic effects and chemical changes are produced</p> <ul style="list-style-type: none"> • Properties of Matter • SG: L20 (pp170-185), L24 (pp218-223) • TG: L24 (pp295-302)
STRAND/BENCHMARK	2.10.	<p>White light is made up of different colors that correspond to different wavelengths</p> <ul style="list-style-type: none"> • Energy, Machines, and Motion • SG: L19 (pp188-199) • TG: L19 (pp229-234) • Earth in Space • SG: L07 (pp88-101) • TG: L07 (pp83-96) • GEMS: Invisible Universe • TG: Act01-03 (pp15-57), Act05 (pp78-91)
STANDARD	CO.3	<p>Life Science: Students know and understand the characteristics and structure of living things, the processes of life, and how living things interact with each other and their environment. (Focus: Biology-- Anatomy, Physiology, Botany, Zoology, Ecology)</p>
STRAND/BENCHMARK	3.1.	<p>Classification schemes can be used to understand the structure of organisms</p> <ul style="list-style-type: none"> • GEMS: Life Through Time • TG: Ses01-06 (pp13-234) • Organisms-From Macro to Micro • SG: L01 (pp2-11), SG: L20 (pp236-243) • TG: L01 (pp3-14), L20 (pp331-350)
STRAND/BENCHMARK	3.2.	<p>Human body systems have specific functions and interaction (for example: circulatory and respiratory, muscular and skeletal)</p> <ul style="list-style-type: none"> • Human Body Systems

		<ul style="list-style-type: none"> • SG: L01 (pp2-7), L14-23 (pp120-195) • TG: L01-23 (pp3-276) • Organisms-From Macro to Micro • TG: L02.Exts (p25), L07.Exts (pp118-119)
STRAND/BENCHMARK	3.4.	<p>Multicellular organisms have a variety of ways to get food and other matter to their cells (for example: digestion, transport of nutrients by circulatory system)</p> <ul style="list-style-type: none"> • Human Body Systems • SG: L02 (pp8-13), L04-08 (pp24-65), L14-17 (pp120-147), L22 (pp182-189) • TG: L01-02 (pp3-18), L04-05 (pp29-56), L07 (pp69-80), L10 (pp113-130) • L11.Exts (p135), L12-17 (pp137-208), L22 (pp253-276) • Organisms-From Macro to Micro • SG: L16 (pp188-193) • TG: L16 (pp267-280)
STRAND/BENCHMARK	3.5.	<p>Photosynthesis and cellular respiration are basic processes of life (for example, set up a terrarium or aquarium and make changes such as blocking out light)</p> <ul style="list-style-type: none"> • Human Body Systems • SG: L12-13 (pp98-119) • TG: L12-13 (pp137-158) • Organisms-From Macro to Micro • SG: L07 (pp82-93), L10 (pp120-131) • TG: L07 (pp105-130), L10 (pp167-184)
STRAND/BENCHMARK	3.6.	<p>Different types of cells have basic structures, components and functions (for example: cell membrane, nucleus, cytoplasm, chloroplast, single-celled organisms in pond water, Elodea, onion cell, human cheek cell)</p> <ul style="list-style-type: none"> • Human Body Systems • SG: L06 (pp40-49) • TG: L01 (pp3-10) • Organisms-From Macro to Micro • SG: L07-08 (pp82-105) • TG: L07-08 (pp105-150)
STRAND/BENCHMARK	3.7.	<p>There are non-communicable conditions and communicable diseases (for example: heart disease and chicken pox)</p> <ul style="list-style-type: none"> • Human Body Systems • SG: L09 (pp68-75), L12 (pp98-109), L16 (pp138-143) • TG: L05.Exts (p52), L08.Exts (p85), L09 (pp103-112) • L12.Exts (pp147-148), L16 (pp183-190), L19.Exts (p225) • Organisms-From Macro to Micro • SG: L15 (pp180-187) • TG: L03.Exts (p41), L07.Exts (pp118-119), L11.Exts (pp192-193) • L15 (pp253-266)
STRAND/BENCHMARK	3.8.	<p>There is a flow of energy and matter in an ecosystem (for example: as modeled in a food chain, web, pyramid, decomposition)</p> <ul style="list-style-type: none"> • Earth in Space • TG: L07.Exts (pp92-93) • Human Body Systems • SG: L13 (pp110-119) • TG: L13 (pp153-158) • Organisms-From Macro to Micro • SG: L14 (pp172-179) • TG: L14 (pp237-252)

STRAND/BENCHMARK	3.9.	<p>Asexual and sexual cell reproduction/division can be differentiated</p> <ul style="list-style-type: none"> • Organisms-From Macro to Micro • SG: L03 (pp28-37), L09 (pp106-119), L12 (pp146-155), L14 (pp172-179) • L17-18 (pp194-215) • TG: L03 (pp33-48), L09 (pp151-166), L12 (pp201-218), L14 (pp237-252) • L17 (pp281-292)
STRAND/BENCHMARK	3.10.	<p>Chromosomes and genes play a role in heredity (for example, genes control traits, while chromosomes are made up of many genes)</p> <ul style="list-style-type: none"> • Organisms-From Macro to Micro • SG: L08 (pp96-105), L19 (pp216-235) • TG: L08 (pp131-150), L19 (pp303-330)
STRAND/BENCHMARK	3.13.	<p>Individual organisms with certain traits are more likely than others to survive and have offspring.</p> <ul style="list-style-type: none"> • GEMS: Life Through Time • TG: Ses02-07 (pp37-269) • Organisms-From Macro to Micro • SG: L13 (pp158-171) • TG: L13 (pp219-236), L19.Exts (pp317-318)
STANDARD	CO.4	<p>Earth and Space Science: Students know and understand the processes and interactions of Earth's systems and the structure and dynamics of Earth and other objects in space. (Focus: Geology, Meteorology, Astronomy, Oceanography)</p>
STRAND/BENCHMARK	4.1.	<p>Inter-relationships exist between minerals, rocks, and soils</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L21-22 (pp232-251) • TG: L21-22 (pp293-316), L23.Exts (pp325-326) • Earth in Space • TG: L12.Exts (pp192-193), L18.Exts (pp285-286) • Organisms-From Macro to Micro • TG: L14.Exts (p247)
STRAND/BENCHMARK	4.2.	<p>Humans use renewable and nonrenewable resources (for example: forests and fossil fuels)</p> <ul style="list-style-type: none"> • Energy, Machines, and Motion • SG: L04 (pp26-35), L09 (pp82-91)
STRAND/BENCHMARK	4.3.	<p>Natural processes shape the Earth's surface (for example: landslides, weathering, erosion, mountain building, volcanic activity)</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L09 (pp102-112), L19 (pp210-223), L23-25 (pp252-282) • TG: L09 (pp127-142), L18.Exts (pp262-263), L19 (pp265-278) • L23-25 (pp217-372) • Earth in Space • SG: L13 (pp174-199) • TG: L13 (pp197-208) • GEMS: Plate Tectonics • TG: Ses04-05 (pp57-77)
STRAND/BENCHMARK	4.4.	<p>Major geological events such as earthquakes, volcanic eruptions, and mountain building are associated with plate boundaries and attributed to plate motions</p> <ul style="list-style-type: none"> • Catastrophic Events

		<ul style="list-style-type: none"> • SG: L10 (pp114-119), L13-16 (pp154-193), L18 (pp200-209) • TG: L10 (pp143-148), L13-16 (pp177-232), L18 (pp257-264) • L19.Exts (pp274-275) • GEMS: Plate Tectonics • TG: Ses02 (pp31-41), Ses05-06 (pp69-91)
STRAND/BENCHMARK	4.6.	<p>Successive layers of sedimentary rock and the fossils contained within them can be used to confirm age, geologic time, history, and changing life forms of the Earth; this evidence is affected by the folding, breaking and uplifting of layers</p> <ul style="list-style-type: none"> • Earth in Space • SG: L18 (pp290-311) • TG: L18 (pp277-286) • GEMS: Plate Tectonics • TG: Ses01 (pp21-29), Ses06 (pp79-91)
STRAND/BENCHMARK	4.7.	<p>The atmosphere has basic composition, properties, and structure (for example: the range and distribution of temperature and pressure in the troposphere and stratosphere)</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L01-05 (pp2-67) • TG: L01-05 (pp3-68), L06.Exts (pp77-78) • Earth in Space • SG: L17 (pp268-289), L19 (pp312-323) • TG: L17 (pp269-276), L19 (pp287-292) • Properties of Matter • SG: L04 (pp30-37) • TG: L05.Exts (p56)
STRAND/BENCHMARK	4.11.	<p>The world's water is distributed and circulated through oceans, glaciers, rivers, groundwater, and atmosphere</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L06 (pp68-79) • TG: L06 (pp69-82) • Properties of Matter • SG: L01 (pp2-13)
STRAND/BENCHMARK	4.12.	<p>The ocean has a certain composition and physical characteristics (for example: currents, waves, features of the ocean floor, salinity, and tides)</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L07 (pp80-95) • TG: L07 (pp83-102), L14.Exts (pp193-194) • Energy, Machines, and Motion • TG: L15.Exts (pp180-181) • Properties of Matter • TG: L05.Exts (p56)
STRAND/BENCHMARK	4.13.	<p>There are characteristics (components, composition, size) and scientific theories of origin of the solar system</p> <ul style="list-style-type: none"> • Earth in Space • SG: L02 (pp12-21), L10 (pp130-145), L17-22 (pp268-343) • TG: L01 (pp3-10), L08 (pp97-120), L12 (pp181-196), L17-22 (pp269-326) • Properties of Matter • SG: L01 (pp2-13) • TG: L01.Exts (p9)

STRAND/BENCHMARK	4.14.	<p>Relative motion, axes tilt and positions of the Sun, Earth, and Moon have observable effects (for example: seasons, eclipses, moon phases)</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L03 (pp26-41), L07 (pp80-95) • TG: L01.Exts (pp10-11), L03 (pp27-44), L07 (pp83-102) • GEMS: Earth, Moon, and Stars • TG: Act03-06 (pp17-52) • Earth in Space • SG: L01-09 (pp2-127), L16 (pp244-265) • TG: L01-09 (pp3-146), L16 (pp245-268) • GEMS: Invisible Universe • TG: Act04 (pp58-77) • Organisms-From Macro to Micro • TG: L10.Exts (pp175-176)
STRAND/BENCHMARK	4.15.	<p>The universe consists of many billions of galaxies (each containing many billions of stars) and that vast distances separate these galaxies and stars from one another and from the Earth</p> <ul style="list-style-type: none"> • GEMS: Invisible Universe • TG: Act04-05 (pp58-91)
STRAND/BENCHMARK	4.16.	<p>Technology is needed to explore space (for example: telescopes, spectrosopes, spacecraft, life support systems)</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L02 (pp12-25) • TG: L02 (pp17-26) • Earth in Space • SG: L08 (pp102-121), L16 (pp244-265) • TG: L05.Exts (p64), L07.Exts (pp92-93), L08 (pp97-120), L16 (pp245-268)
STANDARD	CO.5	<p>Students understand that the nature of science involves a particular way of building knowledge and making meaning of the natural world.</p>
STRAND/BENCHMARK	5.1.	<p>A controlled experiment must have comparable results when repeated</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L12 (pp134-153), L16-17 (pp190-197), L19-20 (pp210-231) • L22 (pp240-251), L24-25 (pp264-282) • TG: L12 (pp163-176), L16-17 (pp219-256), L19-20 (pp265-292) • L22 (pp303-316), L24-25 (pp329-372) • Energy, Machines, and Motion • SG: L01-13 (pp2-129), L16 (pp148-161), L18-22 (pp174-236) • TG: L01-13 (pp3-166), L16 (pp185-202), L18-21 (pp217-246) • Earth in Space • SG: L04 (pp42-61), L22 (pp340-343) • TG: L22 (pp311-326) • Human Body Systems • SG: L02-08 (pp8-65), L10-23 (pp76-195) • TG: L02-08 (pp11-102), L10-23 (pp113-276) • Organisms-From Macro to Micro • SG: L02-19 (pp12-235) • TG: L02-19 (pp15-330) • Properties of Matter • SG: L01-26 (pp2-235) • TG: L01-09 (pp3-112), L11-26 (pp125-332)

STRAND/BENCHMARK	5.2.	<p>Scientific knowledge changes as new knowledge is acquired and previous ideas are modified (for example: through space exploration)</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L14 (pp164-169), L21 (pp232-239) • TG: L14 (pp187-196), L21 (pp293-302) • Energy, Machines, and Motion • SG: L02 (pp12-19), L07 (pp62-71), L15 (pp140-147) • GEMS: Earth, Moon, and Stars • TG: Act01 (pp3-8) • Earth in Space • SG: L10 (pp130-145), L20-21 (pp324-339) • TG: L04 (pp37-52), L10 (pp147-158), L20-21 (pp293-310) • Human Body Systems • TG: L01.Exts (p7), L10.Exts (p122), L18.Exts (pp215-216) • L19.Exts (p225) • Organisms-From Macro to Micro • SG: L19 (pp216-235) • Properties of Matter • SG: L09 (pp78-83), L11 (pp98-105), L15 (pp122-129), L19 (pp162-167) • L21-23 (pp186-217), L25 (pp224-229)
STRAND/BENCHMARK	5.3.	<p>Contributions to the advancement of science have been made by people in different cultures and at different times in history</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L15 (pp170-189) • TG: L15 (pp197-218) • Energy, Machines, and Motion • SG: L16-17 (pp148-173) • Earth in Space • SG: L03 (pp22-41), L10 (pp130-145), L21 (pp334-339) • TG: L01 (pp3-10), L02.Exts (pp18-19), L03 (pp21-36), L08 (pp97-120) • L10 (pp147-158), L17.Exts (pp275-276), L21 (pp309-310) • Human Body Systems • TG: L01.Exts (p7), L22.Exts (p258) • Properties of Matter • SG: L02 (pp14-23), L07 (pp64-73), L10-11 (pp86-105), L25 (pp224-229)
STRAND/BENCHMARK	5.4.	<p>Models can be used to predict change (for example: computer simulation, video sequence, stream table)</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L02 (pp12-25), L06 (pp68-79), L11-12 (pp120-153), L15 (pp170-189) • L17 (pp194-197), L19-20 (pp210-231), L24-25 (pp264-282) • TG: L02 (pp17-26), L06 (pp69-82), L11-12 (pp149-176) • L14.Exts (pp193-194), L15 (pp197-218), L17 (pp233-256) • L19-20 (pp265-292), L23.Exts (pp325-326), L24-25 (pp329-372) • Energy, Machines, and Motion • SG: L12-13 (pp108-129) • TG: L04 (pp37-46), L12-13 (pp147-166) • GEMS: Earth, Moon, and Stars • TG: Act01 (pp3-8) • Earth in Space • SG: L02-07 (pp12-101), L09 (pp122-127), L11-14 (pp146-215) • L18 (pp290-311) • TG: L01.Exts (p10), L02-07 (pp11-96), L08.Exts (pp108-109)

		<ul style="list-style-type: none"> • L09 (pp121-146), L11-14 (pp159-220), L16.Exts (p256) • L17.Exts (pp275-276), L18 (pp277-286), L20.Exts (p297) • Human Body Systems • SG: L02 (pp8-13), L06-07 (pp40-59), L10 (pp76-89), L12 (pp98-109) • L14 (pp120-129), L16 (pp138-143), L19 (pp160-167) • TG: L02 (pp11-18), L06-07 (pp57-80), L10 (pp113-130), L12 (pp137-152) • L14 (pp159-172), L16 (pp183-190), L19 (pp219-234) • Organisms-From Macro to Micro • SG: L08 (pp96-105), L10 (pp120-131) • TG: L07.Exts (pp118-119), L08 (pp131-150), L10 (pp167-184) • L17.Exts (pp287-288), L18.Exts (pp299-300) • Properties of Matter • TG: L07.Exts (p86), L08.Exts (p96), L12.Exts (p140), L14.Exts (p157) • L15.Exts (p166) • GEMS: Plate Tectonics • TG: Ses01-08 (pp21-129)
STRAND/BENCHMARK	5.5.	<p>There are interrelationships among science, technology and human activity that affect the world</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L09 (pp102-112) • TG: L09 (pp127-142) • Energy, Machines, and Motion • SG: L16 (pp148-161) • TG: L16 (pp185-202) • Earth in Space • SG: L10 (pp130-145), L20-21 (pp324-339) • TG: L10 (pp147-158), L20-21 (pp293-310) • Human Body Systems • TG: L18.Exts (pp215-216), TG: L19.Exts (p225) • Properties of Matter • TG: L21.Exts (p251) • GEMS: Plate Tectonics • TG: Ses01 (pp21-29)

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