

Carolina™ Curriculum Correlation to Alaska



Science Content and Performance Standards Grades 3-8

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Carolina™ Curriculum Correlation to Alaska Content and Performance Standards – Science Grades 3-8

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 Alaska Content and Performance Standards for Science, grades 3–8. 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/MST™) 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.
- 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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Grade 3

| PERFORMANCE / CONTENT STANDARD | AK.A1. | Science as Inquiry and Process (SA1, SA2, SA3) |
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| GRADE LEVEL EXPECTATION | [3] SA1.1. | <p>The student develops an understanding of the processes of science by asking questions, predicting, observing, describing, measuring, classifying, making generalizations, inferring and communicating.</p> <ul style="list-style-type: none"> • All Units |
| GRADE LEVEL EXPECTATION | [3] SA1.2. | <p>The student develops an understanding of the processes of science by observing and describing their world to answer simple questions.</p> <ul style="list-style-type: none"> • All Units |
| GRADE LEVEL EXPECTATION | [3] SA2.1. | <p>The student will demonstrate an understanding of the attitudes and approaches to scientific inquiry by answering, 'how do you know?' questions with reasonable answers.</p> <ul style="list-style-type: none"> • All Units |
| GRADE LEVEL EXPECTATION | [3] SA3.1. | <p>The student demonstrates an understanding that interactions with the environment provide an opportunity for understanding scientific concepts by observing local conditions that determine which plants and/or animals survive. (L)</p> <ul style="list-style-type: none"> • Animal Studies • TG: L11.Exts (p119) • TG: L13.Exts (p138) • TG: L14.Exts (p145) • TG: L16.Exts (p167) • The Life Cycle of Butterflies • TG: L01-16 (pp3-96) • STC Book: Animal Studies: (pp06-11), (pp16-19), (pp30-32), (pp40-42), (pp45-49) • STC Book: Electric Circuits: (pp47-49) • STC Book: Motion and Design: (pp14-17) • STC Book: Plant Growth and Development: (pp26-27), (pp44-45) |
| PERFORMANCE / CONTENT STANDARD | AK.B1. | Concepts of Physical Science (SB1, SB2, SB3, SB4) |
| GRADE LEVEL EXPECTATION | [3] SB1.1. | <p>The student demonstrates an understanding of the structure and properties of matter by classifying matter according to physical properties (i.e., color, size, shape, weight, texture, flexibility).</p> <ul style="list-style-type: none"> • Balancing and Weighing • TG: L12.Exts (p104) • Changes • TG: L01 (pp3-20) • TG: L11 (pp103-110) • Chemical Tests |

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| | | <ul style="list-style-type: none"> • TG: L11.Exts (pp103-104) • TG: L16.Exts (pp152-153) • TG: L17 (pp155-158) • Rocks and Minerals • TG: L01-02 (pp3-18) • Secret Formulas • TG: Ses01-03 (pp15-41) • TG: Ses05-09 (pp53-97) • Soils • TG: L01 (pp3-16) • TG: L03-08 (pp27-86) • STC Book: Rocks and Minerals: (pp13-22), (pp25-27), (pp42-44) |
| GRADE LEVEL EXPECTATION | [3] SB2.1. | <p>The student demonstrates an understanding of how energy can be transformed, transferred, and conserved by classifying materials as insulators or conductors (i.e., fur, metal, wood, plastic) and identifying their applications.</p> <ul style="list-style-type: none"> • Electric Circuits • TG: L02 (pp7-14) • TG: L07 (pp39-44) • TG: L09 (pp49-52) • GEMS Electric Circuits • TG: Ses02-03 (pp35-87) • TG: Ses05 (pp111-119) • STC Book: Electric Circuits: (pp11-21), (pp29-31) |
| GRADE LEVEL EXPECTATION | [3] SB3.1. | <p>The student demonstrates an understanding of the interactions between matter and energy and the effects of these interactions on systems by recognizing that temperature changes cause changes in phases of substances (e.g., ice changing to liquid, water changing to water vapor, and vice versa).</p> <ul style="list-style-type: none"> • Changes • TG: L01-03 (pp3-42) • TG: L06 (pp63-70) • TG: L08.Exts (p82) • TG: L09 (pp85-94) • TG: L13.Exts (p123) • TG: L17 (pp155-158) • Chemical Tests • TG: L08.Exts (p82) • GEMS Electric Circuits • TG: Ses02 (pp35-71) • Land and Water • TG: L02.Exts (p19) |
| GRADE LEVEL EXPECTATION | [3] SB4.2. | <p>The student demonstrates an understanding of motions, forces, their characteristics, relationships, and effects by recognizing that objects can be moved without being touched (e.g., using magnets, falling objects, static electricity).</p> <ul style="list-style-type: none"> • Motion and Design • TG: L03.Exts (pp29-30) • Rocks and Minerals • TG: L11 (pp79-84) • STC Book: Electric Circuits: (pp07-10), (pp60-61) |

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| PERFORMANCE / CONTENT STANDARD | AK.C1. | Concepts of Life Science (SC1, SC2, SC3) |
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| GRADE LEVEL EXPECTATION | [3] SC1.1. | <p>The student demonstrates an understanding of how science explains changes in life forms over time, including genetics, heredity, the process of natural selection and biological evolution by sorting Alaskan plants and/or animals using physical characteristics (e.g., leaves, beaks) (L)</p> <ul style="list-style-type: none"> • Building Blocks of Science: Understanding Cells and DNA • TG: Pre Assessment (pp 17-19) • TG: Ext 05 (p 71) • TG: Act 06 (pp 75-79) • TG: Post Assessment (pp 85-91) • STC Book: Animal Studies: (pp45-49) • STC Book: Plant Growth and Development: (pp34-36) |
| GRADE LEVEL EXPECTATION | [3] SC1.2. | <p>The student demonstrates an understanding of how science explains changes in life forms over time, including genetics, heredity, the process of natural selection and biological evolution by describing how some traits (e.g. claws, teeth, camouflage) of living organisms have helped them survive as a species.</p> <ul style="list-style-type: none"> • STC Book: Animal Studies: (pp45-49) |
| GRADE LEVEL EXPECTATION | [3] SC2.1. | <p>The student demonstrates an understanding of the structure, function, behavior, development, life cycles, and diversity of living organisms by sorting animals and plants into groups based on appearance and behaviors.</p> <ul style="list-style-type: none"> • Aquatic Habitats • TG: Act02-03 (pp25-43) • TG: Act05 (pp61-70) • TG: Exts (pp70-78) • Animal Studies • TG: L01-07 (pp3-86) • TG: L09-10 (pp97-114) • TG: L12-15 (pp123-164) • TG: L16.Exts (p167) • TG: L17 (pp169-172) • Buzzing a Hive • TG: Les01-06 (pp5-66) • TG: Exts (p67) • Building Blocks of Science: Human Bodyworks • TG: Pre Assessment (pp 13-17) • TG: Ext 01 (p 21) • TG: Act 02-04 (pp 25-43) • TG: Act 06-07 (pp 49-58) • TG: Act 09-10 (pp 67-75) • TG: Act 12 (pp 81-84) • TG: Post (pp 85-88) • Building Blocks of Science: Understanding Cells and DNA • TG: Act 01-04 (pp 21-63) • TG: Act 06 (pp 75-79) • Plant Growth and Development • TG: L01.Exts (p6) • TG: L06.Exts (p36) • TG: L08.Exts (p44) • TG: L10.Exts (pp56-57) |

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| | | <ul style="list-style-type: none"> • TG: L11 (pp61-66) • TG: L14.Exts (pp86-87) • Schoolyard Ecology • TG: Act02-05 (pp21-59) • Terrarium Habitats • TG: Act03-05 (pp23-48) • The Life Cycle of Butterflies • TG: L01-16 (pp3-96) • STC Book: Animal Studies: (pp06-08), (pp22-32), (pp35-37), (pp40-42), (pp45-52) • STC Book: Plant Growth and Development: (pp42-43) |
| <p>GRADE LEVEL EXPECTATION</p> | <p>[3] SC2.2.</p> | <p>The student demonstrates an understanding of the structure, function, behavior, development, life cycles, and diversity of living organisms by observing and comparing external features of plants and of animals that may help them grow, survive, and reproduce.</p> <ul style="list-style-type: none"> • Aquatic Habitats • TG: Act02-03 (pp25-43) • TG: Act05 (pp61-70) • TG: Exts (pp70-78) • Animal Studies • TG: L01-07 (pp3-86) • TG: L09-10 (pp97-114) • TG: L12-15 (pp123-164) • TG: L16.Exts (p167) • TG: L17 (pp169-172) • Buzzing a Hive • TG: Les01-06 (pp5-66) • TG: Exts (p67) • Plant Growth and Development • TG: L08.Exts (p44) • TG: L11 (pp61-66) • TG: L14.Exts (pp86-87) • Schoolyard Ecology • TG: Act02-05 (pp21-59) • Terrarium Habitats • TG: Act03-05 (pp23-48) • The Life Cycle of Butterflies • TG: L01-16 (pp3-96) • STC Book: Animal Studies: (pp06-08), (pp22-32), (pp35-37), (pp40-42), (pp45-52) • STC Book: Plant Growth and Development: (pp42-43) |
| <p>GRADE LEVEL EXPECTATION</p> | <p>[3] SC3.1.</p> | <p>The student demonstrates an understanding that all organisms are linked to each other and their physical environments through the transfer and transformation of matter and energy by identifying and sorting examples of living and non-living things in the local environment. (L)</p> <ul style="list-style-type: none"> • Animal Studies • TG: L02 (pp11-20) • Building Blocks of Science: Understanding Cells and DNA • TG: Act 01 (pp 21-26) • On Sandy Shores • TG: Act01 (pp13-25) • Plant Growth and Development • TG: L01 (pp3-8) |

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| | | <ul style="list-style-type: none"> • Soils • TG: L01-10 (pp3-108) • TG: L13 (pp125-138) • The Life Cycle of Butterflies • TG: L10 (pp63-68) |
| GRADE LEVEL EXPECTATION | [3] SC3.2. | <p>The student demonstrates an understanding that all organisms are linked to each other and their physical environments through the transfer and transformation of matter and energy by organizing a simple food chain of familiar plants and animals. (L)</p> <ul style="list-style-type: none"> • Plant Growth and Development • TG: L01 (pp3-8) • STC Book: Plant Growth and Development: (pp48-50) |
| PERFORMANCE / CONTENT STANDARD | AK.D1. | Concepts of Earth Science (SD1, SD2, SD3, SD4) |
| GRADE LEVEL EXPECTATION | [3] SD1.1. | <p>The student demonstrates an understanding of geochemical cycles by recognizing that most rocks are composed of combinations of different substances.</p> <ul style="list-style-type: none"> • Rocks and Minerals • TG: L01-04 (pp3-34) • TG: L16-17 (pp113-128) • STC Book: Land and Water: (pp15-18) • STC Book: Rocks and Minerals: (pp10-12), (pp25-27) |
| GRADE LEVEL EXPECTATION | [3] SD1.2. | <p>The student demonstrates an understanding of geochemical cycles by describing the water cycle to show that water circulates through the crust, oceans, and atmosphere of Earth.</p> <ul style="list-style-type: none"> • Chemical Tests • TG: L05.Exts (p50) • Land and Water • TG: L01-03 (pp3-36) • TG: L06 (pp63-74) • TG: L09.Exts (p103) • TG: L14.Exts (p156) • TG: L15.Exts (p167) |
| GRADE LEVEL EXPECTATION | [3] SD2.1. | <p>The student demonstrates an understanding of the forces that shape Earth by identifying and comparing a variety of Earth's land features (i.e., rivers, deltas, lakes, glaciers, mountains, valleys, and islands).</p> <ul style="list-style-type: none"> • Land and Water • TG: L01-05 (pp3-62) • TG: L09.Exts (p103) • TG: L10-12 (pp109-142) • STC Book: Land and Water: (pp10-14), (pp36-38), (pp41-49) • STC Book: Rocks and Minerals: (pp28-30) |
| GRADE LEVEL EXPECTATION | [3] SD3.1. | <p>The student demonstrates an understanding of cycles influenced by energy from the sun and by Earth's position and motion in our solar system by using recorded</p> |

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| | | <p>weather patterns (e.g., temperature, cloud cover, or precipitation) to make reasonable predictions. (L)</p> <ul style="list-style-type: none"> • Plant Growth and Development • TG: L01 (pp3-8) • Schoolyard Ecology • TG: Act01 (pp7-18) • STC Book: Electric Circuits: (pp17-21) |
| GRADE LEVEL EXPECTATION | [3] SD4.3. | <p>The student demonstrates an understanding of the theories regarding the origin and evolution of the universe by recognizing and using appropriate instruments of magnification (e.g., binoculars and telescopes). (L)</p> <ul style="list-style-type: none"> • Space Science for Grades 3-5 • TG: Ses 1.9 (pp 152-167) • TG: Ses 3 Reading (pp 1-2) • STC Book: Rocks and Minerals: (pp36-41) |
| PERFORMANCE / CONTENT STANDARD | AK.E1. | Science and Technology (SE1, SE2, SE3) |
| GRADE LEVEL EXPECTATION | [3] SE2.1. | <p>The student demonstrates an understanding that solving problems involves different ways of thinking, perspectives, and curiosity by identifying local tools and materials used in everyday life. (L)</p> <ul style="list-style-type: none"> • Aquatic Habitats • TG: Act01-05 (pp13-70) • Animal Studies • TG: L02-10 (pp11-114) • TG: L12-15 (pp123-164) • Bubble Festival • TG: Act01-12 (pp54-124) • Buzzing a Hive • TG: Les01-06 (pp5-66) • Balancing and Weighing • TG: L02-17 (pp9-138) • Building Blocks of Science: Human Bodyworks • TG: Act 03-04 (pp 31-43) • TG: Act 06-12 (pp 49-84) • Building Blocks of Science: Measure It! • TG: L01-05 (pp 11-47) • Building Blocks of Science: Understanding Cells and DNA • TG: Act 02 (pp 27-33) • TG: Act 05-06 (pp 65-79) • Chemical Tests • TG: L01-10 (pp3-100) • TG: L12-16 (pp107-154) • Electric Circuits • TG: L01-17 (pp3-86) • Investigating Artifacts • TG: Ses01-06 (pp7-63) • Involving Dissolving • TG: Act01-04 (pp5-35) • Liquid Explorations • TG: Act01-05 (pp5-49) • Land and Water |

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| | | <ul style="list-style-type: none"> • TG: L02-16 (pp11-182) • Mystery Festival • TG: Ses01-05 (pp21-93) • Motion and Design • TG: L02-03 (pp15-34) • TG: L06 (pp57-64) • TG: L08-09 (pp73-90) • TG: L11-14 (pp101-138) • TG: L16 (pp145-152) • On Sandy Shores • TG: Act01-05 (pp13-108) • Plant Growth and Development • TG: L02-16 (pp9-98) • Rocks and Minerals • TG: L01-16 (pp3-126) • Secret Formulas • TG: Ses01-09 (pp15-97) • Soils • TG: L01.Exts (p12) • TG: L02-03 (pp17-36) • TG: L05-08 (pp45-86) • TG: L10-15 (pp97-158) • Sound • TG: L04.Exts (pp26-27) • Terrarium Habitats • TG: Act01-05 (pp5-48) • The Life Cycle of Butterflies • TG: L01.Exts (p7) • TG: L02-09 (pp11-62) • TG: L11.Exts (pp71-73) • TG: L12 (pp75-80) • TG: L14 (pp85-88) • STC Book: Land and Water: (pp32-35) |
| GRADE LEVEL EXPECTATION | [3] SE3.1. | <p>The student demonstrates an understanding of how scientific discoveries and technological innovations affect our lives and society by listing the positive and negative effects of a single technological development in the local community (e.g., fish trap, fish wheel, four-wheeler, computer). (L)</p> <ul style="list-style-type: none"> • Animal Studies • TG: L08.Exts (p94) • Electric Circuits • TG: L16 (pp81-84) • STC Book: Electric Circuits: (pp17-21), (pp53-55) • STC Book: Land and Water: (pp21-29) • STC Book: Motion and Design: (pp29-36) |
| PERFORMANCE / CONTENT STANDARD | AK.F1. | Cultural, Social, Personal Perspectives, and Science (SF1, SF2, SF3) |
| GRADE LEVEL EXPECTATION | [3] SF1.1- SF3.1. | <p>The student demonstrates an understanding of the dynamic relationships among scientific, cultural, social, and personal perspectives by exploring local or traditional stories that explain a natural event. (L) Cross referenced with SA3.1</p> <ul style="list-style-type: none"> • Investigating Artifacts • TG: Ses03-04 (pp25-41) |

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| | | <ul style="list-style-type: none"> STC Book: Electric Circuits: (pp07-10) |
| PERFORMANCE / CONTENT STANDARD | AK.G1. | History and Nature of Science (SG1, SG2, SG3, SG4) |
| GRADE LEVEL EXPECTATION | [3] SC2.1. | <p>The student demonstrates an understanding of the bases of the advancement of scientific knowledge by comparing the results of multiple observations of a single local event. (L)</p> <ul style="list-style-type: none"> Building Blocks of Science: Human Bodyworks TG: Ext 05 (p 46) Building Blocks of Science: Measure It! TG: L01 (pp 11-16) TG: L03 (pp 23-38) Sound TG: L16 (pp113-116) |
| GRADE LEVEL EXPECTATION | [3] SC4.1. | <p>The student demonstrates an understanding that advancements in science depend on curiosity, creativity, imagination, and a broad knowledge base by asking questions about the natural world.</p> <ul style="list-style-type: none"> Animal Studies TG: L07 (pp75 - 86) TG: L12 (pp123-134) Bubble Festival TG: Act01-04 (pp54-79) TG: Act06-12 (pp86-124) Balancing and Weighing TG: L01-17 (pp3-138) Building Blocks of Science: Human Bodyworks TG: Act 01 (pp 19-24) TG: Act 03 (pp 31-35) TG: Ext 04 (p 41) TG: Act 05-12 (pp 45-84) 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) Changes TG: L01-17 (pp3-158) Chemical Tests TG: L01-16 (pp3-154) Electric Circuits TG: L01 (pp3-6) TG: L17 (pp85-86) Motion and Design TG: L15.Exts (p143) Plant Growth and Development TG: L02-17 (pp9-100) Rocks and Minerals TG: L01-16 (pp3-126) Soils TG: L17 (pp169-172) Sound TG: L01-17 (pp3-118) Space Science for Grades 3-5 TG: Ses 3.1 (pp 286-299) |

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| | | <ul style="list-style-type: none"> STC Book: Plant Growth and Development: (pp31-36) |
| PERFORMANCE / CONTENT STANDARD | AK.SA. | Science as Inquiry and Process: A student should understand and be able to apply the processes and applications of scientific inquiry. A student who meets the content standard should: |
| GRADE LEVEL EXPECTATION | SA1. | <p>Develop an understanding of the processes of science used to investigate problems, design and conduct repeatable scientific investigations, and defend scientific arguments.</p> <ul style="list-style-type: none"> All Units |
| GRADE LEVEL EXPECTATION | SA2. | <p>Develop an understanding that the processes of science require integrity, logical reasoning, skepticism, openness, communication, and peer review.</p> <ul style="list-style-type: none"> Animal Studies TG: L16 (pp165-168) |
| GRADE LEVEL EXPECTATION | SA3. | <p>Develop an understanding that culture, local knowledge, history, and interaction with the environment contribute to the development of scientific knowledge, and local applications provide opportunity for understanding scientific concepts and global issues.</p> <ul style="list-style-type: none"> Investigating Artifacts TG: Ses03-04 (pp25-41) |
| PERFORMANCE / CONTENT STANDARD | AK.SB. | Concepts of Physical Science: A student should understand and be able to apply the concepts, models, theories, universal principles, and facts that explain the physical world. A student who meets the content standard should: |
| GRADE LEVEL EXPECTATION | SB1. | <p>Develop an understanding of the characteristic properties of matter and the relationship of these properties to their structure and behavior.</p> <ul style="list-style-type: none"> Bubble Festival TG: Act01-05 (pp54-85) TG: Act09-12 (pp102-124) Balancing and Weighing TG: L12 (pp101-106) Changes TG: L01 (pp3-20) TG: L11 (pp103-110) Chemical Tests TG: L11.Exts (pp103-104) TG: L16.Exts (pp152-153) TG: L17 (pp155-158) Rocks and Minerals TG: L01-02 (pp3-18) TG: L13 (pp91-94) Secret Formulas TG: Ses01-03 (pp15-41) TG: Ses05-09 (pp53-97) Soils TG: L01 (pp3-16) TG: L03-08 (pp27-86) Sound |

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| | | <ul style="list-style-type: none"> • TG: L12.Exts (p88) • Space Science for Grades 3-5 • TG: Ses 1 Pre Assessment (p 1) • TG: Ses 1 Post Assessment (pp 1-2) • TG: Ses 1.4-1.7 (pp 70-135) • TG: Ses 1.9 (pp 152-167) • TG: Ses 2 Pre Assessment (p 1) • TG: Ses 2 Post Assessment (pp 1-2) • TG: Ses 2.1-2.3 (pp 172-225) • STC Book: Rocks and Minerals: (pp13-22), (pp25-27), (pp42-44) |
| GRADE LEVEL EXPECTATION | SB2. | <p>Develop an understanding that energy appears in different forms, can be transformed from one form to another, can be transferred or moved from one place or system to another, may be unavailable for use, and is ultimately conserved.</p> <ul style="list-style-type: none"> • Motion and Design • TG: L06-07 (pp57-72) • TG: L12 (pp109-116) • TG: L15 (pp139-144) • STC Book: Electric Circuits: (pp13-21), (pp24-28), (pp32-33), (pp36-38) |
| GRADE LEVEL EXPECTATION | SB3. | <p>Develop an understanding of the interactions between matter and energy, including physical, chemical, and nuclear changes, and the effects of these interactions on physical systems.</p> <ul style="list-style-type: none"> • Changes • TG: L01 (pp3-20) • TG: L03-04 (pp31-52) • TG: L12-14 (pp111-136) • TG: L16-17 (pp147-158) • Chemical Tests • TG: L10.Exts (p97) • TG: L11.Exts (pp103-104) • TG: L15.Exts (pp140-141) • TG: L16.Exts (pp152-153) • TG: L17 (pp155-158) • Liquid Explorations • TG: Act03 (pp25-31) |
| GRADE LEVEL EXPECTATION | SB4. | <p>Develop an understanding of motions, forces, their characteristics and relationships, and natural forces and their effects.</p> <ul style="list-style-type: none"> • Building Blocks of Science: Measure It! • TG: L03 (pp 23-38) • Motion and Design • TG: L03-05 (pp25-56) • TG: L07.Exts (pp68-69) • TG: L08-13 (pp73-124) • TG: L15 (pp139-144) • TG: L17 (pp153-156) • Space Science for Grades 3-5 • TG: Ses 1.1 (pp 28-45) • TG: Ses 2.1-2.6 (pp 172-281) |

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| PERFORMANCE / CONTENT STANDARD | AK.SC. | Concepts of Life Science: A student should understand and be able to apply the concepts, models, theories, facts, evidence, systems, and processes of life science. A student who meets the content standard should: |
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| GRADE LEVEL EXPECTATION | SC1. | <p>Develop an understanding of how science explains changes in life forms over time, including genetics, heredity, the process of natural selection, and biological evolution.</p> <ul style="list-style-type: none"> • Building Blocks of Science: Understanding Cells and DNA • TG: Pre Assessment (pp 17-19) • TG: Act 06 (pp 75-79) • TG: Post Assessment (pp 85-91) • STC Book: Animal Studies: (pp45-49) • STC Book: Plant Growth and Development: (pp34-36) |
| GRADE LEVEL EXPECTATION | SC2. | <p>Develop an understanding of the structure, function, behavior, development, life cycles, and diversity of living organisms.</p> <ul style="list-style-type: none"> • Animal Studies • TG: L01 (pp3-10) • TG: L09.Exts (pp101-102) • TG: L13.Exts (p138) • TG: L14.Exts (p145) • TG: L17 (pp169-172) • Schoolyard Ecology • TG: Act05 (pp51-59) • The Life Cycle of Butterflies • TG: L01-09 (pp3-62) • TG: L11-16 (pp69-96) • STC Book: Animal Studies: (pp06-08), (pp35-37), (pp40-42), (pp45-49) |
| GRADE LEVEL EXPECTATION | SC3. | <p>Develop an understanding that all organisms are linked to each other and their physical environments through the transfer and transformation of matter and energy.</p> <ul style="list-style-type: none"> • Aquatic Habitats • TG: Act04-05 (pp45-70) • Buzzing a Hive • TG: Exts (p67) • Plant Growth and Development • TG: L01 (pp3-8) • TG: L11 (pp61-66) • TG: L11.Exts (p63) • TG: L14.Exts (pp86-87) • Schoolyard Ecology • TG: Act03-04 (pp33-49) • Terrarium Habitats • TG: Act03-05 (pp23-48) • The Life Cycle of Butterflies • TG: L10 (pp63-68) • STC Book: Plant Growth and Development: (pp28-30), (pp39-43), (pp48-50), (pp58-61) |
| PERFORMANCE / CONTENT | AK.SD. | Concepts of Earth Science: A student should understand and be able to apply the concepts, processes, theories, models, evidence, and systems of earth |

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| STANDARD | | and space sciences. A student who meets the content standard should: |
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| GRADE LEVEL EXPECTATION | SD1. | <p>Develop an understanding of Earth's geochemical cycles.</p> <ul style="list-style-type: none"> • Terrarium Habitats • TG: Act01 (pp5-13) • STC Book: Plant Growth and Development: (pp28-30) |
| GRADE LEVEL EXPECTATION | SD2. | <p>Develop an understanding of the origins, ongoing processes, and forces that shape the structure, composition, and physical history of the Earth.</p> <ul style="list-style-type: none"> • Land and Water • TG: L03-07 (pp29-84) • TG: L09-10 (pp99-118) • TG: L14-15 (pp153-172) • STC Book: Land and Water: (pp07-11), (pp53-56) • STC Book: Rocks and Minerals: (pp07-09), (pp17-19), (pp28-30), (pp33-35), (pp47-49) |
| GRADE LEVEL EXPECTATION | SD3. | <p>Develop an understanding of the cyclical changes controlled by energy from the sun and by Earth's position and motion in our solar system.</p> <ul style="list-style-type: none"> • Space Science for Grades 3-5 • TG: Ses 3 Pre Assessment (pp 1-2) • TG: Ses 3 Post Assessment (pp 1-2) • TG: Ses 3.1-3.4 (pp 286-335) • TG: Ses 4.1-4.5 (pp 340-423) |
| PERFORMANCE / CONTENT STANDARD | AK.SE. | Science and Technology: A student should understand the relationships among science, technology, and society. A student who meets the content standard should: |
| GRADE LEVEL EXPECTATION | SE1. | <p>Develop an understanding of how scientific knowledge and technology are used in making decisions about issues, innovations, and responses to problems and everyday events.</p> <ul style="list-style-type: none"> • Building Blocks of Science: Understanding Cells and DNA • TG: Act 02 (pp 27-33) • STC Book: Electric Circuits: (pp07-10), (pp17-21) • STC Book: Motion and Design: (pp29-36) |
| GRADE LEVEL EXPECTATION | SE2. | <p>Develop an understanding that solving problems involves different ways of thinking, perspectives, and curiosity that lead to the exploration of multiple paths that are analyzed using scientific, technological, and social merits.</p> <ul style="list-style-type: none"> • Animal Studies • TG: L16 (pp165-168) • Building Blocks of Science: Understanding Cells and DNA • TG: Act 02 (pp 27-33) • Electric Circuits • TG: L01 (pp3-6) • Motion and Design • TG: L15.Exts (p143) • Space Science for Grades 3-5 • TG: Ses 3.1 (pp 286-299) |

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| | | <ul style="list-style-type: none"> STC Book: Plant Growth and Development: (pp31-36) |
| GRADE LEVEL EXPECTATION | SE3. | <p>Develop an understanding of how scientific discoveries and technological innovations affect and are affected by our lives and cultures</p> <ul style="list-style-type: none"> Animal Studies TG: L03.Exts (p32) Electric Circuits TG: L04 Exts (p24) TG: L08 Exts (p47) GEMS Electric Circuits TG: Ses01 (pp13-33) Investigating Artifacts TG: Ses03-04 (pp25-41) Motion and Design TG: L02 (pp15-24) STC Book: Electric Circuits: (pp07-12), (pp17-21), (pp3-38), (pp56-59) STC Book: Motion and Design: (pp20-22), (pp29-40), (pp52-57) STC Book: Plant Growth and Development: (pp31-33) |
| PERFORMANCE / CONTENT STANDARD | AK.SF. | Cultural, Social, Personal Perspectives and Science: A student should understand the dynamic relationships among scientific, cultural, social, and personal perspectives. A student who meets the content standard should: |
| GRADE LEVEL EXPECTATION | SF1. | <p>Develop an understanding of the interrelationships among individuals, cultures, societies, science, and technology.</p> <ul style="list-style-type: none"> Building Blocks of Science: Understanding Cells and DNA TG: Act 02 (pp 27-33) Electric Circuits TG: L01 (pp3-6) TG: L08 Exts (p47) GEMS Electric Circuits TG: Ses01 (pp13-33) Investigating Artifacts TG: Ses03-04 (pp25-41) Motion and Design TG: L02 (pp15-24) TG: L15.Exts (p143) Space Science for Grades 3-5 TG: Ses 3.1 (pp 286-299) STC Book: Animal Studies: (pp50-52) STC Book: Electric Circuits: (pp07-12), (pp17-21) STC Book: Land and Water: (pp07-09) STC Book: Motion and Design: (pp23-36), (pp41-43), (pp52-57) STC Book: Plant Growth and Development: (pp31-36) |
| GRADE LEVEL EXPECTATION | SF2. | <p>Develop an understanding that some individuals, cultures, and societies use other beliefs and methods in addition to scientific methods to describe and understand the world.</p> <ul style="list-style-type: none"> GEMS Electric Circuits TG: Ses01 (pp13-33) Investigating Artifacts TG: Ses03-04 (pp25-41) |

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| | | <ul style="list-style-type: none"> • STC Book: Animal Studies: (pp50-52) • STC Book: Electric Circuits: (pp07-10) • STC Book: Land and Water: (pp07-09) • STC Book: Motion and Design: (pp23-28), (pp41-43) • STC Book: Plant Growth and Development: (pp12-15), (pp31-33) |
| GRADE LEVEL EXPECTATION | SF3. | <p>Develop an understanding of the importance of recording and validating cultural knowledge.</p> <ul style="list-style-type: none"> • GEMS Electric Circuits • TG: Ses01 (pp13-33) • Investigating Artifacts • TG: Ses03-04 (pp25-41) • STC Book: Animal Studies: (pp50-52) • STC Book: Electric Circuits: (pp07-10) • STC Book: Land and Water: (pp07-09) • STC Book: Motion and Design: (pp23-28), (pp41-43) • STC Book: Plant Growth and Development: (pp31-33) |
| PERFORMANCE / CONTENT STANDARD | AK.SG. | History and Nature of Science: A student should understand the history and nature of science. A student who meets the content standard should: |
| GRADE LEVEL EXPECTATION | SG1. | <p>Develop an understanding that historical perspectives of scientific explanations demonstrate that scientific knowledge changes over time, building on prior knowledge.</p> <ul style="list-style-type: none"> • Building Blocks of Science: Understanding Cells and DNA • TG: Act 02 (pp 27-33) • Electric Circuits • TG: L01 (pp3-6) • Motion and Design • TG: L15.Exts (p143) • Space Science for Grades 3-5 • TG: Ses 3.1 (pp 286-299) • STC Book: Plant Growth and Development: (pp31-36) |
| GRADE LEVEL EXPECTATION | SG2. | <p>Develop an understanding that the advancement of scientific knowledge embraces innovation and requires empirical evidence, repeatable investigations, logical arguments, and critical review in striving for the best possible explanations of the natural world.</p> <ul style="list-style-type: none"> • Animal Studies • TG: L16 (pp165-168) • Building Blocks of Science: Understanding Cells and DNA • TG: Act 02 (pp 27-33) • Electric Circuits • TG: L01 (pp3-6) • TG: L04 Exts (p24) • TG: L08 Exts (p47) • GEMS Electric Circuits • TG: Ses01 (pp13-33) • Motion and Design • TG: L02 (pp15-24) • TG: L15.Exts (p143) • Space Science for Grades 3-5 |

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| | | <ul style="list-style-type: none"> • TG: Ses 3.1 (pp 286-299) • STC Book: Electric Circuits: (pp07-12), (pp17-21), (pp36-38) (pp56-59) • STC Book: Motion and Design: (pp20-22), (pp29-40), (pp52-57) • STC Book: Plant Growth and Development: (pp31-36) |
| GRADE LEVEL EXPECTATION | SG3. | <p>Develop an understanding that scientific knowledge is ongoing and subject to change as new evidence becomes available through experimental and/or observational confirmation(s).</p> <ul style="list-style-type: none"> • Building Blocks of Science: Understanding Cells and DNA • TG: Act 02 (pp 27-33) • Electric Circuits • TG: L01 (pp3-6) • Motion and Design • TG: L15.Exts (p143) • Space Science for Grades 3-5 • TG: Ses 3.1 (pp 286-299) • STC Book: Plant Growth and Development: (pp31-36) |
| GRADE LEVEL EXPECTATION | SG4. | <p>Develop an understanding that advancements in science depend on curiosity, creativity, imagination, and a broad knowledge base.</p> <ul style="list-style-type: none"> • Building Blocks of Science: Understanding Cells and DNA • TG: Act 02 (pp 27-33) • Electric Circuits • TG: L01 (pp3-6) • TG: L04 Exts (p24) • TG: L08 Exts (p47) • GEMS Electric Circuits • TG: Ses01 (pp13-33) • Motion and Design • TG: L02 (pp15-24) • TG: L15.Exts (p143) • Space Science for Grades 3-5 • TG: Ses 3.1 (pp 286-299) • STC Book: Electric Circuits: (pp07-12), (pp17-21), (pp36-38) (pp56-59) • STC Book: Motion and Design: (pp20-22), (pp29-40), (pp52-57) • STC Book: Plant Growth and Development: (pp31-36) |

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Grade 4

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| PERFORMANCE / CONTENT STANDARD | AK.A1. | Science as Inquiry and Process (SA1, SA2, SA3) |
| GRADE LEVEL EXPECTATION | [4] SA1.1. | The student develops an understanding of the processes of science by asking questions, predicting, observing, describing, measuring, classifying, making generalizations, inferring and communicating. <ul style="list-style-type: none"> • All Units |
| GRADE LEVEL EXPECTATION | [4] SA1.2. | The student develops an understanding of the processes of science by observing, measuring and collecting data from explorations and using this information to classify, predict, and communicate. <ul style="list-style-type: none"> • All Units |
| GRADE LEVEL EXPECTATION | [4] SA2.1. | The student will demonstrate an understanding of the attitudes and approaches to scientific inquiry by supporting their ideas with observations and peer review. (L) <ul style="list-style-type: none"> • All Units |
| GRADE LEVEL EXPECTATION | [4] SA3.1. | The student demonstrates an understanding that interactions with the environment provide an opportunity for understanding scientific concepts by identifying the local limiting factors (e.g., weather, human influence, species interactions) that determine which plants and/or animals survive. (L) <ul style="list-style-type: none"> • Animal Studies • TG: L11.Exts (p119) • TG: L13.Exts (p138) • TG: L14.Exts (p145) • TG: L16.Exts (p167) • STC Book: Animal Studies: (pp06-11), (pp16-19), (pp30-32), (pp40-42), (pp45-49) • STC Book: Ecosystems: (pp07-23), (pp26-37), (pp49-51) • STC Book: Electric Circuits: (pp47-49) • STC Book: Floating and Sinking: (pp60-61) • STC Book: Motion and Design: (pp14-17) • STC Book: Plant Growth and Development: (pp26-27), (pp44-45) |
| PERFORMANCE / CONTENT STANDARD | AK.B1. | Concepts of Physical Science (SB1, SB2, SB3, SB4) |
| GRADE LEVEL EXPECTATION | [4] SB1.1. | The student demonstrates an understanding of the structure and properties of matter by identifying and comparing the characteristics of gases, liquids, and solids. <ul style="list-style-type: none"> • Oobleck: What Do Scientists Do? • TG: Ses01 (pp4-8) |
| GRADE LEVEL EXPECTATION | [4] SB3.1. | The student demonstrates an understanding of the interactions between matter and energy and the effects of these interactions on systems by explaining that temperature changes cause changes in phases of substances (e.g., ice changing |

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| | | to liquid water and liquid water to water vapor). <ul style="list-style-type: none"> • Chemical Tests • TG: L08.Exts (p82) • GEMS Electric Circuits • TG: Ses02 (pp35-71) • Land and Water • TG: L02.Exts (p19) |
| GRADE LEVEL EXPECTATION | [4] SB4.1. | The student demonstrates an understanding of motions, forces, their characteristics, relationships, and effects by simulating that changes in speed or direction of motion are caused by forces. (L) <ul style="list-style-type: none"> • Building Blocks of Science: Measure It! • TG: L03 (pp 23-38) • Floating and Sinking • TG: L09 (pp69-78) • Motion and Design • TG: L03-05 (pp25-56) • TG: L07.Exts (pp68-69) • TG: L08-13 (pp73-124) • TG: L15 (pp139-144) • TG: L17 (pp153-156) • Space Science for Grades 3-5 • TG: Ses 1.1 (pp 28-45) • TG: Ses 2.1-2.6 (pp 172-281) |
| PERFORMANCE / CONTENT STANDARD | AK.C1. | Concepts of Life Science (SC1, SC2, SC3) |
| GRADE LEVEL EXPECTATION | [4] SC1.1. | The student demonstrates an understanding of how science explains changes in life forms over time, including genetics, heredity, the process of natural selection and biological evolution by showing the relationship between physical characteristics of Alaskan organisms and the environment in which they live. <ul style="list-style-type: none"> • Building Blocks of Science: Understanding Cells and DNA • TG: Pre Assessment (pp 17-19) • TG: Act 06 (pp 75-79) • TG: Post Assessment (pp 85-91) • STC Book: Animal Studies: (pp45-49) • STC Book: Plant Growth and Development: (pp34-36) |
| GRADE LEVEL EXPECTATION | [4] SC1.2. | The student demonstrates an understanding of how science explains changes in life forms over time, including genetics, heredity, the process of natural selection and biological evolution by describing fossil evidence (e.g., casts, track ways, imprints, etc.) of extinct organisms. <ul style="list-style-type: none"> • STC Book: Rocks and Minerals: (pp33-35), (pp52-54) |
| GRADE LEVEL EXPECTATION | [4] SC2.1. | The student demonstrates an understanding of the structure, function, behavior, development, life cycles, and diversity of living organisms by choosing appropriate tools (i.e., hand lens, microscopes, ruler, balance) to examine the basic structural components (e.g., stems, leaves, fish scales, wings) of living |

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| | | <p>things.</p> <ul style="list-style-type: none"> • Aquatic Habitats • TG: Act02-03 (pp25-43) • TG: Exts (pp70-78) • Animal Studies • TG: L03-06 (pp21-74) • TG: L08 (pp87-96) • TG: L13.Exts (p138) • TG: L14-15 (pp143-164) • TG: L16.Exts (p167) • Building Blocks of Science: Human Bodyworks • TG: Ext 01 (p 21) • TG: Ext 04 (p 41) • TG: Ext 12 (p 83) • Land and Water • TG: L14.Exts (p156) • Microscopic Explorations • TG: Act08-10 (pp81-97) • Microworlds • TG: L13.Exts (p74) • Plant Growth and Development • TG: L02 (pp9-12) • TG: L04-05 (pp25-32) • TG: L08-10 (pp43-60) • TG: L13-14 (pp71-88) • Schoolyard Ecology • TG: Act02 (pp21-31) • TG: Act04 (pp43-49) • Sound • TG: L04.Exts (pp26-27) • TG: L14.Exts (p98) • Terrarium Habitats • TG: Act03-05 (pp23-48) • STC Book: Animal Studies: (pp06-08), (pp16-19) • STC Book: Electric Circuits: (pp11-12), (pp47-49) • STC Book: Floating and Sinking: (pp54-61) • STC Book: Microworlds: (pp31-33), (pp37-43), (pp46-47), (pp58-61) • STC Book: Motion and Design: (pp07-09) • STC Book: Plant Growth and Development: (pp14-17), (pp22-27), (pp39-41), (pp44-45) |
| <p>GRADE LEVEL EXPECTATION</p> | <p>[4] SC2.2.</p> | <p>The student demonstrates an understanding of the structure, function, behavior, development, life cycles, and diversity of living organisms by describing the basic characteristics and requirements of living things.</p> <ul style="list-style-type: none"> • Aquatic Habitats • TG: Act01-03 (pp13-43) • TG: Exts (pp70-78) • Animal Studies • TG: L01-17 (pp3-172) • Building Blocks of Science: Human Bodyworks • TG: Ext 01 (p 21) • TG: Ext 04 (p 41) • TG: Ext 12 (p 83) • Ecosystems • TG: L01-03 (pp3-38) |

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| | | <ul style="list-style-type: none"> • Land and Water • TG: L14.Exts (p156) • Microscopic Explorations • TG: Act08-10 (pp81-97) • Microworlds • TG: L12.Exts (pp69-70) • TG: L13.Exts (p74) • TG: L14.Exts (p78) • Plant Growth and Development • TG: L02-05 (pp9-32) • TG: L08-10 (pp43-60) • TG: L13-14 (pp71-88) • TG: L16.Exts (pp96-97) • Schoolyard Ecology • TG: Act02 (pp21-31) • TG: Act04 (pp43-49) • Sound • TG: L04.Exts (pp26-27) • TG: L14.Exts (p98) • Terrarium Habitats • TG: Act01-05 (pp5-48) • STC Book: Animal Studies: (pp06-08), (pp16-19), (pp58-61) • STC Book: Ecosystems: (pp11-13), (pp49-51) • STC Book: Electric Circuits: (pp11-12), (pp47-49) • STC Book: Floating and Sinking: (pp54-61) • STC Book: Microworlds: (pp31-33), (pp37-43), (pp46-47), (pp58-61) • STC Book: Motion and Design: (pp07-09) • STC Book: Plant Growth and Development: (pp09-11), (pp14-17), (pp22-30), (pp39-41), (pp44-45) |
| <p>GRADE LEVEL EXPECTATION</p> | <p>[4] SC3.1.</p> | <p>The student demonstrates an understanding that all organisms are linked to each other and their physical environments through the transfer and transformation of matter and energy by identifying examples of living and non-living things and the relationship between them (e.g., living things need water, herbivores need plants).</p> <ul style="list-style-type: none"> • Animal Studies • TG: L01-17 (pp3-172) • Building Blocks of Science: Understanding Cells and DNA • TG: Act 01 (pp 21-26) • Ecosystems • TG: L01-07 (pp3-82) • TG: L12 (pp117-124) • TG: L17 (pp169-171) • Microworlds • TG: L12.Exts (pp69-70) • On Sandy Shores • TG: Act01 (pp13-25) • Plant Growth and Development • TG: L11 (pp61-66) • TG: L14.Exts (pp86-87) • Schoolyard Ecology • TG: Act03-04 (pp33-49) • Terrarium Habitats • TG: Act03-05 (pp23-48) • STC Book: Ecosystems: (pp11-23), (pp49-51) • STC Book: Microworlds: (pp48-51) |

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| | | <ul style="list-style-type: none"> • STC Book: Plant Growth and Development: (pp28-30), (pp39-43), (pp48-50), (pp58-61) |
| GRADE LEVEL EXPECTATION | [4] SC3.2. | <p>The student demonstrates an understanding that all organisms are linked to each other and their physical environments through the transfer and transformation of matter and energy by identifying a simple food chain of familiar plants and animals, diagramming how energy flows through it, and describing the effects of removing one link.</p> <ul style="list-style-type: none"> • Aquatic Habitats • TG: Act04-05 (pp45-70) • Ecosystems • TG: L01 (pp3-12) • TG: L07 (pp75-82) • TG: L12.Exts (p120) • Plant Growth and Development • TG: L01 (pp3-8) • STC Book: Ecosystems: (pp14-16) • STC Book: Plant Growth and Development: (pp48-50) |
| PERFORMANCE / CONTENT STANDARD | AK.D1. | Concepts of Earth Science (SD1, SD2, SD3, SD4) |
| GRADE LEVEL EXPECTATION | [4] SD1.1. | <p>The student demonstrates an understanding of geochemical cycles by describing that most smaller rocks come from the breaking and weathering of larger rocks as part of the rock cycle.</p> <ul style="list-style-type: none"> • Rocks and Minerals • TG: L03 (pp19-26) • Stories in Stone • TG: Ses08 (pp103-113) • STC Book: Rocks and Minerals: (pp25-27) |
| GRADE LEVEL EXPECTATION | [4] SD1.2. | <p>The student demonstrates an understanding of geochemical cycles by recognizing the physical properties of water as they relate to the rock cycle.</p> <ul style="list-style-type: none"> • Land and Water • TG: L03-07 (pp29-84) • TG: L09.Exts (p103) • TG: L10-16 (pp109-182) • On Sandy Shores • TG: Act02-03 (pp27-56) • Rocks and Minerals • TG: L03 (pp19-26) • Stories in Stone • TG: Ses08 (pp103-113) • STC Book: Land and Water: (pp50-52) • STC Book: Rocks and Minerals: (pp25-27), (pp47-49) |
| GRADE LEVEL EXPECTATION | [4] SD2.1. | <p>The student demonstrates an understanding of the forces that shape Earth by observing models of how waves, wind, water, and ice shape and reshape the Earth's surface by eroding rock and soil. (L)</p> <ul style="list-style-type: none"> • Land and Water • TG: L03-07 (pp29-84) |

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| | | <ul style="list-style-type: none"> • TG: L09.Exts (p103) • TG: L10-16 (pp109-182) • On Sandy Shores • TG: Act02-03 (pp27-56) • STC Book: Land and Water: (pp36-38), (pp50-52) • STC Book: Rocks and Minerals: (pp47-49) |
| GRADE LEVEL EXPECTATION | [4] SD2.2. | <p>The student demonstrates an understanding of the forces that shape Earth by identifying causes (i.e., earthquakes, tsunamis, volcanoes, floods, landslides, and avalanches) of rapid changes on the surface.</p> <ul style="list-style-type: none"> • Land and Water • TG: L12 (pp129-142) • STC Book: Land and Water: (pp10-14), (pp36-38) • STC Book: Microworlds: (pp13- 15) • STC Book: Rocks and Minerals: (pp28-30) |
| GRADE LEVEL EXPECTATION | [4] SD3.1. | <p>The student demonstrates an understanding of cycles influenced by energy from the sun and by Earth's position and motion in our solar system by recognizing changes to length of daylight over time and its relationship to seasons.</p> <ul style="list-style-type: none"> • Space Science for Grades 3-5 • TG: Ses 3.1-3.4 (pp 286-335) • TG: Ses 4.1-4.5 (pp 340-423) |
| GRADE LEVEL EXPECTATION | [4] SD3.2. | <p>The student demonstrates an understanding of cycles influenced by energy from the sun and by Earth's position and motion in our solar system by observing that heat flows from one object to another. (L)</p> <ul style="list-style-type: none"> • Hot Water and Warm Homes from Sunlight • TG: Ses03-04 (pp19-37) • STC Book: Electric Circuits: (pp17-21) |
| GRADE LEVEL EXPECTATION | [4] SD4.1. | <p>The student demonstrates an understanding of the theories regarding the origin and evolution of the universe by recognizing that stars are like the sun but are so far away that they look like points of light.</p> <ul style="list-style-type: none"> • Moons of Jupiter • TG: Act03 (pp31-39) • Space Science for Grades 3-5 • TG: Ses 1 Pre Assessment (p 1) • TG: Ses 1 Post Assessment (pp 1-2) • TG: Ses 1.1-1.3 (pp 28-69) • TG: Ses 1.5 (pp 86-103) • TG: Ses 1.7-1.9 (pp 122-167) |
| GRADE LEVEL EXPECTATION | [4] SD4.2. | <p>The student demonstrates an understanding of the theories regarding the origin and evolution of the universe by recognizing that objects have properties, locations, and movements that can be observed and described.</p> <ul style="list-style-type: none"> • Moons of Jupiter • TG: Act03 (pp31-39) • Space Science for Grades 3-5 • TG: Ses 1 Pre Assessment (p 1) |

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| | | <ul style="list-style-type: none"> • TG: Ses 1 Post Assessment (pp 1-2) • TG: Ses 1.1-1.3 (pp 28-69) • TG: Ses 1.5 (pp 86-103) • TG: Ses 1.7-1.9 (pp 122-167) |
| GRADE LEVEL EXPECTATION | [4] SD4.3. | <p>The student demonstrates an understanding of the theories regarding the origin and evolution of the universe by recognizing and using appropriate instruments of magnification (e.g., binoculars and telescopes). (L)</p> <ul style="list-style-type: none"> • Moons of Jupiter • TG: Act01 (pp7-17) • Space Science for Grades 3-5 • TG: Ses 1.9 (pp 152-167) • TG: Ses 3 Reading (pp 1-2) • STC Book: Rocks and Minerals: (pp36-41) |
| PERFORMANCE / CONTENT STANDARD | AK.E1. | Science and Technology (SE1, SE2, SE3) |
| GRADE LEVEL EXPECTATION | [4] SE1.1. | <p>The student demonstrates an understanding of how to integrate scientific knowledge and technology to address problems by recognizing that tools (e.g., spear, hammer, hand lens, kayak, computer) and processes (e.g., drying fish, sewing, photography) are an important part of human cultures.</p> <ul style="list-style-type: none"> • Aquatic Habitats • TG: Act01-05 (pp13-70) • Animal Studies • TG: L02-10 (pp11-114) • TG: L12-15 (pp123-164) • Bubble Festival • TG: Act01-12 (pp54-124) • Building Blocks of Science: Human Bodyworks • TG: Act 03-04 (pp 31-43) • TG: Act 06-12 (pp 49-84) • Building Blocks of Science: Measure It! • TG: L01-05 (pp 11-47) • Building Blocks of Science: Understanding Cells and DNA • TG: Act 02 (pp 27-33) • TG: Act 05-06 (pp 65-79) • Crime Lab Chemistry • TG: Act01-03 (pp7-62) • Chemical Tests • TG: L01-10 (pp3-100) • TG: L12-16 (pp107-154) • Electric Circuits • TG: L01-17 (pp3-86) • Fingerprinting • TG: Ses01-03 (pp7-25) • Floating and Sinking • TG: L01-17 (pp3-136) • GEMS Electric Circuits • TG: Ses01 (pp13-33) • Hot Water and Warm Homes from Sunlight • TG: Ses01-05 (pp7-41) • Investigating Artifacts • TG: Ses01-06 (pp7-63) • Land and Water |

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| | | <ul style="list-style-type: none"> • TG: L02-16 (pp11-182) • Microscopic Explorations • TG: Act01-10 (pp37-97) • Mystery Festival • TG: Ses01-05 (pp109-197) • Moons of Jupiter • TG: Act01-05 (pp7-64) • Microworlds • TG: L01-06 (pp3-36) • TG: L08-17 (pp43-88) • Motion and Design • TG: L02-03 (pp15-34) • TG: L06 (pp57-64) • TG: L08-09 (pp73-90) • TG: L11-14 (pp101-138) • TG: L16 (pp145-152) • Of Cabbages and Chemistry • TG: Ses01-04 (pp9-46) • Oobleck: What Do Scientists Do? • TG: Ses01-04 (pp4-18) • On Sandy Shores • TG: Act01-05 (pp13-108) • Plant Growth and Development • TG: L02-16 (pp9-98) • Rocks and Minerals • TG: L01-16 (pp3-126) • Stories in Stone • TG: Ses01-08 (pp15-113) • Sound • TG: L04.Exts (pp26-27) • Terrarium Habitats • TG: Act01-05 (pp5-48) • STC Book: Animal Studies: (pp50-52) • STC Book: Land and Water: (pp07-09), (pp32-35) • STC Book: Microworlds: (pp07-25), (pp28-43), (pp46-61) • STC Book: Motion and Design: (pp23-28), (pp41-43) • STC Book: Plant Growth and Development: (pp31-33) |
| <p>GRADE LEVEL EXPECTATION</p> | <p>[4] SE2.1.</p> | <p>The student demonstrates an understanding that solving problems involves different ways of thinking, perspectives, and curiosity by identifying the function of a variety of tools (e.g., spear, hammer, hand lens, kayak, computer).</p> <ul style="list-style-type: none"> • Aquatic Habitats • TG: Act01-05 (pp13-70) • Animal Studies • TG: L02-10 (pp11-114) • TG: L12-15 (pp123-164) • Bubble Festival • TG: Act01-12 (pp54-124) • Building Blocks of Science: Human Bodyworks • TG: Act 03-04 (pp 31-43) • TG: Act 06-12 (pp 49-84) • Building Blocks of Science: Measure It! • TG: L01-05 (pp 11-47) • Building Blocks of Science: Understanding Cells and DNA • TG: Act 02 (pp 27-33) • TG: Act 05-06 (pp 65-79) • Crime Lab Chemistry |

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| | | <ul style="list-style-type: none"> • TG: Act01-03 (pp7-62) • Chemical Tests • TG: L01-10 (pp3-100) • TG: L12-16 (pp107-154) • Electric Circuits • TG: L01-17 (pp3-86) • Fingerprinting • TG: Ses01-03 (pp7-25) • Floating and Sinking • TG: L01-17 (pp3-136) • Hot Water and Warm Homes from Sunlight • TG: Ses01-05 (pp7-41) • Investigating Artifacts • TG: Ses01-06 (pp7-63) • Land and Water • TG: L02-16 (pp11-182) • Microscopic Explorations • TG: Act01-10 (pp37-97) • Mystery Festival • TG: Ses01-05 (pp109-197) • Moons of Jupiter • TG: Act01-05 (pp7-64) • Microworlds • TG: L01-06 (pp3-36) • TG: L08-17 (pp43-88) • Motion and Design • TG: L02-03 (pp15-34) • TG: L06 (pp57-64) • TG: L08-09 (pp73-90) • TG: L11-14 (pp101-138) • TG: L16 (pp145-152) • Of Cabbages and Chemistry • TG: Ses01-04 (pp9-46) • Oobleck: What Do Scientists Do? • TG: Ses01-04 (pp4-18) • On Sandy Shores • TG: Act01-05 (pp13-108) • Plant Growth and Development • TG: L02-16 (pp9-98) • Rocks and Minerals • TG: L01-16 (pp3-126) • Stories in Stone • TG: Ses01-08 (pp15-113) • Sound • TG: L04.Exts (pp26-27) • Terrarium Habitats • TG: Act01-05 (pp5-48) • STC Book: Land and Water: (pp32-35) • STC Book: Microworlds: (pp07-25), (pp28-43), (pp46-61) |
| <p>GRADE LEVEL EXPECTATION</p> | <p>[4] SE2.2.</p> | <p>The student demonstrates an understanding that solving problems involves different ways of thinking, perspectives, and curiosity by identifying multiple explanations (e.g., oral traditions, folklore, scientific theory) of everyday events (e.g., weather, seasonal changes). (L)</p> <ul style="list-style-type: none"> • Building Blocks of Science: Understanding Cells and DNA • TG: Act 02 (pp 27-33) • Electric Circuits |

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| | | <ul style="list-style-type: none"> • TG: L02 Exts (p13) • TG: L06 Exts (p36) • TG: L16 Exts (p83) • Fingerprinting • TG: Ses03 (pp23-25) • Food Chemistry • TG: L14 (pp125-130) • Motion and Design • TG: L05 (pp47-56) • STC Book: Animal Studies: (pp45-49), (pp58-61) |
| GRADE LEVEL EXPECTATION | [4] SE3.1. | <p>The student demonstrates an understanding of how scientific discoveries and technological innovations affect our lives and society by listing the positive and negative effects of a scientific discovery.</p> <ul style="list-style-type: none"> • Animal Studies • TG: L03.Exts (p32) • STC Book: Ecosystems: (pp35-37) • STC Book: Electric Circuits: (pp07-10), (pp17-21) • STC Book: Floating and Sinking: (pp24-26) |
| PERFORMANCE / CONTENT STANDARD | AK.F1. | Cultural, Social, Personal Perspectives, and Science (SF1, SF2, SF3) |
| GRADE LEVEL EXPECTATION | [4] SF1.1- SF3.1. | <p>The student demonstrates an understanding of the dynamic relationships among scientific, cultural, social, and personal perspectives by connecting observations of nature to a local or traditional story that explains a natural event (e.g., animal adaptation, weather, rapid changes to Earth's surface). (L) Cross referenced with SA3.1, grades 3 and 6, 4.</p> <ul style="list-style-type: none"> • Investigating Artifacts • TG: Ses03-04 (pp25-41) • STC Book: Electric Circuits: (pp07-10) |
| PERFORMANCE / CONTENT STANDARD | AK.G1. | History and Nature of Science (SG1, SG2, SG3, SG4) |
| GRADE LEVEL EXPECTATION | [4] SG2.1. | <p>The student demonstrates an understanding of the bases of the advancement of scientific knowledge by recognizing the need for repeated measurements.</p> <ul style="list-style-type: none"> • Building Blocks of Science: Human Bodyworks • TG: Ext 05 (p 46) • Building Blocks of Science: Measure It! • TG: L01 (pp 11-16) • TG: L03 (pp 23-38) • Floating and Sinking • TG: L05 (pp39-48) • Sound • TG: L16 (pp113-116) |
| GRADE LEVEL EXPECTATION | [4] SG4.1. | <p>The student will demonstrate an understanding that advancements in science depend on curiosity, creativity, imagination, and a broad knowledge base by using an account of a discovery to recognize that an individual's (e.g., George</p> |

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| | | <p>Washington Carver, Marie Curie) curiosity led to advancements in science.</p> <ul style="list-style-type: none"> • Animal Studies • TG: L16 (pp165-168) • Building Blocks of Science: Understanding Cells and DNA • TG: Act 02 (pp 27-33) • Electric Circuits • TG: L01 (pp3-6) • Moons of Jupiter • TG: Act01 (pp7-17) • Motion and Design • TG: L15.Exts (p143) • Space Science for Grades 3-5 • TG: Ses 3.1 (pp 286-299) • STC Book: Floating and Sinking: (pp07-14), (pp18-26), (pp29-30), (pp34-35), (pp41-42) • STC Book: Microworlds: (pp10-12) • STC Book: Plant Growth and Development: (pp31-36) |
| PERFORMANCE / CONTENT STANDARD | AK.SA. | Science as Inquiry and Process: A student should understand and be able to apply the processes and applications of scientific inquiry. A student who meets the content standard should: |
| GRADE LEVEL EXPECTATION | SA1. | <p>Develop an understanding of the processes of science used to investigate problems, design and conduct repeatable scientific investigations, and defend scientific arguments.</p> <ul style="list-style-type: none"> • All Units |
| GRADE LEVEL EXPECTATION | SA2. | <p>Develop an understanding that the processes of science require integrity, logical reasoning, skepticism, openness, communication, and peer review.</p> <ul style="list-style-type: none"> • Animal Studies • TG: L16 (pp165-168) |
| GRADE LEVEL EXPECTATION | SA3. | <p>Develop an understanding that culture, local knowledge, history, and interaction with the environment contribute to the development of scientific knowledge, and local applications provide opportunity for understanding scientific concepts and global issues.</p> <ul style="list-style-type: none"> • Investigating Artifacts • TG: Ses03-04 (pp25-41) • STC Book: Floating and Sinking: (pp15-17) |
| PERFORMANCE / CONTENT STANDARD | AK.SB. | Concepts of Physical Science: A student should understand and be able to apply the concepts, models, theories, universal principles, and facts that explain the physical world. A student who meets the content standard should: |
| GRADE LEVEL EXPECTATION | SB1. | <p>Develop an understanding of the characteristic properties of matter and the relationship of these properties to their structure and behavior.</p> <ul style="list-style-type: none"> • Chemical Tests • TG: L11.Exts (pp103-104) • TG: L16.Exts (pp152-153) • TG: L17 (pp155-158) |

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| | | <ul style="list-style-type: none"> • Rocks and Minerals • TG: L01-02 (pp3-18) • STC Book: Rocks and Minerals: (pp13-22), (pp25-27), (pp42-44) |
| GRADE LEVEL EXPECTATION | SB2. | <p>Develop an understanding that energy appears in different forms, can be transformed from one form to another, can be transferred or moved from one place or system to another, may be unavailable for use, and is ultimately conserved.</p> <ul style="list-style-type: none"> • Motion and Design • TG: L06-07 (pp57-72) • TG: L12 (pp109-116) • TG: L15 (pp139-144) • STC Book: Electric Circuits: (pp13-21), (pp24-28), (pp32-33), (pp36-38) |
| GRADE LEVEL EXPECTATION | SB3. | <p>Develop an understanding of the interactions between matter and energy, including physical, chemical, and nuclear changes, and the effects of these interactions on physical systems.</p> <ul style="list-style-type: none"> • Chemical Tests • TG: L10.Exts (p97) • TG: L11.Exts (pp103-104) • TG: L15.Exts (pp140-141) • TG: L16.Exts (pp152-153) • TG: L17 (pp155-158) • Ecosystems • TG: L13.Exts (p127) • Floating and Sinking • TG: L06 (pp49-54) • Microworlds • TG: L09.Exts (p53) • Of Cabbages and Chemistry • TG: Ses01-02 (pp9-28) • TG: Ses04 (pp41-46) |
| GRADE LEVEL EXPECTATION | SB4. | <p>Develop an understanding of motions, forces, their characteristics and relationships, and natural forces and their effects.</p> <ul style="list-style-type: none"> • Building Blocks of Science: Measure It! • TG: L03 (pp 23-38) • Floating and Sinking • TG: L09 (pp69-78) • Motion and Design • TG: L03-05 (pp25-56) • TG: L07.Exts (pp68-69) • TG: L08-13 (pp73-124) • TG: L15 (pp139-144) • TG: L17 (pp153-156) • Space Science for Grades 3-5 • TG: Ses 1.1 (pp 28-45) • TG: Ses 2.1-2.6 (pp 172-281) |
| PERFORMANCE / CONTENT | AK.SC. | <p>Concepts of Life Science: A student should understand and be able to apply the concepts, models, theories, facts, evidence, systems, and processes of</p> |

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| STANDARD | | life science. A student who meets the content standard should: |
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| GRADE LEVEL EXPECTATION | SC1. | <p>Develop an understanding of how science explains changes in life forms over time, including genetics, heredity, the process of natural selection, and biological evolution.</p> <ul style="list-style-type: none"> • Building Blocks of Science: Understanding Cells and DNA • TG: Pre Assessment (pp 17-19) • TG: Ext 05 (p 71) • TG: Act 06 (pp 75-79) • TG: Post Assessment (pp 85-91) • STC Book: Animal Studies: (pp45-49) • STC Book: Plant Growth and Development: (pp34-36) |
| GRADE LEVEL EXPECTATION | SC2. | <p>Develop an understanding of the structure, function, behavior, development, life cycles, and diversity of living organisms.</p> <ul style="list-style-type: none"> • Animal Studies • TG: L01 (pp3-10) • TG: L09.Exts (pp101-102) • TG: L13.Exts (p138) • TG: L14.Exts (p145) • TG: L17 (pp169-172) • Microworlds • TG: L13.Exts (p74) • Schoolyard Ecology • TG: Act05 (pp51-59) • STC Book: Animal Studies: (pp06-08), (pp35-37), (pp40-42), (pp45-49) • STC Book: Food Chemistry: (pp21-23) • STC Book: Microworlds: (pp28-30), (pp37-43), (pp46-47) |
| GRADE LEVEL EXPECTATION | SC3. | <p>Develop an understanding that all organisms are linked to each other and their physical environments through the transfer and transformation of matter and energy.</p> <ul style="list-style-type: none"> • Aquatic Habitats • TG: Act04-05 (pp45-70) • Ecosystems • TG: L01-07 (pp3-82) • TG: L12 (pp117-124) • TG: L17 (pp169-171) • Microworlds • TG: L12.Exts (pp69-70) • Plant Growth and Development • TG: L01 (pp3-8) • TG: L11 (pp61-66) • TG: L14.Exts (pp86-87) • Schoolyard Ecology • TG: Act03-04 (pp33-49) • Terrarium Habitats • TG: Act03-05 (pp23-48) • STC Book: Ecosystems: (pp11-23), (pp49-51) • STC Book: Plant Growth and Development: (pp28-30), (pp39-43), (pp48-50), (pp58-61) |
| PERFORMANCE / | AK.SD. | Concepts of Earth Science: A student should understand and be able to apply |

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| CONTENT STANDARD | | the concepts, processes, theories, models, evidence, and systems of earth and space sciences. A student who meets the content standard should: |
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| GRADE LEVEL EXPECTATION | SD1. | <p>Develop an understanding of Earth's geochemical cycles.</p> <ul style="list-style-type: none"> • Terrarium Habitats • TG: Act01 (pp5-13) • STC Book: Plant Growth and Development: (pp028-30) |
| GRADE LEVEL EXPECTATION | SD2. | <p>Develop an understanding of the origins, ongoing processes, and forces that shape the structure, composition, and physical history of the Earth.</p> <ul style="list-style-type: none"> • Land and Water • TG: L03-07 (pp29-84) • TG: L09-10 (pp99-118) • TG: L14-15 (pp153-172) • Stories in Stone • TG: Exts (p114) • STC Book: Land and Water: (pp07-11), (pp53-56) • STC Book: Rocks and Minerals: (pp07-09), (pp17-19), (pp28-30), (pp33-35), (pp47-49) |
| GRADE LEVEL EXPECTATION | SD3. | <p>Develop an understanding of the cyclical changes controlled by energy from the sun and by Earth's position and motion in our solar system.</p> <ul style="list-style-type: none"> • Space Science for Grades 3-5 • TG: Ses 3 Pre Assessment (pp 1-2) • TG: Ses 3 Post Assessment (pp 1-2) • TG: Ses 3.1-3.4 (pp 286-335) • TG: Ses 4.1-4.5 (pp 340-423) |
| PERFORMANCE / CONTENT STANDARD | AK.SE. | Science and Technology: A student should understand the relationships among science, technology, and society. A student who meets the content standard should: |
| GRADE LEVEL EXPECTATION | SE1. | <p>Develop an understanding of how scientific knowledge and technology are used in making decisions about issues, innovations, and responses to problems and everyday events.</p> <ul style="list-style-type: none"> • Building Blocks of Science: Understanding Cells and DNA • TG: Act 02 (pp 27-33) • STC Book: Electric Circuits: (pp17-21) • STC Book: Motion and Design: (pp29-36) |
| GRADE LEVEL EXPECTATION | SE2. | <p>Develop an understanding that solving problems involves different ways of thinking, perspectives, and curiosity that lead to the exploration of multiple paths that are analyzed using scientific, technological, and social merits.</p> <ul style="list-style-type: none"> • Animal Studies • TG: L16 (pp165-168) • Building Blocks of Science: Understanding Cells and DNA • TG: Act 02 (pp 27-33) • Electric Circuits • TG: L01 (pp3-6) • Moons of Jupiter • TG: Act01 (pp7-17) |

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| | | <ul style="list-style-type: none"> • Motion and Design • TG: L15.Exts (p143) • Space Science for Grades 3-5 • TG: Ses 3.1 (pp 286-299) • STC Book: Floating and Sinking: (pp07-14), (pp18-26), (pp29-30), (pp34-35), (pp41-42) • STC Book: Microworlds: (pp10-12) • STC Book: Plant Growth and Development: (pp31-36) |
| GRADE LEVEL EXPECTATION | SE3. | <p>Develop an understanding of how scientific discoveries and technological innovations affect and are affected by our lives and cultures</p> <ul style="list-style-type: none"> • Animal Studies • TG: L03.Exts (p32) • Electric Circuits • TG: L04 Exts (p24) • TG: L08 Exts (p47) • Floating and Sinking • TG: L15 (pp119-128) • GEMS Electric Circuits • TG: Ses01 (pp13-33) • Investigating Artifacts • TG: Ses03-04 (pp25-41) • Motion and Design • TG: L02 (pp15-24) • STC Book: Ecosystems: (pp35-37) • STC Book: Electric Circuits: (pp07-12), (pp17-21), (pp36-38), (pp56-59) • STC Book: Floating and Sinking: (pp11-26), (pp31-33) • STC Book: Microworlds: (pp07-09) • STC Book: Motion and Design: (pp20-22), (pp29-40), (pp52-57) • STC Book: Plant Growth and Development: (pp31-33) |
| PERFORMANCE / CONTENT STANDARD | AK.SF. | <p>Cultural, Social, Personal Perspectives and Science: A student should understand the dynamic relationships among scientific, cultural, social, and personal perspectives. A student who meets the content standard should:</p> |
| GRADE LEVEL EXPECTATION | SF1. | <p>Develop an understanding of the interrelationships among individuals, cultures, societies, science, and technology.</p> <ul style="list-style-type: none"> • Building Blocks of Science: Understanding Cells and DNA • TG: Act 02 (pp 27-33) • Electric Circuits • TG: L01 (pp3-6) • TG: L08 Exts (p47) • Floating and Sinking • TG: L15 (pp119-128) • GEMS Electric Circuits • TG: Ses01 (pp13-33) • Investigating Artifacts • TG: Ses03-04 (pp25-41) • Moons of Jupiter • TG: Act01 (pp7-17) • Motion and Design • TG: L02 (pp15-24) • TG: L15.Exts (p143) • Space Science for Grades 3-5 • TG: Ses 3.1 (pp 286-299) |

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| | | <ul style="list-style-type: none"> • STC Book: Animal Studies: (pp50-52) • STC Book: Electric Circuits: (pp07-12), (pp17-21) • STC Book: Floating and Sinking: (pp07-14), (pp18-26), (pp29-35), (pp41-42) • STC Book: Land and Water: (pp07-09) • STC Book: Microworlds: (pp07-12) • STC Book: Motion and Design: (pp23-36), (pp41-43), (pp52-57) • STC Book: Plant Growth and Development: (pp31-36) |
| GRADE LEVEL EXPECTATION | SF2. | <p>Develop an understanding that some individuals, cultures, and societies use other beliefs and methods in addition to scientific methods to describe and understand the world.</p> <ul style="list-style-type: none"> • GEMS Electric Circuits • TG: Ses01 (pp13-33) • Investigating Artifacts • TG: Ses03-04 (pp25-41) • STC Book: Animal Studies: (pp50-52) • STC Book: Electric Circuits: (pp07-10) • STC Book: Land and Water: (pp07-09) • STC Book: Motion and Design: (pp23-28), (pp41-43) • STC Book: Plant Growth and Development: (pp12-15), (pp31-33) |
| GRADE LEVEL EXPECTATION | SF3. | <p>Develop an understanding of the importance of recording and validating cultural knowledge.</p> <ul style="list-style-type: none"> • GEMS Electric Circuits • TG: Ses01 (pp13-33) • Investigating Artifacts • TG: Ses03-04 (pp25-41) • STC Book: Animal Studies: (pp50-52) • STC Book: Electric Circuits: (pp07-10) • STC Book: Land and Water: (pp07-09) • STC Book: Motion and Design: (pp23-28), (pp41-43) • STC Book: Plant Growth and Development: (pp31-33) |
| PERFORMANCE / CONTENT STANDARD | AK.SG. | History and Nature of Science: A student should understand the history and nature of science. A student who meets the content standard should: |
| GRADE LEVEL EXPECTATION | SG1. | <p>Develop an understanding that historical perspectives of scientific explanations demonstrate that scientific knowledge changes over time, building on prior knowledge.</p> <ul style="list-style-type: none"> • Building Blocks of Science: Understanding Cells and DNA • TG: Act 02 (pp 27-33) • Electric Circuits • TG: L01 (pp3-6) • Moons of Jupiter • TG: Act01 (pp7-17) • Motion and Design • TG: L15.Exts (p143) • Space Science for Grades 3-5 • TG: Ses 3.1 (pp 286-299) • STC Book: Floating and Sinking: (pp07-26), (pp29-30), (pp34-35), (pp41-42) |

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| | | <ul style="list-style-type: none"> • STC Book: Microworlds: (pp10-12) • STC Book: Plant Growth and Development: (pp31-36) |
| GRADE LEVEL EXPECTATION | SG2. | <p>Develop an understanding that the advancement of scientific knowledge embraces innovation and requires empirical evidence, repeatable investigations, logical arguments, and critical review in striving for the best possible explanations of the natural world.</p> <ul style="list-style-type: none"> • Animal Studies • TG: L16 (pp165-168) • Building Blocks of Science: Understanding Cells and DNA • TG: Act 02 (pp 27-33) • Electric Circuits • TG: L01 (pp3-6) • TG: L04 Exts (p24) • TG: L08 Exts (p47) • Floating and Sinking • TG: L15 (pp119-128) • GEMS Electric Circuits • TG: Ses01 (pp13-33) • Moons of Jupiter • TG: Act01 (pp7-17) • Motion and Design • TG: L02 (pp15-24) • TG: L15.Exts (p143) • Space Science for Grades 3-5 • TG: Ses 3.1 (pp 286-299) • STC Book: Electric Circuits: (pp07-12), (pp17-21), (pp36-38), (pp56-59) • STC Book: Floating and Sinking: (pp07-14), (pp18-26), (pp29-35), (pp41-42) • STC Book: Microworlds: (pp07-12) • STC Book: Motion and Design: (pp20-22), (pp29-40), (pp52-57) • STC Book: Plant Growth and Development: (pp31-36) |
| GRADE LEVEL EXPECTATION | SG3. | <p>Develop an understanding that scientific knowledge is ongoing and subject to change as new evidence becomes available through experimental and/or observational confirmation(s).</p> <ul style="list-style-type: none"> • Building Blocks of Science: Understanding Cells and DNA • TG: Act 02 (pp 27-33) • Electric Circuits • TG: L01 (pp3-6) • Moons of Jupiter • TG: Act01 (pp7-17) • Motion and Design • TG: L15.Exts (p143) • Space Science for Grades 3-5 • TG: Ses 3.1 (pp 286-299) • STC Book: Floating and Sinking: (pp07-14), (pp18-26), (pp29-30), (pp34-35), (pp41-42) • STC Book: Microworlds: (pp10-12) • STC Book: Plant Growth and Development: (pp31-36) |
| GRADE LEVEL EXPECTATION | SG4. | <p>Develop an understanding that advancements in science depend on curiosity,</p> |

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| | | <p>creativity, imagination, and a broad knowledge base.</p> <ul style="list-style-type: none">• Building Blocks of Science: Understanding Cells and DNA• TG: Act 02 (pp 27-33)• Electric Circuits• TG: L01 (pp3-6)• TG: L04 Exts (p24)• TG: L08 Exts (p47)• Floating and Sinking• TG: L15 (pp119-128)• GEMS Electric Circuits• TG: Ses01 (pp13-33)• Moons of Jupiter• TG: Act01 (pp7-17)• Motion and Design• TG: L02 (pp15-24)• TG: L15.Exts (p143)• Space Science for Grades 3-5• TG: Ses 3.1 (pp 286-299)• STC Book: Electric Circuits: (pp07-12), (pp17-21), (pp36-38), (pp56-59)• STC Book: Floating and Sinking: (pp07-14), (pp18-26), (pp29-35), (pp41-42)• STC Book: Microworlds: (pp07-12)• STC Book: Motion and Design: (pp20-22), (pp29-40), (pp52-57)• STC Book: Plant Growth and Development: (pp31-36) |
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Carolina™ Curriculum Correlation to Alaska Content and Performance Standards – Science Grades 3-8

Grade 5

| PERFORMANCE / CONTENT STANDARD | AK.A1. | Science as Inquiry and Process (SA1, SA2, SA3) |
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| GRADE LEVEL EXPECTATION | [5] SA1.1. | <p>The student demonstrates an understanding of the processes of science by asking questions, predicting, observing, describing, measuring, classifying, making generalizations, inferring and communicating.</p> <ul style="list-style-type: none"> • All Units |
| GRADE LEVEL EXPECTATION | [5] SA1.2. | <p>The student demonstrates an understanding of the processes of science by using quantitative and qualitative observations to create their own inferences and predictions.</p> <ul style="list-style-type: none"> • All Units |
| GRADE LEVEL EXPECTATION | [5] SA2.1. | <p>The student demonstrates an understanding of the attitudes and approaches to scientific inquiry by supporting their statements with facts from a variety of resources and by identifying their sources. (L)</p> <ul style="list-style-type: none"> • Animal Studies • TG: L14 (pp143-156) • Building Blocks of Science: Human Bodyworks • TG: Ext 02 (p 26) • TG: Ext 03 (p 33) • TG: Ext 04 (p 41) • TG: Ext 07 (p 57) • TG: Ext 08 (p 64) • TG: Ext 09 (p 68) • TG: Ext 10 (p 73) • TG: Ext 11 (p 79) • Building Blocks of Science: Understanding Cells and DNA • TG: Ext 01 (p 23) • TG: Ext 04 (p 58) • TG: Ext 05 (p 71) • Food Chemistry • TG: L06 (pp57-68) • TG: L08-10 (pp79-100) • TG: L12-13 (pp107-124) • TG: L15 (pp131-148) • Land and Water • TG: L02 (pp11-28) • TG: L06-07 (pp63-84) • TG: L12 (pp129-142) • TG: L16 (pp173-182) • The Technology of Paper • TG: L15.Exts (pp191-192) |
| GRADE LEVEL EXPECTATION | [5] SA3.1. | <p>The student demonstrates an understanding that interactions with the environment provide an opportunity for understanding scientific concepts by identifying the limiting factors (e.g., weather, human influence, species interactions) that determine which plants and/or animals survive.</p> <ul style="list-style-type: none"> • Animal Studies • TG: L11.Exts (p119) |

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| | | <ul style="list-style-type: none"> • TG: L13.Exts (p138) • TG: L14.Exts (p145) • TG: L16.Exts (p167) • Environmental Detectives • TG: Act01-07 (pp15-202) • Only One Ocean • TG: Act03 (pp89-144) • STC Book: Animal Studies: (pp06-11), (pp16-19), (pp30-32), (pp40-42), (pp45-49) • STC Book: Ecosystems: (pp07-23), (pp26-37), (pp49-51) • STC Book: Electric Circuits: (pp47-49) • STC Book: Experiments with Plants: (pp11-13) • STC Book: Floating and Sinking: (pp60-61) • STC Book: Motion and Design: (pp14-17) |
| PERFORMANCE / CONTENT STANDARD | AK.B1. | Concepts of Physical Science (SB1, SB2, SB3, SB4) |
| GRADE LEVEL EXPECTATION | [5] SB1.1. | <p>The student demonstrates understanding of the structure and properties of matter by comparing models that represent matter as solids, liquids, or gases and the changes from one state to another. (L)</p> <ul style="list-style-type: none"> • Land and Water • TG: L02.Exts (p19) |
| GRADE LEVEL EXPECTATION | [5] SB3.1. | <p>The student demonstrates understanding of the interactions between matter and energy and the effects of these interactions on systems by identifying physical and chemical changes based on observable characteristics (e.g., tearing paper vs. burning paper).</p> <ul style="list-style-type: none"> • Bubble-ology • TG: Act02-03 (pp11-27) • TG: Act05-06 (pp35-44) • Ecosystems • TG: L13.Exts (p127) • Floating and Sinking • TG: L06 (pp49-54) • Microworlds • TG: L09.Exts (p53) • Of Cabbages and Chemistry • TG: Ses01-02 (pp9-28) • TG: Ses04 (pp41-46) |
| GRADE LEVEL EXPECTATION | [5] SB4.1. | <p>The student demonstrates an understanding of motions, forces, their characteristics, relationships, and effects by investigating that the greater the force acting on an object, the greater the change in motion will be. (L)</p> <ul style="list-style-type: none"> • Building Blocks of Science: Measure It! • TG: L03 (pp 23-38) • Earth, Moon, and Stars • TG: Act01 (pp3-8) • Floating and Sinking • TG: L09 (pp69-78) • Motion and Design • TG: L03-05 (pp25-56) |

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| | | <ul style="list-style-type: none"> • TG: L07.Exts (pp68-69) • TG: L08-13 (pp73-124) • TG: L15 (pp139-144) • TG: L17 (pp153-156) • Space Science for Grades 3-5 • TG: Ses 1.1 (pp 28-45) • TG: Ses 2.1-2.6 (pp 172-281) |
| PERFORMANCE / CONTENT STANDARD | AK.C1. | Concepts of Life Science (SC1, SC2, SC3) |
| GRADE LEVEL EXPECTATION | [5] SC1.1. | <p>The student demonstrates an understanding of how science explains changes in life forms over time, including genetics, heredity, the process of natural selection and biological evolution by contrasting inherited traits (e.g., flower color, number of limbs) with those that are not (riding a bike, scar from an accident).</p> <ul style="list-style-type: none"> • Animal Studies • TG: L11.Exts (p119) • TG: L13.Exts (p138) • Building Blocks of Science: Understanding Cells and DNA • TG: Pre Assessment (pp 17-19) • TG: Ext 05 (p 71) • TG: Act 06 (pp 75-79) • TG: Post Assessment (pp 85-91) • STC Book: Experiments with Plants: (pp11-13), (pp36-40), (pp44-46), (pp50-56) |
| GRADE LEVEL EXPECTATION | [5] SC1.2. | <p>The student demonstrates an understanding of how science explains changes in life forms over time, including genetics, heredity, the process of natural selection and biological evolution by making reasonable inferences about fossil organisms based on physical evidence.</p> <ul style="list-style-type: none"> • Life Through Time • TG: Ses02-05 (pp37-204) |
| GRADE LEVEL EXPECTATION | [5] SC2.1. | <p>The student demonstrates an understanding of the structure, function, behavior, development, life cycles, and diversity of living organisms by identifying and sorting animals into groups using basic external and internal features.</p> <ul style="list-style-type: none"> • Life Through Time • TG: Ses01-06 (pp13-234) • Schoolyard Ecology • TG: Act03 (pp33-41) • STC Book: Experiments with Plants: (pp07-10), (pp54-56) |
| GRADE LEVEL EXPECTATION | [5] SC2.2. | <p>The student demonstrates an understanding of the structure, function, behavior, development, life cycles, and diversity of living organisms by explaining how external features and internal systems (i.e., respiratory, excretory, skeletal, circulatory, and digestive) of plants and animals may help them grow, survive, and reproduce.</p> <ul style="list-style-type: none"> • Aquatic Habitats • TG: Act02-03 (pp25-43) • TG: Exts (pp70-78) |

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| | | <ul style="list-style-type: none"> • Animal Studies • TG: L03-06 (pp21-74) • TG: L08 (pp87-96) • TG: L13-15 (pp135-164) • TG: L16.Exts (p167) • Building Blocks of Science: Human Bodyworks • TG: Pre Assessment (pp 13-17) • TG: Act 01-12 (pp 19-84) • TG: Post Assessment (pp 85-88) • Building Blocks of Science: Understanding Cells and DNA • TG: Act 01 (pp 21-26) • Experiments with Plants • TG: L01-02 (pp9-30) • TG: L05-07 (pp51-70) • TG: L09 (pp75-80) • TG: L12-16 (pp91-128) • Life Through Time • TG: Ses03-06 (pp101-234) • Land and Water • TG: L14.Exts (p156) • Microscopic Explorations • TG: Act08-10 (pp81-97) • Microworlds • TG: L13.Exts (p74) • Only One Ocean • TG: Act02 (pp43-87) • Schoolyard Ecology • TG: Act02 (pp21-31) • TG: Act04 (pp43-49) • Terrarium Habitats • TG: Act03-05 (pp23-48) • STC Book: Animal Studies: (pp06-08), (pp16-19) • STC Book: Electric Circuits: (pp11-12), (pp47-49) • STC Book: Experiments with Plants: (pp07-13), (pp26-33) • STC Book: Floating and Sinking: (pp54-61) • STC Book: Measuring Time: (pp59-61) • STC Book: Microworlds: (pp31-33), (pp37-43), (pp46-47), (pp58-61) • STC Book: Motion and Design: (pp07-09) |
| <p>GRADE LEVEL EXPECTATION</p> | <p>[5] SC2.3.</p> | <p>The student demonstrates an understanding of the structure, function, behavior, development, life cycles, and diversity of living organisms by recognizing that organisms are composed of cells.</p> <ul style="list-style-type: none"> • Building Blocks of Science: Understanding Cells and DNA • TG: Pre Assessment (pp 17-19) • TG: Act 01-05 (pp 21-73) • TG: Post Assessment (pp 85-91) • Microworlds • TG: L11-16 (pp61-86) |
| <p>GRADE LEVEL EXPECTATION</p> | <p>[5] SC3.1.</p> | <p>The student demonstrates an understanding that all organisms are linked to each other and their physical environments through the transfer and transformation of matter and energy by diagramming how matter and energy are transferred within and between living and nonliving things.</p> <ul style="list-style-type: none"> • Ecosystems |

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| | | <ul style="list-style-type: none"> • TG: L01 (pp3-12) • TG: L07 (pp75-82) • TG: L12.Exts (p120) • Terrarium Habitats • TG: Act01 (pp5-13) • STC Book: Ecosystems: (pp14-16) |
| GRADE LEVEL EXPECTATION | [5] SC3.2. | <p>The student demonstrates an understanding that all organisms are linked to each other and their physical environments through the transfer and transformation of matter and energy by organizing a simple food chain of familiar plants and animals that traces the source of the energy back to sunlight.</p> <ul style="list-style-type: none"> • Ecosystems • TG: L07 (pp75-82) • TG: L12.Exts (p120) • The Technology of Paper • TG: L02.Exts (p35) • STC Book: Ecosystems: (pp14-16) |
| PERFORMANCE / CONTENT STANDARD | AK.D1. | Concepts of Earth Science (SD1, SD2, SD3, SD4) |
| GRADE LEVEL EXPECTATION | [5] SD1.1. | <p>The student demonstrates an understanding of geochemical cycles by observing a model of the rock cycle showing that smaller rocks come from the breaking and weathering of larger rocks and that smaller rocks (e.g., sediments and sands) may combine with plant materials to form soils. (L)</p> <ul style="list-style-type: none"> • Land and Water • TG: L05 (pp51-62) • TG: L10.Exts (p113) • Stories in Stone • TG: Ses08 (pp103-113) • STC Book: Land and Water: (pp36-38) |
| GRADE LEVEL EXPECTATION | [5] SD2.1. | <p>The student demonstrates an understanding of the forces that shape Earth by describing how wind and water tear down and build up the Earth's surface resulting in new land formations (i.e., deltas, moraines, and canyons).</p> <ul style="list-style-type: none"> • Land and Water • TG: L03-07 (pp29-84) • TG: L10-15 (pp109-172) • Stories in Stone • TG: Ses05 (pp65-73) • STC Book: Land and Water: (pp10-14), (pp36-38) |
| GRADE LEVEL EXPECTATION | [5] SD3.1. | <p>The student demonstrates an understanding of cycles influenced by energy from the sun and by Earth's position and motion in our solar system by observing a model that shows how the regular and predictable motion of the Earth and moon determine the apparent shape (phases) of the moon over time. (L)</p> <ul style="list-style-type: none"> • Earth, Moon, and Stars • TG: Act03-04 (pp17-32) • Measuring Time • TG: L05-06 (pp49-66) • Space Science for Grades 3-5 |

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| | | <ul style="list-style-type: none"> • TG: Ses 4 Pre Assessment (pp 1-2) • TG: Ses 4 Post Assessment (pp 1-2) • TG: Ses 4.1-4.5 (pp 340-423) • STC Book: Measuring Time: (pp15-17) |
| GRADE LEVEL EXPECTATION | [5] SD3.2. | <p>The student demonstrates an understanding of cycles influenced by energy from the sun and by Earth's position and motion in our solar system by comparing heat absorption and loss by land and water.</p> <ul style="list-style-type: none"> • Hot Water and Warm Homes from Sunlight • TG: Ses03-04 (pp19-37) • STC Book: Electric Circuits: (pp17-21) |
| GRADE LEVEL EXPECTATION | [5] SD4.1. | <p>The student demonstrates an understanding of the theories regarding the origin and evolution of the universe by distinguishing between stars, planets, moons, comets, and meteors. (L)</p> <ul style="list-style-type: none"> • Earth, Moon, and Stars • TG: Act03 (pp17-24) • Messages from Space • TG: Act02-03 (pp27-87) • Moons of Jupiter • TG: Act02 (pp19-29) • Measuring Time • TG: L05-06 (pp49-66) • Space Science for Grades 3-5 • TG: Ses 1 Pre Assessment (p 1) • TG: Ses 1 Post Assessment (pp 1-2) • TG: Ses 1.2 (pp 46-55) • TG: Ses 1.4-1.9 (pp 70-167) • TG: Ses 2.6 (pp 260-281) • TG: Ses 4 Pre Assessment (pp 1-2) • TG: Ses 4 Post Assessment (pp 1-2) • TG: Ses 4.1-4.5 (pp 340-423) • STC Book: Measuring Time: (pp15-17) |
| GRADE LEVEL EXPECTATION | [5] SD4.2. | <p>The student demonstrates an understanding of the theories regarding the origin and evolution of the universe by recognizing that the Earth is in regular and predictable motion and this motion explains the length of a day and year.</p> <ul style="list-style-type: none"> • Earth, Moon, and Stars • TG: Act04-06 (pp25-52) • Moons of Jupiter • TG: Act03 (pp31-39) • Measuring Time • TG: L02 (pp21-30) • TG: L06.Exts (p63) • Space Science for Grades 3-5 • TG: Ses 1.1-1.3 (pp 28-69) • TG: Ses 3 Pre Assessment (pp 1-2) • TG: Ses 3 Post Assessment (pp 1-2) • TG: Ses 3 Reading (pp 1-2) • TG: Ses 3.1-3.4 (pp 286-335) • TG: Ses 4.1-4.5 (pp 340-423) |

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| | | <ul style="list-style-type: none"> STC Book: Measuring Time: (pp10-14), (pp24-27), (pp30-34) |
| GRADE LEVEL EXPECTATION | [5] SD4.3. | <p>The student demonstrates an understanding of the theories regarding the origin and evolution of the universe by recognizing and using appropriate instruments of magnification (e.g., binoculars and telescopes). (L)</p> <ul style="list-style-type: none"> Messages from Space TG: Act01 (pp6-25) Moons of Jupiter TG: Act01 (pp7-17) Space Science for Grades 3-5 TG: Ses 1.9 (pp 152-167) TG: Ses 3 Reading (pp 1-2) STC Book: Magnets and Motors: (pp17-20) |
| PERFORMANCE / CONTENT STANDARD | AK.E1. | Science and Technology (SE1, SE2, SE3) |
| GRADE LEVEL EXPECTATION | [5] SE1.1. | <p>The student demonstrates an understanding of how to integrate scientific knowledge and technology to address problems by identifying a community problem or issue and describing the information needed to develop a scientific solution. (L)</p> <ul style="list-style-type: none"> Electric Circuits TG: L02 Exts (p13) TG: L06 Exts (p36) TG: L16 Exts (p83) Fingerprinting TG: Ses03 (pp23-25) Food Chemistry TG: L14 (pp125-130) Measuring Time TG: L14 (pp135-138) TG: L16 (pp145-148) Motion and Design TG: L05 (pp47-56) |
| GRADE LEVEL EXPECTATION | [5] SE2.1. | <p>The student demonstrates an understanding that solving problems involves different ways of thinking, perspectives, and curiosity by investigating a problem or project over a specified period of time and identifying the tools and processes used in that project. (L)</p> <ul style="list-style-type: none"> Animal Studies TG: L01.Exts (p6) TG: L05 (pp49-64) TG: L08 (pp87-96) Bubble Festival TG: Act04 (pp74-79) Bubble-ology TG: Act06 (pp41-44) Building Blocks of Science: Measure It! TG: L03-04 (pp 23-44) Crime Lab Chemistry TG: Act03 (pp47-62) TG: Exts (pp63-64) Ecosystems |

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| | | <ul style="list-style-type: none"> • TG: L07.Exts (p79) • TG: L14.Exts (p136) • Electric Circuits • TG: L02 Exts (p13) • TG: L06 Exts (p36) • TG: L09 Exts (pp51-52) • TG: L12 (pp65-68) • TG: L13 Exts (p71) • TG: L15 Exts (p79) • TG: L16 Exts (p83) • Experiments with Plants • TG: L02-03 (pp21-38) • TG: L12 (pp91-100) • TG: L15 (pp115-122) • Fingerprinting • TG: Ses03 (pp23-25) • Floating and Sinking • TG: L06 (pp49-54) • TG: L08 (pp61-68) • Food Chemistry • TG: L10 (pp95-100) • TG: L13-14 (pp117-130) • TG: L16 (pp149-154) • Land and Water • TG: L15 (pp163-172) • Magnets and Motors • TG: L06.Exts (p39) • TG: L12.Exts (p79) • Measuring Time • TG: L04 (pp43-48) • TG: L07 (pp67-74) • TG: L09.Exts (p90) • TG: L14 (pp135-138) • TG: L16 (pp145-148) • Motion and Design • TG: L01-02 (pp3-24) • TG: L05-06 (pp47-64) • TG: L09 (pp81-90) • TG: L11 (pp101-108) • TG: L14 (pp125-138) • TG: L16.Exts (p148) • Space Science for Grades 3-5 • TG: Ses 4.5 (pp 414-423) • The Technology of Paper • TG: L03.Exts (pp54-55) • TG: L04 (pp61-74) • TG: L10-13 (pp137-170) • TG: L15-17 (pp185-214) |
| <p>GRADE LEVEL EXPECTATION</p> | <p>[5] SE2.2.</p> | <p>The student demonstrates an understanding that solving problems involves different ways of thinking, perspectives, and curiosity by comparing multiple explanations (e.g., oral traditions, folklore, scientific theory) of everyday events (e.g., weather, seasonal changes). (L)</p> <ul style="list-style-type: none"> • Building Blocks of Science: Understanding Cells and DNA • TG: Act 02 (pp 27-33) • Electric Circuits • TG: L02 Exts (p13) |

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| | | <ul style="list-style-type: none"> • TG: L06 Exts (p36) • TG: L16 Exts (p83) • Fingerprinting • TG: Ses03 (pp23-25) • Food Chemistry • TG: L14 (pp125-130) • Measuring Time • TG: L14 (pp135-138) • TG: L16 (pp145-148) • Motion and Design • TG: L05 (pp47-56) • STC Book: Animal Studies: (pp45-49), (pp58-61) • STC Book: Experiments with Plants: (pp11-13), (pp36-46) |
| GRADE LEVEL EXPECTATION | [5] SE3.1. | <p>The student demonstrates an understanding of how scientific discoveries and technological innovations affect our lives and society by describing the various effects of an innovation (e.g., snow machines, airplanes, immunizations) on the safety, health, and environment of the local community. (L)</p> <ul style="list-style-type: none"> • Electric Circuits • TG: L04 Exts (p24) • TG: L08 Exts (p47) • Floating and Sinking • TG: L15 (pp119-128) • GEMS Electric Circuits • TG: Ses01 (pp13-33) • Motion and Design • TG: L02 (pp15-24) • The Technology of Paper • TG: L05 (pp75-90) • STC Book: Electric Circuits: (pp07-12), (pp17-21), (pp36-38), (pp56-59) • STC Book: Experiments with Plants: (pp11-13), (pp41-46) • STC Book: Floating and Sinking: (pp11-14), (pp18-26), (pp31-33) • STC Book: Magnets and Motors: (pp07-08), (pp12-13), (pp28-38), (pp41-44), (pp53-57) • STC Book: Measuring Time: (pp10-17), (pp35-38), (pp46-47) • STC Book: Microworlds: (pp07-09) • STC Book: Motion and Design: (pp20-22), (pp29-40), (pp52-57) • STC Book: The Technology of Paper: (pp07-24), (pp27-29), (pp49-57) |
| PERFORMANCE / CONTENT STANDARD | AK.F1. | Cultural, Social, Personal Perspectives, and Science (SF1, SF2, SF3) |
| GRADE LEVEL EXPECTATION | [5] SF1.1-SF3.1. | <p>The student demonstrates an understanding of the dynamic relationships among scientific, cultural, social, and personal perspectives by telling a local or traditional story that explains a natural event (e.g., animal adaptation, weather, rapid changes to Earth's surface) and relating it to a scientific explanation.(L) Cross referenced with SA3.1.</p> <ul style="list-style-type: none"> • Experiments with Plants • TG: L05 (pp51-56) • Investigating Artifacts • TG: Ses03-04 (pp25-41) • The Technology of Paper • TG: L01 (pp19-28) |

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| | | <ul style="list-style-type: none"> • STC Book: Electric Circuits: (pp07-10) • STC Book: Experiments with Plants: (pp24-25) • STC Book: The Technology of Paper: (pp20-24), (pp33-35), (pp41-43), (pp52-57) |
| PERFORMANCE / CONTENT STANDARD | AK.G1. | History and Nature of Science (SG1, SG2, SG3, SG4) |
| GRADE LEVEL EXPECTATION | [5] SG2.1. | <p>The student demonstrates an understanding of the bases of the advancement of scientific knowledge by reviewing and recording results of investigations into the natural world.</p> <ul style="list-style-type: none"> • Animal Studies • TG: L16.Exts (p167) • Building Blocks of Science: Understanding Cells and DNA • TG: Act 02 (pp 27-33) • Earth, Moon, and Stars • TG: Act01 (pp3-8) • Electric Circuits • TG: L01 (pp3-6) • Moons of Jupiter • TG: Act01 (pp7-17) • Motion and Design • TG: L15.Exts (p143) • Space Science for Grades 3-5 • TG: Ses 3.1 (pp 286-299) • STC Book: Experiments with Plants: (pp36-46), (pp54-61) • STC Book: Floating and Sinking: (pp07-14), (pp18-26), (pp29-30), (pp34-35), (pp41-42) • STC Book: Measuring Time: (pp35-38) • STC Book: Microworlds: (pp10-12) • STC Book: The Technology of Paper: (pp07-09), (pp12-24) |
| GRADE LEVEL EXPECTATION | [5] SG4.1. | <p>The student will demonstrate an understanding that advancements in science depend on curiosity, creativity, imagination, and a broad knowledge base by investigating that scientists' curiosity led to advancements in science. (L)</p> <ul style="list-style-type: none"> • Animal Studies • TG: L16 (pp165-168) • Building Blocks of Science: Understanding Cells and DNA • TG: Act 02 (pp 27-33) • Earth, Moon, and Stars • TG: Act01 (pp3-8) • Electric Circuits • TG: L01 (pp3-6) • Experiments with Plants • TG: L11.Exts (p89) • Moons of Jupiter • TG: Act01 (pp7-17) • Motion and Design • TG: L15.Exts (p143) • Space Science for Grades 3-5 • TG: Ses 3.1 (pp 286-299) • STC Book: Experiments with Plants: (pp36-46), (pp54-61) • STC Book: Floating and Sinking: (pp07-14), (pp18-26), (pp29-30), |

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| | | <ul style="list-style-type: none"> • (pp34-35), (pp41-42) • STC Book: Measuring Time: (pp35-38) • STC Book: Microworlds: (pp10-12) • STC Book: The Technology of Paper: (pp07-09), (pp12-24) |
| PERFORMANCE / CONTENT STANDARD | AK.SA. | Science as Inquiry and Process: A student should understand and be able to apply the processes and applications of scientific inquiry. A student who meets the content standard should: |
| GRADE LEVEL EXPECTATION | SA1. | <p>Develop an understanding of the processes of science used to investigate problems, design and conduct repeatable scientific investigations, and defend scientific arguments.</p> <ul style="list-style-type: none"> • All Units |
| GRADE LEVEL EXPECTATION | SA2. | <p>Develop an understanding that the processes of science require integrity, logical reasoning, skepticism, openness, communication, and peer review.</p> <ul style="list-style-type: none"> • Animal Studies • TG: L16 (pp165-168) • Experiments with Plants • TG: L11.Exts (p89) |
| GRADE LEVEL EXPECTATION | SA3. | <p>Develop an understanding that culture, local knowledge, history, and interaction with the environment contribute to the development of scientific knowledge, and local applications provide opportunity for understanding scientific concepts and global issues.</p> <ul style="list-style-type: none"> • Investigating Artifacts • TG: Ses03-04 (pp25-41) • Measuring Time • TG: L07 (pp67-74) • The Technology of Paper • TG: L01 (pp19-28) • STC Book: Experiments with Plants: (pp54-56) • STC Book: Floating and Sinking: (pp15-17) • STC Book: The Technology of Paper: (pp12-15), (pp20-24), (pp33-35), (pp38-43), (pp52-57) |
| PERFORMANCE / CONTENT STANDARD | AK.SB. | Concepts of Physical Science: A student should understand and be able to apply the concepts, models, theories, universal principles, and facts that explain the physical world. A student who meets the content standard should: |
| GRADE LEVEL EXPECTATION | SB1. | <p>Develop an understanding of the characteristic properties of matter and the relationship of these properties to their structure and behavior.</p> <ul style="list-style-type: none"> • Bubble Festival • TG: Act01-05 (pp54-85) • TG: Act09-12 (pp102-124) • Bubble-ology • TG: Act01 (pp5-9) • TG: Act05 (pp35-39) • Floating and Sinking • TG: L06-07 (pp49-60) • Microscopic Explorations |

Carolina™ Curriculum Correlation to Alaska Content and Performance Standards – Science Grades 3-8

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| | | <ul style="list-style-type: none"> • TG: Act03-04 (pp49-59) • Space Science for Grades 3-5 • TG: Ses 1 Pre Assessment (p 1) • TG: Ses 1 Post Assessment (pp 1-2) • TG: Ses 1.4-1.7 (pp 70-135) • TG: Ses 1.9 (pp 152-167) • TG: Ses 2 Pre Assessment (p 1) • TG: Ses 2 Post Assessment (pp 1-2) • TG: Ses 2.1-2.3 (pp 172-225) • The Technology of Paper • TG: L01-18 (pp19-218) • STC Book: Floating and Sinking: (pp36-40) • STC Book: The Technology of Paper: (pp58-61) |
| GRADE LEVEL EXPECTATION | SB2. | <p>Develop an understanding that energy appears in different forms, can be transformed from one form to another, can be transferred or moved from one place or system to another, may be unavailable for use, and is ultimately conserved.</p> <ul style="list-style-type: none"> • Magnets and Motors • TG: L16 (pp99-102) • Motion and Design • TG: L06-07 (pp57-72) • TG: L12 (pp109-116) • TG: L15 (pp139-144) • STC Book: Electric Circuits: (pp13-21), (pp24-28), (pp32-33), (pp36-38) • STC Book: Magnets and Motors: (pp45-46) |
| GRADE LEVEL EXPECTATION | SB3. | <p>Develop an understanding of the interactions between matter and energy, including physical, chemical, and nuclear changes, and the effects of these interactions on physical systems.</p> <ul style="list-style-type: none"> • Bubble-ology • TG: Act02-03 (pp11-27) • TG: Act05-06 (pp35-44) • Ecosystems • TG: L13.Exts (p127) • Floating and Sinking • TG: L06 (pp49-54) • Microworlds • TG: L09.Exts (p53) • Of Cabbages and Chemistry • TG: Ses01-02 (pp9-28) • TG: Ses04 (pp41-46) |
| GRADE LEVEL EXPECTATION | SB4. | <p>Develop an understanding of motions, forces, their characteristics and relationships, and natural forces and their effects.</p> <ul style="list-style-type: none"> • Building Blocks of Science: Measure It! • TG: L03 (pp 23-38) • Earth, Moon, and Stars • TG: Act01 (pp3-8) • Floating and Sinking • TG: L09 (pp69-78) • Motion and Design |

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| | | <ul style="list-style-type: none"> • TG: L03-05 (pp25-56) • TG: L07.Exts (pp68-69) • TG: L08-13 (pp73-124) • TG: L15 (pp139-144) • TG: L17 (pp153-156) • Space Science for Grades 3-5 • TG: Ses 1.1 (pp 28-45) • TG: Ses 2.1-2.6 (pp 172-281) |
| PERFORMANCE / CONTENT STANDARD | AK.SC. | Concepts of Life Science: A student should understand and be able to apply the concepts, models, theories, facts, evidence, systems, and processes of life science. A student who meets the content standard should: |
| GRADE LEVEL EXPECTATION | SC1. | <p>Develop an understanding of how science explains changes in life forms over time, including genetics, heredity, the process of natural selection, and biological evolution.</p> <ul style="list-style-type: none"> • Building Blocks of Science: Understanding Cells and DNA • TG: Pre Assessment (pp 17-19) • TG: Ext 05 (p 71) • TG: Act 06 (pp 75-79) • TG: Post Assessment (pp 85-91) • Life Through Time • TG: Ses02-07 (pp37-269) • STC Book: Animal Studies: (pp45-49) • STC Book: Experiments with Plants: (pp36-40), (pp44-46) |
| GRADE LEVEL EXPECTATION | SC2. | <p>Develop an understanding of the structure, function, behavior, development, life cycles, and diversity of living organisms.</p> <ul style="list-style-type: none"> • Animal Studies • TG: L01 (pp3-10) • TG: L09.Exts (pp101-102) • TG: L13.Exts (p138) • TG: L14.Exts (p145) • TG: L17 (pp169-172) • Microworlds • TG: L13.Exts (p74) • Schoolyard Ecology • TG: Act05 (pp51-59) • STC Book: Animal Studies: (pp06-08), (pp35-37), (pp40-42), (pp45-49) • STC Book: Experiments with Plants: (pp30-33), (pp44-46), (pp57-59) • STC Book: Food Chemistry: (pp21-23) • STC Book: Microworlds: (pp28-30), (pp37-43), (pp46-47) |
| GRADE LEVEL EXPECTATION | SC3. | <p>Develop an understanding that all organisms are linked to each other and their physical environments through the transfer and transformation of matter and energy.</p> <ul style="list-style-type: none"> • Aquatic Habitats • TG: Act04-05 (pp45-70) • Ecosystems • TG: L01-07 (pp3-82) • TG: L12 (pp117-124) • TG: L17 (pp169-171) |

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| | | <ul style="list-style-type: none"> • Experiments with Plants • TG: L06-07 (pp57-70) • Microworlds • TG: L12.Exts (pp69-70) • Schoolyard Ecology • TG: Act03-04 (pp33-49) • Terrarium Habitats • TG: Act03-05 (pp23-48) • STC Book: Ecosystems: (pp11-23), (pp49-51) • STC Book: Experiments with Plants: (pp30-33) |
| PERFORMANCE / CONTENT STANDARD | AK.SD. | Concepts of Earth Science: A student should understand and be able to apply the concepts, processes, theories, models, evidence, and systems of earth and space sciences. A student who meets the content standard should: |
| GRADE LEVEL EXPECTATION | SD1. | <p>Develop an understanding of Earth's geochemical cycles.</p> <ul style="list-style-type: none"> • Terrarium Habitats • TG: Act01 (pp5-13) |
| GRADE LEVEL EXPECTATION | SD2. | <p>Develop an understanding of the origins, ongoing processes, and forces that shape the structure, composition, and physical history of the Earth.</p> <ul style="list-style-type: none"> • Earth, Moon, and Stars • TG: Act01 (pp3-8) • Life Through Time • TG: Ses01-02 (pp13-100) • Land and Water • TG: L03-07 (pp29-84) • TG: L09-10 (pp99-118) • TG: L14-15 (pp153-172) • Stories in Stone • TG: Exts (p114) • STC Book: Land and Water: (pp07-11), (pp53-56) |
| GRADE LEVEL EXPECTATION | SD3. | <p>Develop an understanding of the cyclical changes controlled by energy from the sun and by Earth's position and motion in our solar system.</p> <ul style="list-style-type: none"> • Earth, Moon, and Stars • TG: Act03 (pp17-24) • TG: Act05-06 (pp33-52) • Measuring Time • TG: L02 (pp21-30) • Space Science for Grades 3-5 • TG: Ses 3 Pre Assessment (pp 1-2) • TG: Ses 3 Post Assessment (pp 1-2) • TG: Ses 3.1-3.4 (pp 286-335) • TG: Ses 4.1-4.5 (pp 340-423) • STC Book: Measuring Time: (pp10-14), (pp24-27), (pp30-34) |
| GRADE LEVEL EXPECTATION | SD4. | <p>Develop an understanding of the theories regarding the origin and evolution of the universe.</p> <ul style="list-style-type: none"> • Messages from Space |

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| | | <ul style="list-style-type: none"> TG: Act03 (pp46-87) |
| PERFORMANCE / CONTENT STANDARD | AK.SE. | Science and Technology: A student should understand the relationships among science, technology, and society. A student who meets the content standard should: |
| GRADE LEVEL EXPECTATION | SE1. | <p>Develop an understanding of how scientific knowledge and technology are used in making decisions about issues, innovations, and responses to problems and everyday events.</p> <ul style="list-style-type: none"> Building Blocks of Science: Understanding Cells and DNA TG: Act 02 (pp 27-33) The Technology of Paper TG: L05 (pp75-90) STC Book: Electric Circuits: (pp17-21) STC Book: Magnets and Motors: (pp47-50) STC Book: Motion and Design: (pp29-36) STC Book: The Technology of Paper: (pp12-15), (pp20-24), (pp41-43) |
| GRADE LEVEL EXPECTATION | SE2. | <p>Develop an understanding that solving problems involves different ways of thinking, perspectives, and curiosity that lead to the exploration of multiple paths that are analyzed using scientific, technological, and social merits.</p> <ul style="list-style-type: none"> Animal Studies TG: L16 (pp165-168) Building Blocks of Science: Understanding Cells and DNA TG: Act 02 (pp 27-33) Earth, Moon, and Stars TG: Act01 (pp3-8) Electric Circuits TG: L01 (pp3-6) Experiments with Plants TG: L11.Exts (p89) Moons of Jupiter TG: Act01 (pp7-17) Motion and Design TG: L15.Exts (p143) Space Science for Grades 3-5 TG: Ses 3.1 (pp 286-299) The Technology of Paper TG: L16.Exts (pp201-202) STC Book: Experiments with Plants: (pp36-46), (pp54-56), (pp60-61) STC Book: Floating and Sinking: (pp07-14), (pp18-26), (pp29-30), (pp34-35), (pp41-42) STC Book: Measuring Time: (pp35-38) STC Book: Microworlds: (pp10-12) STC Book: The Technology of Paper: (pp07-09), (pp12-24) |
| GRADE LEVEL EXPECTATION | SE3. | <p>Develop an understanding of how scientific discoveries and technological innovations affect and are affected by our lives and cultures</p> <ul style="list-style-type: none"> Animal Studies TG: L03.Exts (p32) Electric Circuits TG: L04 Exts (p24) |

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| | | <ul style="list-style-type: none"> • TG: L08 Exts (p47) • Floating and Sinking • TG: L15 (pp119-128) • GEMS Electric Circuits • TG: Ses01 (pp13-33) • Investigating Artifacts • TG: Ses03-04 (pp25-41) • Measuring Time • TG: L07 (pp67-74) • Motion and Design • TG: L02 (pp15-24) • The Technology of Paper • TG: L01 (pp19-28) • TG: L05 (pp75-90) • STC Book: Ecosystems: (pp35-37) • STC Book: Electric Circuits: (pp07-12), (pp17-21), (pp36-38), (pp56-59) • STC Book: Experiments with Plants: (pp11-13), (pp41-46), (pp54-56) • STC Book: Floating and Sinking: (pp11-26), (pp31-33) • STC Book: Magnets and Motors: (pp07-08), (pp12-13), (pp28-38), (pp41-44), (pp47-50), (pp53-57) • STC Book: Measuring Time: (pp10-17), (pp35-42), (pp46-47) • STC Book: Microworlds: (pp07-09) • STC Book: Motion and Design: (pp20-22), (pp29-40), (pp52-57) • STC Book: The Technology of Paper: (pp07-24), (pp27-29), (pp33-35), (pp38-43), (pp49-57) |
| PERFORMANCE / CONTENT STANDARD | AK.SF. | Cultural, Social, Personal Perspectives and Science: A student should understand the dynamic relationships among scientific, cultural, social, and personal perspectives. A student who meets the content standard should: |
| GRADE LEVEL EXPECTATION | SF1. | <p>Develop an understanding of the interrelationships among individuals, cultures, societies, science, and technology.</p> <ul style="list-style-type: none"> • Building Blocks of Science: Understanding Cells and DNA • TG: Act 02 (pp 27-33) • Earth, Moon, and Stars • TG: Act01 (pp3-8) • Electric Circuits • TG: L01 (pp3-6) • TG: L08 Exts (p47) • Experiments with Plants • TG: L05 (pp51-56) • Floating and Sinking • TG: L15 (pp119-128) • GEMS Electric Circuits • TG: Ses01 (pp13-33) • Investigating Artifacts • TG: Ses03-04 (pp25-41) • Moons of Jupiter • TG: Act01 (pp7-17) • Measuring Time • TG: L04 (pp43-48) • Motion and Design • TG: L02 (pp15-24) • TG: L15.Exts (p143) • Space Science for Grades 3-5 |

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| | | <ul style="list-style-type: none"> • TG: Ses 3.1 (pp 286-299) • The Technology of Paper • TG: L01 (pp19-28) • TG: L05 (pp75-90) • TG: L16.Exts (pp201-202) • TG: L18 (pp215-218) • STC Book: Animal Studies: (pp50-52) • STC Book: Electric Circuits: (pp07-12), (pp17-21) • STC Book: Experiments with Plants: (pp11-13), (pp24-25), (pp36-46), (pp54-56), (pp60-61) • STC Book: Floating and Sinking: (pp07-14), (pp18-26), (pp29-35), (pp41-42) • STC Book: Land and Water: (pp07-09) • STC Book: Magnets and Motors: (pp07-08), (pp12-13), (pp28-32) • STC Book: Measuring Time: (pp10-17), (pp35-38), (pp46-47) • STC Book: Microworlds: (pp07-12) • STC Book: Motion and Design: (pp23-36), (pp41-43), (pp52-57) • STC Book: The Technology of Paper: (pp07-24), (pp27-29), (pp33-35), (pp41-43), (pp49-57) |
| <p>GRADE LEVEL EXPECTATION</p> | <p>SF2.</p> | <p>Develop an understanding that some individuals, cultures, and societies use other beliefs and methods in addition to scientific methods to describe and understand the world.</p> <ul style="list-style-type: none"> • Experiments with Plants • TG: L05 (pp51-56) • GEMS Electric Circuits • TG: Ses01 (pp13-33) • Investigating Artifacts • TG: Ses03-04 (pp25-41) • Measuring Time • TG: L04 (pp43-48) • The Technology of Paper • TG: L05 (pp75-90) • TG: L18 (pp215-218) • STC Book: Animal Studies: (pp50-52) • STC Book: Electric Circuits: (pp07-10) • STC Book: Experiments with Plants: (pp24-25), (pp41-43) • STC Book: Land and Water: (pp07-09) • STC Book: Measuring Time: (pp10-17) • STC Book: Motion and Design: (pp23-28), (pp41-43) • STC Book: The Technology of Paper: (pp49-51) |
| <p>GRADE LEVEL EXPECTATION</p> | <p>SF3.</p> | <p>Develop an understanding of the importance of recording and validating cultural knowledge.</p> <ul style="list-style-type: none"> • Experiments with Plants • TG: L05 (pp51-56) • GEMS Electric Circuits • TG: Ses01 (pp13-33) • Investigating Artifacts • TG: Ses03-04 (pp25-41) • Measuring Time • TG: L04 (pp43-48) • The Technology of Paper • TG: L05 (pp75-90) • TG: L18 (pp215-218) |

Carolina™ Curriculum Correlation to Alaska Content and Performance Standards – Science Grades 3-8

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| | | <ul style="list-style-type: none"> • STC Book: Animal Studies: (pp50-52) • STC Book: Electric Circuits: (pp07-10) • STC Book: Experiments with Plants: (pp24-25), (pp41-43) • STC Book: Land and Water: (pp07-09) • STC Book: Measuring Time: (pp10-17) • STC Book: Motion and Design: (pp23-28), (pp41-43) • STC Book: The Technology of Paper: (pp49-51) |
| PERFORMANCE / CONTENT STANDARD | AK.SG. | History and Nature of Science: A student should understand the history and nature of science. A student who meets the content standard should: |
| GRADE LEVEL EXPECTATION | SG1. | <p>Develop an understanding that historical perspectives of scientific explanations demonstrate that scientific knowledge changes over time, building on prior knowledge.</p> <ul style="list-style-type: none"> • Building Blocks of Science: Understanding Cells and DNA • TG: Act 02 (pp 27-33) • Earth, Moon, and Stars • TG: Act01 (pp3-8) • Electric Circuits • TG: L01 (pp3-6) • Moons of Jupiter • TG: Act01 (pp7-17) • Measuring Time • TG: L07 (pp67-74) • Motion and Design • TG: L15.Exts (p143) • Space Science for Grades 3-5 • TG: Ses 3.1 (pp 286-299) • The Technology of Paper • TG: L01 (pp19-28) • TG: L16.Exts (pp201-202) • STC Book: Experiments with Plants: (pp11-13), (pp36-46), (pp54-56), (pp60-61) • STC Book: Floating and Sinking: (pp07-26), (pp29-30), (pp34-35), (pp41-42) • STC Book: Measuring Time: (pp35-38) • STC Book: Microworlds: (pp10-12) • STC Book: The Technology of Paper: (pp07-09), (pp12-24), (pp38-43) |
| GRADE LEVEL EXPECTATION | SG2. | <p>Develop an understanding that the advancement of scientific knowledge embraces innovation and requires empirical evidence, repeatable investigations, logical arguments, and critical review in striving for the best possible explanations of the natural world.</p> <ul style="list-style-type: none"> • Animal Studies • TG: L16 (pp165-168) • Building Blocks of Science: Understanding Cells and DNA • TG: Act 02 (pp 27-33) • Earth, Moon, and Stars • TG: Act01 (pp3-8) • Electric Circuits • TG: L01 (pp3-6) • TG: L04 Exts (p24) • TG: L08 Exts (p47) |

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| | | <ul style="list-style-type: none"> • Experiments with Plants • TG: L11.Exts (p89) • Floating and Sinking • TG: L15 (pp119-128) • GEMS Electric Circuits • TG: Ses01 (pp13-33) • Moons of Jupiter • TG: Act01 (pp7-17) • Motion and Design • TG: L02 (pp15-24) • TG: L15.Exts (p143) • Space Science for Grades 3-5 • TG: Ses 3.1 (pp 286-299) • The Technology of Paper • TG: L05 (pp75-90) • STC Book: Electric Circuits: (pp07-12), (pp17-21), (pp36-38), (pp56-59) • STC Book: Experiments with Plants: (pp11-13), (pp36-46), (pp54-56), (pp60-61) • STC Book: Floating and Sinking: (pp07-14), (pp18-26), (pp29-35), (pp41-42) • STC Book: Magnets and Motors: (pp07-08), (pp12-13), (pp28-38), (pp41-44), (pp53-57) • STC Book: Measuring Time: (pp10-17), (pp35-38), (pp46-47) • STC Book: Microworlds: (pp07-12) • STC Book: Motion and Design: (pp20-22), (pp29-40), (pp52-57) • STC Book: The Technology of Paper: (pp07-24), (pp27-29), (pp49-57) |
| <p>GRADE LEVEL EXPECTATION</p> | <p>SG3.</p> | <p>Develop an understanding that scientific knowledge is ongoing and subject to change as new evidence becomes available through experimental and/or observational confirmation(s).</p> <ul style="list-style-type: none"> • Building Blocks of Science: Understanding Cells and DNA • TG: Act 02 (pp 27-33) • Earth, Moon, and Stars • TG: Act01 (pp3-8) • Electric Circuits • TG: L01 (pp3-6) • Moons of Jupiter • TG: Act01 (pp7-17) • Motion and Design • TG: L15.Exts (p143) • Space Science for Grades 3-5 • TG: Ses 3.1 (pp 286-299) • STC Book: Experiments with Plants: (pp36-46), (pp54-56), (pp60-61) • STC Book: Floating and Sinking: (pp07-14), (pp18-26), (pp29-30), (pp34-35), (pp41-42) • STC Book: Measuring Time: (pp35-38) • STC Book: Microworlds: (pp10-12) • STC Book: The Technology of Paper: (pp07-09), (pp12-24) |
| <p>GRADE LEVEL EXPECTATION</p> | <p>SG4.</p> | <p>Develop an understanding that advancements in science depend on curiosity, creativity, imagination, and a broad knowledge base.</p> <ul style="list-style-type: none"> • Building Blocks of Science: Understanding Cells and DNA |

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| | | <ul style="list-style-type: none"> • TG: Act 02 (pp 27-33) • Earth, Moon, and Stars • TG: Act01 (pp3-8) • Electric Circuits • TG: L01 (pp3-6) • TG: L04 Exts (p24) • TG: L08 Exts (p47) • Floating and Sinking • TG: L15 (pp119-128) • GEMS Electric Circuits • TG: Ses01 (pp13-33) • Moons of Jupiter • TG: Act01 (pp7-17) • Motion and Design • TG: L02 (pp15-24) • TG: L15.Exts (p143) • Space Science for Grades 3-5 • TG: Ses 3.1 (pp 286-299) • The Technology of Paper • TG: L05 (pp75-90) • STC Book: Electric Circuits: (pp07-12), (pp17-21), (pp36-38), (pp56-59) • STC Book: Experiments with Plants: (pp11-13), (pp36-46), (pp54-56), (pp60-61) • STC Book: Floating and Sinking: (pp07-14), (pp18-26), (pp29-35), (pp41-42) • STC Book: Magnets and Motors: (pp07-08), (pp12-13), (pp28-44), (pp53-57) • STC Book: Measuring Time: (pp10-17), (pp35-38), (pp46-47) • STC Book: Microworlds: (pp07-12) • STC Book: Motion and Design: (pp20-22), (pp29-40), (pp52-57) • STC Book: The Technology of Paper: (pp07-24), (pp27-29), (pp49-57) |
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Grade 6

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| PERFORMANCE / CONTENT STANDARD | AK.A1. | Science as Inquiry and Process (SA1, SA2, SA3) |
| GRADE LEVEL EXPECTATION | [6] SA1.1. | <p>The student demonstrates an understanding of the processes of science by asking questions, predicting, observing, describing, measuring, classifying, making generalizations, inferring and communicating.</p> <ul style="list-style-type: none"> • All Units |
| GRADE LEVEL EXPECTATION | [6] SA1.2. | <p>The student demonstrates an understanding of the processes of science by collaborating to design and conduct simple repeatable investigations. (L)</p> <ul style="list-style-type: none"> • All Units |
| GRADE LEVEL EXPECTATION | [6] SA2.1. | <p>The student demonstrates an understanding of the attitudes and approaches to scientific inquiry by identifying and differentiating fact from opinion.</p> <ul style="list-style-type: none"> • Electrical Energy and Circuit Design • SG: L02 (pp12-25) • SG: L20 (pp210-213) • TG: L02 (pp23-36) • TG: L20 (pp277-290) • Energy, Machines, and Motion • SG: L07 (pp62-71) • TG: L07 (pp75-84) • Experiments with Plants • TG: L09-10 (pp75-84) • TG: L15 (pp115-122) • Floating and Sinking • TG: L09 (pp69-78) • TG: L10.Exts (p82) • TG: L12-14 (pp95-118) • TG: L16 (pp129-134) • Investigating Artifacts • TG: Ses01 (pp7-13) • Organisms-From Macro to Micro • SG: L15 (pp180-187) • TG: L15 (pp253-266) • Properties of Matter • SG: L03 (pp24-29) • TG: L03 (pp27-38) • The Technology of Paper • TG: L03 (pp49-60) • TG: L07-08 (pp107-126) • TG: L12 (pp157-164) • STC Book: Experiments with Plants: (pp57-61) |
| PERFORMANCE / CONTENT STANDARD | AK.B1. | Concepts of Physical Science (SB1, SB2, SB3, SB4) |
| GRADE LEVEL EXPECTATION | [6] SB1.1. | <p>The student demonstrates understanding of the structure and properties of matter by using models to represent matter as it changes from one state to</p> |

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| | | <p>another.</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L04 (pp42-53) • TG: L04 (pp45-56) • GEMS Electric Circuits • TG: Ses02 (pp35-71) • Properties of Matter • SG: L06-08 (pp56-77) • SG: L25 (pp224-229) • TG: L06-08 (pp65-100) • TG: L25 (pp303-312) |
| <p>GRADE LEVEL EXPECTATION</p> | <p>[6] SB2.1.</p> | <p>The student demonstrates an understanding of how energy can be transformed, transferred, and conserved by recognizing that energy can exist in many forms (i.e., heat, light, chemical, electrical, mechanical).</p> <ul style="list-style-type: none"> • Electrical Energy and Circuit Design • SG: L01-02 (pp2-25) • SG: L05 (pp46-57) • SG: L08-10 (pp84-117) • SG: L12 (pp122-133) • SG: L15-19 (pp156-209) • TG: L01-02 (pp3-36) • TG: L05 (pp61-76) • TG: L08-10 (pp111-156) • TG: L12 (pp169-180) • TG: L15-19 (pp213-276) • Energy, Machines, and Motion • SG: L02-04 (pp12-35) • SG: L10 (pp92-97) • SG: L17 (pp164-173) • SG: L19-20 (pp188-213) • SG: L22 (pp226-236) • TG: L02-04 (pp23-46) • TG: L09-10 (pp99-130) • TG: L17 (pp203-216) • TG: L19-22 (pp229-254) • Light • SG: L02 (pp20-31) • SG: L07 (pp68-81) • SG: L26 (pp294-297) • TG: L02 (pp21-36) • TG: L26 (pp349-367) • Magnets and Motors • TG: L16 (pp99-102) • STC Book: Magnets and Motors: (pp45-46) |
| <p>GRADE LEVEL EXPECTATION</p> | <p>[6] SB3.1.</p> | <p>The student demonstrates understanding of the interactions between matter and energy and the effects of these interactions on systems by recognizing that most substances can exist as a solid, liquid, or gas depending on temperature.</p> <ul style="list-style-type: none"> • Oobleck: What Do Scientists Do? • TG: Ses01 (pp4-8) • Properties of Matter • SG: L01 (pp2-13) |

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| | | <ul style="list-style-type: none"> • SG: L07-08 (pp64-77) • SG: L15 (pp122-129) • SG: L26 (pp230-235) • TG: L02.Exts (p21) • TG: L07-08 (pp79-100) • TG: L12.Exts (p140) • TG: L14.Exts (p157) • TG: L15 (pp161-168) • TG: L26 (pp313-332) |
| GRADE LEVEL EXPECTATION | [6] SB4.2. | <p>The student demonstrates an understanding of motions, forces, their characteristics, relationships, and effects by stating that every object exerts gravitational force on every other object.</p> <ul style="list-style-type: none"> • Energy, Machines, and Motion • SG: L05-06 (pp36-61) • SG: L20-21 (pp200-225) • TG: L05 (pp47-58) • TG: L20-21 (pp235-246) |
| PERFORMANCE / CONTENT STANDARD | AK.C1. | Concepts of Life Science (SC1, SC2, SC3) |
| GRADE LEVEL EXPECTATION | [6] SC1.1. | <p>The student demonstrates an understanding of how science explains changes in life forms over time, including genetics, heredity, the process of natural selection and biological evolution by recognizing sexual and asexual reproduction.</p> <ul style="list-style-type: none"> • Microworlds • TG: L13 (pp71-74) • Organisms-From Macro to Micro • SG: L03 (pp28-37) • SG: L09 (pp106-119) • SG: L12 (pp146-155) • SG: L14 (pp172-179) • SG: L17-18 (pp194-215) • TG: L03 (pp33-48) • TG: L09 (pp151-166) • TG: L12 (pp201-218) • TG: L14 (pp237-252) • TG: L17 (pp281-292) |
| GRADE LEVEL EXPECTATION | [6] SC1.2. | <p>The student demonstrates an understanding of how science explains changes in life forms over time, including genetics, heredity, the process of natural selection and biological evolution by recognizing that species survive by adapting to changes in their environment.</p> <ul style="list-style-type: none"> • Human Body Systems • TG: L22.Exts (p258) • Organisms-From Macro to Micro • SG: L06 (pp64-81) • SG: L13 (pp158-171) • TG: L06 (pp73-104) • TG: L10.Exts (pp175-176) • TG: L13 (pp219-236) • TG: L18.Exts (pp299-300) |

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| | | <ul style="list-style-type: none"> • Terrarium Habitats • TG: Act03-05 (pp23-48) • STC Book: Ecosystems: (pp11-13) • STC Book: Experiments with Plants: (pp11-13), (pp30-33) • STC Book: Floating and Sinking: (pp57-61) |
| GRADE LEVEL EXPECTATION | [6] SC2.1. | <p>The student demonstrates an understanding of the structure, function, behavior, development, life cycles, and diversity of living organisms by using a dichotomous key to classify animals and plants into groups using external or internal features.</p> <ul style="list-style-type: none"> • Life Through Time • TG: Ses01-06 (pp13-234) • Organisms-From Macro to Micro • SG: L01 (pp2-11) • SG: L20 (pp236-243) • TG: L20 (pp331-350) • Schoolyard Ecology • TG: Act03 (pp33-41) • STC Book: Experiments with Plants: (pp07-10), (pp54-56) |
| GRADE LEVEL EXPECTATION | [6] SC2.2. | <p>The student demonstrates an understanding of the structure, function, behavior, development, life cycles, and diversity of living organisms by identifying basic behaviors (e.g., migration, communication, hibernation) used by organisms to meet the requirements of life.</p> <ul style="list-style-type: none"> • Aquatic Habitats • TG: Act02-03 (pp25-43) • TG: Act05 (pp61-70) • TG: Exts (pp70-78) • Experiments with Plants • TG: L06.Exts (p62) • Organisms-From Macro to Micro • SG: L02 (pp12-27) • SG: L06 (pp64-81) • TG: L02 (pp15-32) • TG: L06 (pp73-104) • Schoolyard Ecology • TG: Act02-04 (pp21-49) • Terrarium Habitats • TG: Act03-05 (pp23-48) • STC Book: Experiments with Plants: (pp26-33) |
| GRADE LEVEL EXPECTATION | [6] SC3.1. | <p>The student demonstrates an understanding that all organisms are linked to each other and their physical environments through the transfer and transformation of matter and energy by recognizing that organisms can cause physical and chemical changes (e.g., digestion, growth, respiration, photosynthesis) to matter and recognizing the importance of energy transfer in these changes.</p> <ul style="list-style-type: none"> • Ecosystems • TG: L01 (pp3-12) • Human Body Systems • SG: L04-05 (pp24-39) • SG: L07 (pp50-59) • SG: L10 (pp76-89) • SG: L12-13 (pp98-119) • TG: L02 (pp11-18) |

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| | | <ul style="list-style-type: none"> • TG: L04-05 (pp29-56) • TG: L07 (pp69-80) • TG: L10 (pp113-130) • TG: L11.Exts (p135) • TG: L12-13 (pp137-158) • TG: L17 (pp191-208) • Light • SG: L11 (pp116-131) • TG: L11.Exts (p131) • Microworlds • TG: L12.Exts (pp69-70) • Organisms-From Macro to Micro • SG: L07 (pp82-93) • SG: L10 (pp120-131) • TG: L07 (pp105-130) • TG: L10 (pp167-184) • STC Book: Experiments with Plants: (pp07-10) • STC Book: Food Chemistry: (pp36-40) |
| GRADE LEVEL EXPECTATION | [6] SC3.2. | <p>The student demonstrates an understanding that all organisms are linked to each other and their physical environments through the transfer and transformation of matter and energy by organizing a food web using familiar plants and animals.</p> <ul style="list-style-type: none"> • Aquatic Habitats • TG: Act04-05 (pp45-70) • Earth in Space • TG: L07.Exts (pp92-93) • Ecosystems • TG: L07 (pp75-82) • TG: L12.Exts (p120) • Light • TG: L11.Exts (p131) • STC Book: Ecosystems: (pp14-16) |
| PERFORMANCE / CONTENT STANDARD | AK.D1. | Concepts of Earth Science (SD1, SD2, SD3, SD4) |
| GRADE LEVEL EXPECTATION | [6] SD1.1. | <p>The student demonstrates an understanding of geochemical cycles by exploring the rock cycle and its relationship to igneous, metamorphic, and sedimentary rocks. (L)</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L21-23 (pp232-263) • SG: L25 (pp274-282) • TG: L21-23 (pp293-328) • TG: L25 (pp347-372) • Earth in Space • SG: L18 (pp290-311) • TG: L18 (pp277-286) • Plate Tectonics • TG: Ses07 (pp93-111) • Stories in Stone • TG: Ses01-02 (pp15-31) • TG: Ses04-06 (pp47-81) • TG: Ses08 (pp103-113) |

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| | | <ul style="list-style-type: none"> • TG: Exts (p114) |
| GRADE LEVEL EXPECTATION | [6] SD2.1. | <p>The student demonstrates an understanding of the forces that shape Earth by describing the formation and composition (i.e., sand, silt, clay, organics) of soils.</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L17 (pp194-197) • TG: L17 (pp233-256) • Ecosystems • TG: L02 (pp13-24) • Microscopic Explorations • TG: Act06 (pp69-73) • Organisms-From Macro to Micro • TG: L14.Exts (p247) • Terrarium Habitats • TG: Act01 (pp5-13) |
| GRADE LEVEL EXPECTATION | [6] SD2.2. | <p>The student demonstrates an understanding of the forces that shape Earth by identifying and describing its layers (i.e., crust, mantle, core).</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L10 (pp114-119) • SG: L14-18 (pp164-209) • TG: L10 (pp143-148) • TG: L14-18 (pp187-264) • Plate Tectonics • TG: Ses03 (pp43-55) • Properties of Matter • SG: L05 (pp38-55) |
| GRADE LEVEL EXPECTATION | [6] SD2.3. | <p>The student demonstrates an understanding of the forces that shape Earth by describing how the surface can change rapidly as a result of geological activities (i.e., earthquakes, tsunamis, volcanoes, floods, landslides, avalanches).</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L01-03 (pp2-41) • SG: L05-25 (pp54-282) • TG: L01-25 (pp3-372) • Earth in Space • SG: L13 (pp174-199) • TG: L13 (pp197-208) • Electrical Energy and Circuit Design • TG: L02.Exts (pp35-36) • Experiments with Plants • TG: L02.Exts (p24) • Plate Tectonics • TG: Ses02 (pp31-41) • TG: Ses04-05 (pp57-77) • Properties of Matter • TG: L11.Exts (p132) • River Cutters • TG: Exts (p73) • STC Book: Microworlds: (pp13-15) |
| GRADE LEVEL | [6] | The student demonstrates an understanding of the theories regarding the origin |

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| <p>EXPECTATION</p> | <p>SD4.1.</p> | <p>and evolution of the universe by contrasting characteristics of planets and stars. (i.e., light reflecting, light emitting, orbiting, orbited, composition.)</p> <ul style="list-style-type: none"> • Earth, Moon, and Stars • TG: Act05-06 (pp33-52) • Earth in Space • SG: L02 (pp12-21) • SG: L10-22 (pp130-343) • TG: L01 (pp3-10) • TG: L04 (pp37-52) • TG: L08 (pp97-120) • TG: L10-22 (pp147-326) • Energy, Machines, and Motion • TG: L05.Exts (pp53-54) • Invisible Universe • TG: Act04 (pp58-77) • Living with a Star • TG: Act01-06 (pp15-131) • Messages from Space • TG: Act02-03 (pp27-87) • TG: Exts (p38) • Properties of Matter • SG: L01 (pp2-13) • TG: L01.Exts (p9) |
| <p>GRADE LEVEL EXPECTATION</p> | <p>[6] SD4.2.</p> | <p>The student demonstrates an understanding of the theories regarding the origin and evolution of the universe by defining a light year.</p> <ul style="list-style-type: none"> • Earth in Space • SG: L02 (pp12-21) • SG: L07 (pp88-101) • SG: L11 (pp146-159) • SG: L22 (pp340-343) • TG: L02 (pp11-20) • TG: L04.Exts (pp45-46) • TG: L07 (pp83-96) • TG: L11 (pp159-180) • TG: L22 (pp311-326) • Invisible Universe • TG: Act04-05 (pp58-91) • Light • SG: L03 (pp32-39) • Messages from Space • TG: Act03 (pp46-87) • Moons of Jupiter • TG: Act03 (pp31-39) • The Real Reasons for the Seasons • TG: Act03 (pp29-48) |
| <p>PERFORMANCE / CONTENT STANDARD</p> | <p>AK.E1.</p> | <p>Science and Technology (SE1, SE2, SE3)</p> |
| <p>GRADE LEVEL EXPECTATION</p> | <p>[6] SE1.1.</p> | <p>The student demonstrates understanding of how to integrate scientific knowledge and technology to address problems by recognizing that technology cannot always provide successful solutions for problems or fulfill every human need.</p> |

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| | | <ul style="list-style-type: none"> • Catastrophic Events • SG: L10 (pp114-119) • SG: L14 (pp164-169) • TG: L03.Exts (pp35-36) • TG: L10 (pp143-148) • TG: L14 (pp187-196) • Earth in Space • SG: L10 (pp130-145) • SG: L20-21 (pp324-339) • TG: L10 (pp147-158) • TG: L20-21 (pp293-310) • Energy, Machines, and Motion • SG: L16 (pp148-161) • SG: L20 (pp200-213) • TG: L20 (pp235-238) • Human Body Systems • TG: L01.Exts (p7) • TG: L15.Exts (p178) • TG: L18.Exts (pp215-216) • TG: L19.Exts (p225) • Light • SG: L23 (pp252-265) • TG: L01.Exts (p12) • Plate Tectonics • TG: Ses01 (pp21-29) • Properties of Matter • TG: L04.Exts (p45) • TG: L21.Exts (p251) • The Technology of Paper • TG: L02 (pp29-48) • TG: L05 (pp75-90) • TG: L13-15 (pp165-196) • TG: L17.Exts (p211) • TG: L18 (pp215-218) • STC Book: Magnets and Motors: (pp33-38), (pp47-50), (pp53-61) • STC Book: Microworlds: (pp20-22), (pp58-61) • STC Book: The Technology of Paper: (pp12-15), (pp20-24), (pp41-43), (pp49-51), (pp58-61) |
| <p>GRADE LEVEL EXPECTATION</p> | <p>[6] SE2.1.</p> | <p>The student demonstrates an understanding that solving problems involves different ways of thinking by identifying and designing a solution to a problem.</p> <ul style="list-style-type: none"> • Bubble Festival • TG: Act04 (pp74-79) • Bubble-ology • TG: Act06 (pp41-44) • Crime Lab Chemistry • TG: Act03 (pp47-62) • TG: Exts (pp63-64) • Catastrophic Events • SG: L09 (pp102-112) • SG: L17 (pp194-197) • SG: L24-25 (pp264-282) • TG: L02.Exts (p23) • TG: L03.Exts (pp35-36) • TG: L06.Exts (pp77-78) • TG: L09 (pp127-142) |

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| | | <ul style="list-style-type: none"> • TG: L14.Exts (pp193-194) • TG: L17 (pp233-256) • TG: L18.Exts (pp262-263) • TG: L23.Exts (pp325-326) • TG: L24-25 (pp329-372) • Earth in Space • SG: L22 (pp340-343) • TG: L10.Exts (p152) • TG: L20.Exts (p297) • TG: L22 (pp311-326) • Ecosystems • TG: L07.Exts (p79) • TG: L14.Exts (p136) • Electrical Energy and Circuit Design • SG: L04 (pp36-45) • SG: L07-08 (pp70-93) • SG: L13 (pp134-141) • SG: L15 (pp156-167) • SG: L17 (pp174-185) • SG: L24 (pp244-251) • TG: L02.Exts (pp35-36) • TG: L04 (pp49-60) • TG: L07-08 (pp93-122) • TG: L13 (pp181-204) • TG: L15 (pp213-226) • TG: L16.Exts (pp236-237) • TG: L17 (pp240-248) • TG: L23.Exts (p312) • TG: L24 (pp313-326) • Energy, Machines, and Motion • SG: L07 (pp62-71) • SG: L17 (pp164-173) • SG: L22 (pp226-236) • TG: L07 (pp75-84) • TG: L12 (pp147-156) • TG: L16-17 (pp185-216) • TG: L22 (pp247-254) • Experiments with Plants • TG: L02-03 (pp21-38) • TG: L12 (pp91-100) • TG: L15 (pp115-122) • Fingerprinting • TG: Ses03 (pp23-25) • Floating and Sinking • TG: L06 (pp49-54) • TG: L08 (pp61-68) • Food Chemistry • TG: L10 (pp95-100) • TG: L13-14 (pp117-130) • TG: L16 (pp149-154) • Human Body Systems • SG: L09-10 (pp68-89) • SG: L23 (pp190-195) • TG: L06.Exts (p63) • TG: L08-10 (pp81-130) • TG: L17 (pp191-208) • TG: L19.Exts (p225) • TG: L23 (pp261-276) • Light |
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| | | <ul style="list-style-type: none"> • SG: L03 (pp32-39) • SG: L07 (pp68-81) • SG: L15 (pp154-165) • SG: L19 (pp214-223) • SG: L21-22 (pp230-251) • TG: L03 (pp37-48) • TG: L07 (pp83-98) • TG: L15 (pp181-194) • TG: L19 (pp247-274) • TG: L21-22 (pp295-312) • Magnets and Motors • TG: L06.Exts (p39) • TG: L12.Exts (p79) • Measuring Time • TG: L04 (pp43-48) • TG: L07 (pp67-74) • TG: L09.Exts (p90) • TG: L14 (pp135-138) • TG: L16 (pp145-148) • Organisms-From Macro to Micro • SG: L15 (pp180-187) • SG: L20 (pp236-243) • TG: L15 (pp253-266) • TG: L20 (pp331-350) • Properties of Matter • SG: L13 (pp112-115) • SG: L15-16 (pp122-139) • SG: L23-24 (pp208-223) • TG: L04.Exts (p45) • TG: L07.Exts (p86) • TG: L13 (pp143-152) • TG: L15-16 (pp161-178) • TG: L23-24 (pp275-302) • River Cutters • TG: Ses07 (pp67-72) • The Technology of Paper • TG: L03.Exts (pp54-55) • TG: L04 (pp61-74) • TG: L10-13 (pp137-170) • TG: L15-17 (pp185-214) |
| <p>GRADE LEVEL EXPECTATION</p> | <p>[6] SE2.2.</p> | <p>The student demonstrates an understanding that solving problems involves different ways of thinking by comparing the student's work to the work of peers in order to identify multiple paths that can be used to investigate a question or problem. (L)</p> <ul style="list-style-type: none"> • Aquatic Habitats • TG: Act01-05 (pp13-70) • TG: Exts (pp70-78) • Bubble Festival • TG: Act01-12 (pp54-124) • Bubble-ology • TG: Act01 (pp5-9) • Crime Lab Chemistry • TG: Act01-03 (pp7-62) • Catastrophic Events • SG: L01-25 (pp2-282) • TG: L01-25 (pp3-372) |

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| | | <ul style="list-style-type: none"> • Earth in Space • SG: L01 (pp2-11) • SG: L05 (pp62-73) • SG: L09-11 (pp122-159) • SG: L13 (pp174-199) • SG: L18-19 (pp290-323) • SG: L21-22 (pp334-343) • TG: L01 (pp3-10) • TG: L05 (pp53-72) • TG: L09-11 (pp121-180) • TG: L13-14 (pp197-220) • TG: L18-19 (pp277-292) • TG: L20.Exts (p297) • TG: L21-22 (pp309-326) • Ecosystems • TG: L02-10 (pp13-110) • TG: L12-17 (pp117-171) • Electrical Energy and Circuit Design • SG: L02-03 (pp12-35) • SG: L08 (pp84-93) • TG: L02-03 (pp23-48) • TG: L08 (pp111-122) • Energy, Machines, and Motion • SG: L01-14 (pp2-139) • SG: L16 (pp148-161) • SG: L18-21 (pp174-225) • TG: L01-14 (pp3-176) • TG: L16 (pp185-202) • TG: L18-21 (pp217-246) • Experiments with Plants • TG: L02-03 (pp21-38) • TG: L09-11 (pp75-90) • TG: L13 (pp101-104) • TG: L15-16 (pp115-128) • Fingerprinting • TG: Ses01-03 (pp7-25) • Floating and Sinking • TG: L01-17 (pp3-136) • Food Chemistry • TG: L01-03 (pp3-38) • TG: L05-12 (pp49-116) • TG: L14 (pp125-130) • TG: L16-17 (pp149-156) • Human Body Systems • SG: L02 (pp8-13) • SG: L10 (pp76-89) • SG: L17 (pp144-147) • TG: L02 (pp11-18) • TG: L10 (pp113-130) • TG: L17 (pp191-208) • Light • SG: L01 (pp2-19) • SG: L03 (pp32-39) • SG: L07-08 (pp68-91) • SG: L10 (pp108-115) • SG: L12 (pp132-137) • SG: L15-16 (pp154-185) • SG: L18-19 (pp200-223) • SG: L22-23 (pp244-265) |
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| | | <ul style="list-style-type: none"> • SG: L25 (pp284-293) • TG: L01-03 (pp3-48) • TG: L07-08 (pp83-106) • TG: L10 (pp119-126) • TG: L12 (pp137-152) • TG: L15-16 (pp181-204) • TG: L18-19 (pp225-274) • TG: L22-23 (pp305-318) • TG: L25 (pp335-348) • Mystery Festival • TG: Exts (pp198-199) • Magnets and Motors • TG: L01 (pp7-10) • TG: L13 (pp83-88) • TG: L16 (pp99-102) • Measuring Time • TG: L04 (pp43-48) • TG: L06 (pp59-66) • TG: L11 (pp109-114) • TG: L14 (pp135-138) • Microworlds • TG: L01 (pp3-8) • TG: L03 (pp15-20) • TG: L17 (pp87-88) • Organisms-From Macro to Micro • SG: L01-20 (pp2-243) • TG: L01-20 (pp3-350) • Properties of Matter • SG: L01-08 (pp2-77) • SG: L10-18 (pp86-161) • SG: L21-25 (pp186-229) • TG: L01-08 (pp3-100) • TG: L10-18 (pp113-208) • TG: L20-25 (pp227-312) • The Technology of Paper • TG: L01-18 (pp19-218) |
| <p>GRADE LEVEL EXPECTATION</p> | <p>[6] SE3.1.</p> | <p>The student demonstrates an understanding of how scientific discoveries and technological innovations affect our lives and society by describing the various effects of an innovation on a global level.</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L09 (pp102-112) • TG: L09 (pp127-142) • Earth in Space • SG: L10 (pp130-145) • SG: L20-21 (pp324-339) • TG: L10 (pp147-158) • TG: L20-21 (pp293-310) • Electrical Energy and Circuit Design • TG: L18.Exts (pp259-260) • Energy, Machines, and Motion • SG: L02 (pp12-19) • SG: L04 (pp26-35) • SG: L07 (pp62-71) • SG: L12-13 (pp108-129) • SG: L15-16 (pp140-161) • SG: L22 (pp226-236) |

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| | | <ul style="list-style-type: none"> • TG: L09.Exts (p105) • TG: L17.Exts (p208) • TG: L22 (pp247-254) • Floating and Sinking • TG: L15 (pp119-128) • GEMS Electric Circuits • TG: Ses01 (pp13-33) • Human Body Systems • TG: L19.Exts (p225) • Light • SG: L01 (pp2-19) • SG: L05-06 (pp48-67) • SG: L14 (pp144-153) • SG: L22 (pp244-251) • SG: L25 (pp284-293) • TG: L25 (pp335-348) • Plate Tectonics • TG: Ses01 (pp21-29) • Properties of Matter • SG: L09 (pp78-83) • SG: L11 (pp98-105) • TG: L21.Exts (p251) • The Technology of Paper • TG: L05 (pp75-90) • TG: L17.Exts (p211) • STC Book: Experiments with Plants: (pp11-13), (pp41-46) • STC Book: Floating and Sinking: (pp11-14), (pp18-26), (pp31-33) • STC Book: Magnets and Motors: (pp07-08), (pp12-13), (pp28-38), (pp41-44), (pp47-50), (pp53-57) • STC Book: Measuring Time: (pp10-17), (pp35-38), (pp46-47) • STC Book: Microworlds: (pp07-09) • STC Book: The Technology of Paper: (pp07-24), (pp27-29), (pp41-43), (pp49-57) |
| PERFORMANCE / CONTENT STANDARD | AK.F1. | Cultural, Social, Personal Perspectives, and Science (SF1, SF2, SF3) |
| GRADE LEVEL EXPECTATION | [6] SF1.1- SF3.1. | <p>The student demonstrates an understanding of the dynamic relationships among scientific, cultural, social, and personal perspectives by telling a local or traditional story that explains a natural event (e.g., animal adaptation, weather, rapid changes to Earth's surface) and relating it to a scientific explanation. (L) Cross referenced with SA3.1</p> <ul style="list-style-type: none"> • Earth in Space • SG: L20 (pp324-333) • TG: L20 (pp293-308) • Experiments with Plants • TG: L05 (pp51-56) • TG: Ses03-04 (pp25-341) • Properties of Matter • SG: L18 (pp150-161) • The Technology of Paper • TG: L01 (pp19-28) • STC Book: Experiments with Plants: (pp24-25) • STC Book: The Technology of Paper: (pp20-24), (pp33-35), (pp41-43), (pp52-57) |

Carolina™ Curriculum Correlation to Alaska Content and Performance Standards – Science Grades 3-8

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| PERFORMANCE / CONTENT STANDARD | AK.G1. | History and Nature of Science (SG1, SG2, SG3, SG4) |
| GRADE LEVEL EXPECTATION | [6] SG2.1. | <p>The student demonstrates an understanding of the bases of the advancement of scientific knowledge by recognizing differences in results of repeated experiments.</p> <ul style="list-style-type: none"> • Experiments with Plants • TG: L14.Exts (pp109-110) • Floating and Sinking • TG: L05 (pp39-48) |
| PERFORMANCE / CONTENT STANDARD | AK.SA. | Science as Inquiry and Process: A student should understand and be able to apply the processes and applications of scientific inquiry. A student who meets the content standard should: |
| GRADE LEVEL EXPECTATION | SA1. | <p>Develop an understanding of the processes of science used to investigate problems, design and conduct repeatable scientific investigations, and defend scientific arguments.</p> <ul style="list-style-type: none"> • All Units |
| GRADE LEVEL EXPECTATION | SA2. | <p>Develop an understanding that the processes of science require integrity, logical reasoning, skepticism, openness, communication, and peer review.</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L18 (pp200-209) • TG: L18 (pp257-264) • Dry Ice Investigations • TG: Act01 (pp19-47) • Electrical Energy and Circuit Design • SG: L02 (pp12-25) • TG: L02 (pp23-36) • Experiments with Plants • TG: L11.Exts (p89) • Human Body Systems • TG: L01.Exts (p7) |
| GRADE LEVEL EXPECTATION | SA3. | <p>Develop an understanding that culture, local knowledge, history, and interaction with the environment contribute to the development of scientific knowledge, and local applications provide opportunity for understanding scientific concepts and global issues.</p> <ul style="list-style-type: none"> • Investigating Artifacts • TG: Ses03-04 (pp25-41) • Measuring Time • TG: L07 (pp67-74) • Organisms-From Macro to Micro • TG: L02.Exts (p25) • Properties of Matter • SG: L18 (pp150-161) • SG: L20 (pp170-185) • TG: L04.Exts (p45) • TG: L20.Exts (p235) • TG: L21.Exts (p251) • The Technology of Paper |

Carolina™ Curriculum Correlation to Alaska Content and Performance Standards – Science Grades 3-8

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| | | <ul style="list-style-type: none"> • TG: L01 (pp19-28) • STC Book: Experiments with Plants: (pp54-56) • STC Book: Floating and Sinking: (pp15-17) • STC Book: The Technology of Paper: (pp12-15), (pp20-24), (pp33-35), (pp38-43), (pp52-57) |
| PERFORMANCE / CONTENT STANDARD | AK.SB. | Concepts of Physical Science: A student should understand and be able to apply the concepts, models, theories, universal principles, and facts that explain the physical world. A student who meets the content standard should: |
| GRADE LEVEL EXPECTATION | SB1. | <p>Develop an understanding of the characteristic properties of matter and the relationship of these properties to their structure and behavior.</p> <ul style="list-style-type: none"> • Bubble Festival • TG: Act01-05 (pp54-85) • TG: Act09-12 (pp102-124) • Bubble-ology • TG: Act01 (pp5-9) • TG: Act05 (pp35-39) • Energy, Machines, and Motion • SG: L01-22 (pp2-236) • TG: L01-22 (pp3-254) • Floating and Sinking • TG: L06-07 (pp49-60) • Human Body Systems • TG: L03.Exts (p24) • TG: L07.Exts (pp74-75) • Microscopic Explorations • TG: Act03-04 (pp4959) • Properties of Matter • SG: L01-26 (pp2-235) • TG: L01-26 (pp3-332) • The Technology of Paper • TG: L01-18 (pp19-218) • STC Book: Floating and Sinking: (pp36-40) • STC Book: The Technology of Paper: (pp58-61) |
| GRADE LEVEL EXPECTATION | SB2. | <p>Develop an understanding that energy appears in different forms, can be transformed from one form to another, can be transferred or moved from one place or system to another, may be unavailable for use, and is ultimately conserved.</p> <ul style="list-style-type: none"> • Electrical Energy and Circuit Design • SG: L01-02 (pp2-25) • SG: L05 (pp46-57) • SG: L08-10 (pp84-117) • SG: L12 (pp122-133) • SG: L15-19 (pp156-209) • TG: L01-02 (pp3-36) • TG: L05 (pp61-76) • TG: L08-10 (pp111-156) • TG: L12 (pp169-180) • TG: L15-19 (pp213-276) • Energy, Machines, and Motion • SG: L02-04 (pp12-35) • SG: L10 (pp92-97) • SG: L17 (pp164-173) • SG: L19-20 (pp188-213) |

Carolina™ Curriculum Correlation to Alaska Content and Performance Standards – Science Grades 3-8

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| | | <ul style="list-style-type: none"> • SG: L22 (pp226-236) • TG: L02-04 (pp23-46) • TG: L09-10 (pp99-130) • TG: L17 (pp203-216) • TG: L19-22 (pp229-254) • Light • SG: L02 (pp20-31) • SG: L07 (pp68-81) • SG: L26 (pp294-297) • TG: L02 (pp21-36) • TG: L26 (pp349-367) • Magnets and Motors • TG: L16 (pp99-102) • STC Book: Magnets and Motors: (pp45-46) |
| GRADE LEVEL EXPECTATION | SB3. | <p>Develop an understanding of the interactions between matter and energy, including physical, chemical, and nuclear changes, and the effects of these interactions on physical systems.</p> <ul style="list-style-type: none"> • Bubble-ology • TG: Act02-03 (pp11-27) • TG: Act05-06 (pp35-44) • Chemical Reactions • TG: Part1 (pp9-14) • Ecosystems • TG: L13.Exts (p127) • Floating and Sinking • TG: L06 (pp49-54) • Microworlds • TG: L09.Exts (p53) • Of Cabbages and Chemistry • TG: Ses01-02 (pp9-28) • TG: Ses04 (pp41-46) • Properties of Matter • SG: L06 (pp56-63) • SG: L18 (pp150-161) • SG: L20 (pp170-185) • SG: L24 (pp218-223) • TG: L06 (pp65-78) • TG: L17.Exts (p185) • TG: L18 (pp193-208) • TG: L20 (pp227-240) • TG: L22.Exts (p270) • TG: L24 (pp295-302) |
| GRADE LEVEL EXPECTATION | SB4. | <p>Develop an understanding of motions, forces, their characteristics and relationships, and natural forces and their effects.</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L11-12 (pp120-153) • SG: L15 (pp170-189) • TG: L11-12 (pp149-176) • TG: L15 (pp197-218) • Earth, Moon, and Stars • TG: Act01 (pp3-8) • Earth in Space • SG: L15 (pp216-243) |

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| | | <ul style="list-style-type: none"> • TG: L15 (pp221-244) • Energy, Machines, and Motion • SG: L01 (pp2-11) • SG: L05-13 (pp36-129) • SG: L15-22 (pp140-236) • TG: L01 (pp3-22) • TG: L05-13 (pp47-166) • TG: L15-22 (pp177-254) • Floating and Sinking • TG: L09 (pp69-78) |
| PERFORMANCE / CONTENT STANDARD | AK.SC. | Concepts of Life Science: A student should understand and be able to apply the concepts, models, theories, facts, evidence, systems, and processes of life science. A student who meets the content standard should: |
| GRADE LEVEL EXPECTATION | SC1. | <p>Develop an understanding of how science explains changes in life forms over time, including genetics, heredity, the process of natural selection, and biological evolution.</p> <ul style="list-style-type: none"> • Human Body Systems • TG: L04.Exts (p35) • Life Through Time • TG: Ses02-07 (pp37-269) • Organisms-From Macro to Micro • SG: L13 (pp158-171) • SG: L18-19 (pp204-235) • TG: L02.Exts (p25) • TG: L13 (pp219-236) • TG: L18-19 (pp293-330) • STC Book: Experiments with Plants: (pp36-40), (pp44-46) |
| GRADE LEVEL EXPECTATION | SC2. | <p>Develop an understanding of the structure, function, behavior, development, life cycles, and diversity of living organisms.</p> <ul style="list-style-type: none"> • Earth in Space • SG: L16 (pp244-265) • TG: L16 (pp245-268) • Human Body Systems • TG: L07.Exts (pp74-75) • Microworlds • TG: L13.Exts (p74) • Organisms-From Macro to Micro • SG: L01-04 (pp2-45) • SG: L11 (pp132-145) • Organisms-From Macro to Micro • SG: L14 (pp172-179) • SG: L18 (pp204-215) • TG: L01 (pp3-14) • TG: L02.Exts (p25) • TG: L03 (pp33-48) • TG: L06 (pp73-104) • TG: L11 (pp185-200) • TG: L14 (pp237-252) • TG: L18 (pp293-302) • Schoolyard Ecology • TG: Act05 (pp51-59) • STC Book: Experiments with Plants: (pp30-33), (pp44-46), (pp57-59) |

Carolina™ Curriculum Correlation to Alaska Content and Performance Standards – Science Grades 3-8

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| | | <ul style="list-style-type: none"> • STC Book: Food Chemistry: (pp21-23) • STC Book: Microworlds: (pp28-30), (pp37-39), (pp40-43), (pp46-47) |
| GRADE LEVEL EXPECTATION | SC3. | <p>Develop an understanding that all organisms are linked to each other and their physical environments through the transfer and transformation of matter and energy.</p> <ul style="list-style-type: none"> • Aquatic Habitats • TG: Act04-05 (pp45-70) • Earth in Space • TG: L07.Exts (pp92-93) • Ecosystems • TG: L01-07 (pp3-82) • TG: L12 (pp117-124) • TG: L17 (pp169-171) • Experiments with Plants • TG: L06-07 (pp57-70) • SG: L13 (pp110-119) • TG: L13 (pp153-158) • Light • SG: L11 (pp116-131) • TG: L11.Exts (p131) • Microworlds • TG: L12.Exts (pp69-70) • Organisms-From Macro to Micro • SG: L09 (pp106-119) • TG: L09 (pp151-166) • TG: L18.Exts (pp299-300) • Schoolyard Ecology • TG: Act03-04 (pp33-49) • Terrarium Habitats • TG: Act03-05 (pp23-48) • STC Book: Ecosystems: (pp11-23), (pp49-51) • STC Book: Experiments with Plants: (pp30-33) |
| PERFORMANCE / CONTENT STANDARD | AK.SD. | Concepts of Earth Science: A student should understand and be able to apply the concepts, processes, theories, models, evidence, and systems of earth and space sciences. A student who meets the content standard should: |
| GRADE LEVEL EXPECTATION | SD1. | <p>Develop an understanding of Earth's geochemical cycles.</p> <ul style="list-style-type: none"> • Terrarium Habitats • TG: Act01 (pp5-13) |
| GRADE LEVEL EXPECTATION | SD2. | <p>Develop an understanding of the origins, ongoing processes, and forces that shape the structure, composition, and physical history of the Earth.</p> <ul style="list-style-type: none"> • Convection: A Current Event • TG: Exts (pp27-29) • Catastrophic Events • SG: L09-10 (pp102-119) • SG: L13-18 (pp154-209) • SG: L24 (pp264-273) • TG: L09-10 (pp127-148) • TG: L13-18 (pp177-264) |

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| | | <ul style="list-style-type: none"> • TG: L19.Exts (pp274-275) • TG: L24 (pp329-346) • Earth, Moon, and Stars • TG: Act01 (pp3-8) • Earth in Space • SG: L13 (pp174-199) • TG: L13 (pp197-208) • Life Through Time • TG: Ses01-02 (pp13-100) • Plate Tectonics • TG: Ses01-03 (pp21-55) • TG: Ses08 (pp113-129) • Properties of Matter • SG: L01 (pp2-13) • SG: L05 (pp38-55) • Stories in Stone • TG: Exts (p114) |
| GRADE LEVEL EXPECTATION | SD3. | <p>Develop an understanding of the cyclical changes controlled by energy from the sun and by Earth's position and motion in our solar system.</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L03 (pp26-41) • SG: L07 (pp80-95) • TG: L01.Exts (pp10-11) • TG: L03 (pp27-44) • TG: L07 (pp83-102) • Earth, Moon, and Stars • TG: Act03 (pp17-24) • TG: Act05-06 (pp33-52) • Earth in Space • SG: L02-04 (pp12-61) • SG: L06 (pp74-87) • SG: L08 (pp102-121) • SG: L16 (pp244-265) • TG: L02-04 (pp11-52) • TG: L06 (pp73-82) • TG: L08 (pp97-120) • TG: L16 (pp245-268) • Measuring Time • TG: L02 (pp21-30) • Organisms-From Macro to Micro • SG: L10 (pp120-131) • TG: L10 (pp167-184) • The Real Reasons for the Seasons • TG: Act01-02 (pp17-28) • TG: Act04-08 (pp49-88) • STC Book: Measuring Time: (pp10-14), (pp24-27), (pp30-34) |
| GRADE LEVEL EXPECTATION | SD4. | <p>Develop an understanding of the theories regarding the origin and evolution of the universe.</p> <ul style="list-style-type: none"> • Earth in Space • SG: L02 (pp12-21) • SG: L10 (pp130-145) • SG: L17-22 (pp268-343) • TG: L01 (pp3-10) |

Carolina™ Curriculum Correlation to Alaska Content and Performance Standards – Science Grades 3-8

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| | | <ul style="list-style-type: none"> • TG: L08 (pp97-120) • TG: L12 (pp181-196) • TG: L17-22 (pp269-326) • Messages from Space • TG: Act03 (pp46-87) • Properties of Matter • SG: L01 (pp2-13) • TG: L01.Exts (p9) |
| PERFORMANCE / CONTENT STANDARD | AK.SE. | Science and Technology: A student should understand the relationships among science, technology, and society. A student who meets the content standard should: |
| GRADE LEVEL EXPECTATION | SE1. | <p>Develop an understanding of how scientific knowledge and technology are used in making decisions about issues, innovations, and responses to problems and everyday events.</p> <ul style="list-style-type: none"> • Earth in Space • SG: L20-21 (pp324-339) • TG: L20-21 (pp293-310) • Energy, Machines, and Motion • SG: L16 (pp148-161) • The Technology of Paper • TG: L05 (pp75-90) • STC Book: Magnets and Motors: (pp47-50) • STC Book: The Technology of Paper: (pp12-15), (pp20-24), (pp41-43) |
| GRADE LEVEL EXPECTATION | SE2. | <p>Develop an understanding that solving problems involves different ways of thinking, perspectives, and curiosity that lead to the exploration of multiple paths that are analyzed using scientific, technological, and social merits.</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L14 (pp164-169) • SG: L18 (pp200-209) • SG: L21 (pp232-239) • TG: L14 (pp187-196) • TG: L18 (pp257-264) • TG: L21 (pp293-302) • Dry Ice Investigations • TG: Act01 (pp19-47) • Earth, Moon, and Stars • TG: Act01 (pp3-8) • Earth in Space • SG: L10 (pp130-145) • SG: L20-21 (pp324-339) • TG: L04 (pp37-52) • TG: L10 (pp147-158) • TG: L20-21 (pp293-310) • Electrical Energy and Circuit Design • SG: L02 (pp12-25) • TG: L02 (pp23-36) • Energy, Machines, and Motion • SG: L02 (pp12-19) • SG: L07 (pp62-71) • SG: L15-16 (pp140-161) • TG: L16 (pp185-202) |

Carolina™ Curriculum Correlation to Alaska Content and Performance Standards – Science Grades 3-8

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| | | <ul style="list-style-type: none"> • Experiments with Plants • TG: L11.Exts (p89) • Human Body Systems • TG: L01.Exts (p7) • TG: L10.Exts (p122) • TG: L18.Exts (pp215-216) • TG: L19.Exts (p225) • Living with a Star • TG: Act03 (pp61-84) • Moons of Jupiter • TG: Act01 (pp7-17) • Organisms-From Macro to Micro • SG: L19 (pp216-235) • Properties of Matter • SG: L09 (pp78-83) • SG: L11 (pp98-105) • SG: L15 (pp122-129) • SG: L19 (pp162-167) • SG: L21-23 (pp186-217) • SG: L25 (pp224-229) • The Technology of Paper • TG: L16.Exts (pp201-202) • STC Book: Experiments with Plants: (pp36-46), (pp54-56), (pp60-61) • STC Book: Floating and Sinking: (pp07-14), (pp18-26), (pp29-30), (pp34-35), (pp41-42) • STC Book: Measuring Time: (pp35-38) • STC Book: Microworlds: (pp10-12) • STC Book: The Technology of Paper: (pp07-09), (pp12-24) |
| <p>GRADE LEVEL EXPECTATION</p> | <p>SE3.</p> | <p>Develop an understanding of how scientific discoveries and technological innovations affect and are affected by our lives and cultures</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L09 (pp102-112) • TG: L09 (pp127-142) • Earth in Space • SG: L20-21 (pp324-339) • TG: L20-21 (pp293-310) • Electrical Energy and Circuit Design • TG: L18.Exts (pp259-260) • Energy, Machines, and Motion • SG: L02 (pp12-19) • SG: L04 (pp26-35) • SG: L07 (pp62-71) • SG: L12-13 (pp108-129) • SG: L15-16 (pp140-161) • SG: L22 (pp226-236) • TG: L09.Exts (p105) • TG: L17.Exts (p208) • TG: L22 (pp247-254) • Floating and Sinking • TG: L15 (pp119-128) • GEMS Electric Circuits • TG: Ses01 (pp13-33) • Human Body Systems • TG: L10.Exts (p122) • TG: L18.Exts (pp215-216) |

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| | | <ul style="list-style-type: none"> • TG: L19.Exts (p225) • Investigating Artifacts • TG: Ses03-04 (pp25-41) • Light • SG: L01 (pp2-19) • SG: L05-06 (pp48-67) • SG: L14 (pp144-153) • SG: L22 (pp244-251) • SG: L25 (pp284-293) • TG: L25 (pp335-348) • Measuring Time • TG: L07 (pp67-74) • Organisms-From Macro to Micro • TG: L02.Exts (p25) • Properties of Matter • SG: L09 (pp78-83) • SG: L11 (pp98-105) • SG: L18 (pp150-161) • SG: L20 (pp170-185) • TG: L04.Exts (p45) • TG: L20.Exts (p235) • TG: L21.Exts (p251) • The Technology of Paper • TG: L01 (pp19-28) • TG: L05 (pp75-90) • STC Book: Ecosystems: (pp35-37) • STC Book: Experiments with Plants: (pp11-13), (pp41-46), (pp54-56) • STC Book: Floating and Sinking: (pp11-26), (pp31-33) • STC Book: Magnets and Motors: (pp07-08), (pp12-13), (pp28-38), (pp41-44), (pp47-50), (pp53-57) • STC Book: Measuring Time: (pp10-17), (pp35-42), (pp46-47) • STC Book: Microworlds: (pp07-09) • STC Book: The Technology of Paper: (pp07-24), (pp27-29), (pp33-35), (pp38-43), (pp49-57) |
| PERFORMANCE / CONTENT STANDARD | AK.SF. | Cultural, Social, Personal Perspectives and Science: A student should understand the dynamic relationships among scientific, cultural, social, and personal perspectives. A student who meets the content standard should: |
| GRADE LEVEL EXPECTATION | SF1. | <p>Develop an understanding of the interrelationships among individuals, cultures, societies, science, and technology.</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L14 (pp164-169) • SG: L21 (pp232-239) • TG: L14 (pp187-196) • TG: L21 (pp293-302) • Earth, Moon, and Stars • TG: Act01 (pp3-8) • Earth in Space • SG: L03 (pp22-41) • SG: L10 (pp130-145) • SG: L20-21 (pp324-339) • TG: L03-04 (pp21-52) • TG: L10 (pp147-158) • TG: L20-21 (pp293-310) • Electrical Energy and Circuit Design |

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| | | <ul style="list-style-type: none"> • SG: L02 (pp12-25) • TG: L02 (pp23-36) • Energy, Machines, and Motion • SG: L02 (pp12-19) • SG: L04 (pp26-35) • SG: L07 (pp62-71) • SG: L13 (pp120-129) • SG: L15-16 (pp140-161) • TG: L16 (pp185-202) • Experiments with Plants • TG: L05 (pp51-56) • Floating and Sinking • TG: L15 (pp119-128) • GEMS Electric Circuits • TG: Ses01 (pp13-33) • Human Body Systems • TG: L01.Exts (p7) • TG: L10.Exts (p122) • TG: L18.Exts (pp215-216) • TG: L19.Exts (p225) • Investigating Artifacts • TG: Ses03-04 (pp25-41) • Living with a Star • TG: Act03 (pp61-84) • Light • SG: L01 (pp2-19) • SG: L05 (pp48-57) • SG: L11 (pp116-131) • SG: L14-15 (pp144-165) • SG: L25 (pp284-293) • TG: L15.Exts (p187) • TG: L25 (pp335-348) • Moons of Jupiter • TG: Act01 (pp7-17) • Measuring Time • TG: L04 (pp43-48) • Organisms-From Macro to Micro • SG: L19 (pp216-235) • Properties of Matter • SG: L07 (pp64-73) • SG: L09 (pp78-83) • SG: L11 (pp98-105) • SG: L15 (pp122-129) • SG: L18-19 (pp150-167) • SG: L21-23 (pp186-217) • SG: L25 (pp224-229) • The Technology of Paper • TG: L01 (pp19-28) • TG: L05 (pp75-90) • TG: L16.Exts (pp201-202) • TG: L18 (pp215-218) • STC Book: Experiments with Plants: (pp11-13), (pp24-25), (pp36-46), (pp54-56), (pp60-61) • STC Book: Floating and Sinking: (pp07-14), (pp18-26), (pp29-35), (pp41-42) • STC Book: Magnets and Motors: (pp07-08), (pp12-13), (pp28-32) • STC Book: Measuring Time: (pp10-17), (pp35-38), (pp46-47) • STC Book: Microworlds: (pp07-12) • STC Book: The Technology of Paper: (pp07-24), (pp27-29), |
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| | | <ul style="list-style-type: none"> • (pp33-35), (pp41-43), (pp49-57) |
| GRADE LEVEL EXPECTATION | SF2. | <p>Develop an understanding that some individuals, cultures, and societies use other beliefs and methods in addition to scientific methods to describe and understand the world.</p> <ul style="list-style-type: none"> • Earth in Space • SG: L03 (pp22-41) • SG: L20 (pp324-333) • TG: L03 (pp21-36) • TG: L20 (pp293-308) • Energy, Machines, and Motion • SG: L16 (pp148-161) • Experiments with Plants • TG: L05 (pp51-56) • GEMS Electric Circuits • TG: Ses01 (pp13-33) • Investigating Artifacts • TG: Ses03-04 (pp25-41) • Light • SG: L05 (pp48-57) • SG: L11 (pp116-131) • SG: L15 (pp154-165) • TG: L15.Exts (p187) • Measuring Time • TG: L04 (pp43-48) • Properties of Matter • SG: L07 (pp64-73) • SG: L11 (pp98-105) • The Technology of Paper • TG: L05 (pp75-90) • TG: L18 (pp215-218) • STC Book: Experiments with Plants: (pp24-25), (pp41-43) • STC Book: Measuring Time: (pp10-17) • STC Book: The Technology of Paper: (pp49-51) |
| GRADE LEVEL EXPECTATION | SF3. | <p>Develop an understanding of the importance of recording and validating cultural knowledge.</p> <ul style="list-style-type: none"> • Earth in Space • SG: L03 (pp22-41) • SG: L20 (pp324-333) • TG: L03 (pp21-36) • TG: L20 (pp293-308) • Energy, Machines, and Motion • SG: L16 (pp148-161) • Experiments with Plants • TG: L05 (pp51-56) • GEMS Electric Circuits • TG: Ses01 (pp13-33) • Investigating Artifacts • TG: Ses03-04 (pp25-41) • Light • SG: L05 (pp48-57) • SG: L11 (pp116-131) • SG: L15 (pp154-165) • TG: L15.Exts (p187) |

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| | | <ul style="list-style-type: none"> • Measuring Time • TG: L04 (pp43-48) • Properties of Matter • SG: L07 (pp64-73) • SG: L11 (pp98-105) • The Technology of Paper • TG: L05 (pp75-90) • TG: L18 (pp215-218) • STC Book: Experiments with Plants: (pp24-25), (pp41-43) • STC Book: Measuring Time: (pp10-17) • STC Book: The Technology of Paper: (pp49-51) |
| PERFORMANCE / CONTENT STANDARD | AK.SG. | History and Nature of Science: A student should understand the history and nature of science. A student who meets the content standard should: |
| GRADE LEVEL EXPECTATION | SG1. | <p>Develop an understanding that historical perspectives of scientific explanations demonstrate that scientific knowledge changes over time, building on prior knowledge.</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L14 (pp164-169) • SG: L21 (pp232-239) • TG: L14 (pp187-196) • TG: L21 (pp293-302) • Earth, Moon, and Stars • TG: Act01 (pp3-8) • Earth in Space • SG: L10 (pp130-145) • SG: L20-21 (pp324-339) • TG: L04 (pp37-52) • TG: L10 (pp147-158) • TG: L20-21 (pp293-310) • Electrical Energy and Circuit Design • SG: L02 (pp12-25) • TG: L02 (pp23-36) • Energy, Machines, and Motion • SG: L02 (pp12-19) • SG: L07 (pp62-71) • SG: L15-16 (pp140-161) • TG: L16 (pp185-202) • Human Body Systems • TG: L01.Exts (p7) • TG: L10.Exts (p122) • TG: L18.Exts (pp215-216) • TG: L19.Exts (p225) • Living with a Star • TG: Act03 (pp61-84) • Moons of Jupiter • TG: Act01 (pp7-17) • Measuring Time • TG: L07 (pp67-74) • Organisms-From Macro to Micro • SG: L19 (pp216-235) • TG: L02.Exts (p25) • Properties of Matter • SG: L09 (pp78-83) • SG: L11 (pp98-105) • SG: L15 (pp122-129) |

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| | | <ul style="list-style-type: none"> • SG: L19-23 (pp162-217) • SG: L25 (pp224-229) • TG: L04.Exts (p45) • TG: L20.Exts (p235) • TG: L21.Exts (p251) • The Technology of Paper • TG: L01 (pp19-28) • TG: L16.Exts (pp201-202) • STC Book: Experiments with Plants: (pp11-13), (pp36-46), (pp54-56), (pp60-61) • STC Book: Floating and Sinking: (pp07-26), (pp29-30), (pp34-35), (pp41-42) • STC Book: Measuring Time: (pp35-38) • STC Book: Microworlds: (pp10-12) • STC Book: The Technology of Paper: (pp07-09), (pp12-24), (pp38-43) |
| <p>GRADE LEVEL EXPECTATION</p> | <p>SG2.</p> | <p>Develop an understanding that the advancement of scientific knowledge embraces innovation and requires empirical evidence, repeatable investigations, logical arguments, and critical review in striving for the best possible explanations of the natural world.</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L14 (pp164-169) • SG: L18 (pp200-209) • SG: L21 (pp232-239) • TG: L14 (pp187-196) • TG: L18 (pp257-264) • TG: L21 (pp293-302) • Dry Ice Investigations • TG: Act01 (pp19-47) • Earth, Moon, and Stars • TG: Act01 (pp3-8) • Earth in Space • SG: L10 (pp130-145) • SG: L20-21 (pp324-339) • TG: L04 (pp37-52) • TG: L10 (pp147-158) • TG: L20-21 (pp293-310) • Electrical Energy and Circuit Design • SG: L02 (pp12-25) • TG: L02 (pp23-36) • TG: L18.Exts (pp259-260) • Energy, Machines, and Motion • SG: L02 (pp12-19) • SG: L04 (pp26-35) • SG: L07 (pp62-71) • SG: L12-13 (pp108-129) • SG: L15 (pp140-147) • SG: L22 (pp226-236) • TG: L09.Exts (p105) • TG: L17.Exts (p208) • TG: L22 (pp247-254) • Experiments with Plants • TG: L11.Exts (p89) • Floating and Sinking • TG: L15 (pp119-128) • GEMS Electric Circuits |

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| | | <ul style="list-style-type: none"> • TG: Ses01 (pp13-33) • Human Body Systems • TG: L01.Exts (p7) • TG: L10.Exts (p122) • TG: L18.Exts (pp215-216) • TG: L19.Exts (p225) • Living with a Star • TG: Act03 (pp61-84) • Light • SG: L01 (pp2-19) • SG: L05-06 (pp48-67) • SG: L14 (pp144-153) • SG: L22 (pp244-251) • SG: L25 (pp284-293) • TG: L25 (pp335-348) • Moons of Jupiter • TG: Act01 (pp7-17) • Organisms-From Macro to Micro • SG: L19 (pp216-235) • Properties of Matter • SG: L09 (pp78-83) • SG: L11 (pp98-105) • SG: L15 (pp122-129) • SG: L19 (pp162-167) • SG: L21-23 (pp186-217) • SG: L25 (pp224-229) • The Technology of Paper • TG: L05 (pp75-90) • STC Book: Experiments with Plants: (pp11-13), (pp36-46), (pp54-56), (pp60-61) • STC Book: Floating and Sinking: (pp07-26), (pp29-35), (pp41-42) • STC Book: Magnets and Motors: (pp07-08), (pp12-13), (pp28-38), (pp41-44), (pp53-57) • STC Book: Measuring Time: (pp10-17), (pp35-38), (pp46-47) • STC Book: Microworlds: (pp07-12) • STC Book: The Technology of Paper: (pp07-24), (pp27-29), (pp49-57) |
| <p>GRADE LEVEL EXPECTATION</p> | <p>SG3.</p> | <p>Develop an understanding that scientific knowledge is ongoing and subject to change as new evidence becomes available through experimental and/or observational confirmation(s).</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L14 (pp164-169) • SG: L21 (pp232-239) • TG: L14 (pp187-196) • TG: L21 (pp293-302) • Earth, Moon, and Stars • TG: Act01 (pp3-8) • Earth in Space • SG: L10 (pp130-145) • SG: L20-21 (pp324-339) • TG: L04 (pp37-52) • TG: L10 (pp147-158) • TG: L20-21 (pp293-310) • Energy, Machines, and Motion • SG: L02 (pp12-19) • SG: L07 (pp62-71) |

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| | | <ul style="list-style-type: none"> • SG: L15 (pp140-147) • Human Body Systems • TG: L01.Exts (p7) • TG: L10.Exts (p122) • TG: L18.Exts (pp215-216) • TG: L19.Exts (p225) • Living with a Star • TG: Act03 (pp61-84) • Moons of Jupiter • TG: Act01 (pp7-17) • Organisms-From Macro to Micro • SG: L19 (pp216-235) • Properties of Matter • SG: L09 (pp78-83) • SG: L11 (pp98-105) • SG: L15 (pp122-129) • SG: L19 (pp162-167) • SG: L21-23 (pp186-217) • SG: L25 (pp224-229) • STC Book: Experiments with Plants: (pp36-46), (pp54-56), (pp60-61) • STC Book: Floating and Sinking: (pp07-14), (pp18-26), (pp29-30), (pp34-35), (pp41-42) • STC Book: Measuring Time: (pp35-38) • STC Book: Microworlds: (pp10-12) • STC Book: The Technology of Paper: (pp07-09), (pp12-24) |
| <p>GRADE LEVEL EXPECTATION</p> | <p>SG4.</p> | <p>Develop an understanding that advancements in science depend on curiosity, creativity, imagination, and a broad knowledge base.</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L14 (pp164-169) • SG: L21 (pp232-239) • TG: L14 (pp187-196) • TG: L21 (pp293-302) • Earth, Moon, and Stars • TG: Act01 (pp3-8) • Earth in Space • SG: L10 (pp130-145) • SG: L20-21 (pp324-339) • TG: L04 (pp37-52) • TG: L10 (pp147-158) • TG: L20-21 (pp293-310) • Electrical Energy and Circuit Design • TG: L18.Exts (pp259-260) • Energy, Machines, and Motion • SG: L02 (pp12-19) • SG: L04 (pp26-35) • SG: L07 (pp62-71) • SG: L12-13 (pp108-129) • SG: L15 (pp140-147) • SG: L22 (pp226-236) • TG: L09.Exts (p105) • TG: L17.Exts (p208) • TG: L22 (pp247-254) • Floating and Sinking • TG: L15 (pp119-128) • GEMS Electric Circuits |

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| | | <ul style="list-style-type: none"> • TG: Ses01 (pp13-33) • Human Body Systems • TG: L01.Exts (p7) • TG: L10.Exts (p122) • TG: L18.Exts (pp215-216) • TG: L19.Exts (p225) • Living with a Star • TG: Act03 (pp61-84) • Light • SG: L01 (pp2-19) • SG: L05-06 (pp48-67) • SG: L14 (pp144-153) • SG: L22 (pp244-251) • SG: L25 (pp284-293) • TG: L25 (pp335-348) • Moons of Jupiter • TG: Act01 (pp7-17) • Organisms-From Macro to Micro • SG: L19 (pp216-235) • Properties of Matter • SG: L09 (pp78-83) • SG: L11 (pp98-105) • SG: L15 (pp122-129) • SG: L19 (pp162-167) • SG: L21-23 (pp186-217) • SG: L25 (pp224-229) • The Technology of Paper • TG: L05 (pp75-90) • STC Book: Experiments with Plants: (pp11-13), (pp36-46), (pp54-56), (pp60-61) • STC Book: Floating and Sinking: (pp07-14), (pp18-26), (pp29-35), (pp41-42) • STC Book: Magnets and Motors: (pp07-08), (pp12-13), (pp28-38), (pp41-44), (pp53-57) • STC Book: Measuring Time: (pp10-17), (pp35-38), (pp46-47) • STC Book: Microworlds: (pp07-12) • STC Book: The Technology of Paper: (pp07-24), (pp27-29), (pp49-57) |
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Carolina™ Curriculum Correlation to Alaska Content and Performance Standards – Science Grades 3-8

Grade 7

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| PERFORMANCE / CONTENT STANDARD | AK.A1. | Science as Inquiry and Process (SA1, SA2, SA3) |
| GRADE LEVEL EXPECTATION | [7] SA1.1. | The student demonstrates an understanding of the processes of science by asking questions, predicting, observing, describing, measuring, classifying, making generalizations, inferring and communicating. <ul style="list-style-type: none"> • All Units |
| GRADE LEVEL EXPECTATION | [7] SA1.2. | The student demonstrates an understanding of the processes of science by collaborating to design and conduct simple repeatable investigations, in order to record, analyze (i.e., range, mean, median, mode), interpret data, and present findings. (L) <ul style="list-style-type: none"> • All Units |
| GRADE LEVEL EXPECTATION | [7] SA2.1. | The student demonstrates an understanding of the attitudes and approaches to scientific inquiry by identifying and evaluating the sources used to support scientific statements. <ul style="list-style-type: none"> • Catastrophic Events • TG: L09.Exts (p132) • TG: L13.Exts (p182) • Human Body Systems • SG: L09 (pp68-75) • TG: L09 (pp103-112) • TG: L12.Exts (pp147-148) • Properties of Matter • TG: L16.Exts (p178) • TG: L23.Exts (p284) |
| PERFORMANCE / CONTENT STANDARD | AK.B1. | Concepts of Physical Science (SB1, SB2, SB3, SB4) |
| GRADE LEVEL EXPECTATION | [7] SB1.1. | The student demonstrates understanding of the structure and properties of matter by using physical properties (i.e., density, boiling point, freezing point, conductivity) to differentiate among and/or separate materials (i.e., elements, compounds, and mixtures). <ul style="list-style-type: none"> • Bubble-ology • TG: Act05 (pp35-39) • Catastrophic Events • SG: L04 (pp42-53) • TG: L04 (pp45-56) • Discovering Density • TG: Ses01-05 (pp5-46) • TG: Exts (p48) • Energy, Machines, and Motion • SG: L02-03 (pp12-25) • TG: L02-03 (pp23-36) • Human Body Systems • TG: L03.Exts (p24) • TG: L07.Exts (pp74-75) |

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| | | <ul style="list-style-type: none"> • Ocean Currents • TG: Act03-05 (pp47-93) • Properties of Matter • SG: L01-03 (pp2-29) • SG: L05 (pp38-55) • SG: L09 (pp78-83) • SG: L18-19 (pp150-167) • SG: L21 (pp186-197) • SG: L26 (pp230-235) • TG: L01-03 (pp3-38) • TG: L04.Exts (p45) • TG: L05 (pp49-64) • TG: L09 (pp101-112) • TG: L18-19 (pp193-226) • TG: L21 (pp241-262) • TG: L26 (pp313-332) |
| <p>GRADE LEVEL EXPECTATION</p> | <p>[7] SB2.1.</p> | <p>The student demonstrates an understanding of how energy can be transformed, transferred, and conserved by explaining that energy (i.e., heat, light, chemical, electrical, mechanical) can change form.</p> <ul style="list-style-type: none"> • Electrical Energy and Circuit Design • SG: L01-02 (pp2-25) • SG: L05 (pp46-57) • SG: L08-10 (pp84-117) • SG: L12 (pp122-133) • SG: L15-19 (pp156-209) • TG: L01-02 (pp3-36) • TG: L05 (pp61-76) • TG: L08-10 (pp111-156) • TG: L12 (pp169-180) • TG: L15-19 (pp213-276) • Energy, Machines, and Motion • SG: L02-04 (pp12-35) • SG: L10 (pp92-97) • SG: L17 (pp164-173) • SG: L19-20 (pp188-213) • SG: L22 (pp226-236) • TG: L02-04 (pp23-46) • TG: L09-10 (pp99-130) • TG: L17 (pp203-216) • TG: L19-22 (pp229-254) • Light • SG: L02 (pp20-31) • SG: L07 (pp68-81) • SG: L26 (pp294-297) • TG: L02 (pp21-36) • TG: L26 (pp349-367) |
| <p>GRADE LEVEL EXPECTATION</p> | <p>[7] SB3.1.</p> | <p>The student demonstrates an understanding of how energy can be transformed, transferred, and conserved by recognizing that most substances can exist as a solid, liquid, or gas depending on the motion of its particles.</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L04 (pp42-53) • TG: L04 (pp45-56) • Properties of Matter |

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| | | <ul style="list-style-type: none"> • SG: L06-08 (pp56-77) • SG: L25 (pp224-229) • TG: L02.Exts (p21) • TG: L06-08 (pp65-100) • TG: L12.Exts (p140) • TG: L14.Exts (p157) • TG: L15.Exts (p166) • TG: L25 (pp303-312) |
| GRADE LEVEL EXPECTATION | [7] SB4.1. | <p>The student demonstrates an understanding of motions, forces, their characteristics, relationships, and effects by illustrating that unbalanced forces will cause an object to accelerate.</p> <ul style="list-style-type: none"> • Earth in Space • SG: L15 (pp216-243) • TG: L15-16 (pp221-268) • Energy, Machines, and Motion • SG: L01 (pp2-11) • SG: L05-08 (pp36-81) • SG: L11-13 (pp100-129) • SG: L18-19 (pp174-199) • SG: L21 (pp214-225) • TG: L01 (pp3-22) • TG: L05-08 (pp47-98) • TG: L11-13 (pp131-166) • TG: L18-19 (pp217-234) • TG: L21 (pp239-246) |
| GRADE LEVEL EXPECTATION | [7] SB4.3. | <p>The student demonstrates an understanding of motions, forces, their characteristics, relationships, and effects by describing the characteristics of a wave (i.e., amplitude, wavelength, and frequency).</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L11-12 (pp120-153) • SG: L14 (pp164-169) • SG: L17 (pp194-197) • TG: L11-12 (pp149-176) • TG: L14 (pp187-196) • TG: L17 (pp233-256) • Energy, Machines, and Motion • SG: L18 (pp174-187) • Invisible Universe • TG: Act01 (pp15-24) • Light • SG: L07 (pp68-81) • SG: L09 (pp92-107) • SG: L12 (pp132-137) • TG: L07.Exts (p92) • TG: L09 (pp107-118) • TG: L19.Exts (p257) |
| PERFORMANCE / CONTENT STANDARD | AK.C1. | Concepts of Life Science (SC1, SC2, SC3) |
| GRADE LEVEL EXPECTATION | [7] SC1.1. | The student demonstrates an understanding of how science explains changes in life forms over time, including genetics, heredity, the process of natural selection |

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| | | <p>and biological evolution by comparing and contrasting sexual and asexual reproduction.</p> <ul style="list-style-type: none"> • Organisms-From Macro to Micro • SG: L03 (pp28-37) • SG: L09 (pp106-119) • SG: L12 (pp146-155) • SG: L14 (pp172-179) • SG: L17-18 (pp194-215) • TG: L03 (pp33-48) • TG: L09 (pp151-166) • TG: L12 (pp201-218) • TG: L14 (pp237-252) • TG: L17 (pp281-292) |
| GRADE LEVEL EXPECTATION | [7] SC2.1. | <p>The student demonstrates an understanding of the structure, function, behavior, development, life cycles, and diversity of living organisms by describing the basic structure and function of plant and animal cells.</p> <ul style="list-style-type: none"> • Human Body Systems • SG: L06 (pp40-49) • Organisms-From Macro to Micro • SG: L07-08 (pp82-105) • TG: L07-08 (pp105-150) |
| GRADE LEVEL EXPECTATION | [7] SC2.2. | <p>The student demonstrates an understanding of the structure, function, behavior, development, life cycles, and diversity of living organisms by identifying the seven levels of classification of organisms.</p> <ul style="list-style-type: none"> • Organisms-From Macro to Micro • SG: L01 (pp2-11) • SG: L06 (pp64-81) • SG: L11 (pp132-145) • TG: L01 (pp3-14) • TG: L06 (pp73-104) • TG: L11 (pp185-200) |
| GRADE LEVEL EXPECTATION | [7] SC2.3. | <p>The student demonstrates an understanding of the structure, function, behavior, development, life cycles, and diversity of living organisms by identifying and describing the functions of human organs (i.e., heart, lungs, brain).</p> <ul style="list-style-type: none"> • Human Body Systems • SG: L01 (pp2-7) • TG: L01 (pp3-10) • TG: L07.Exts (pp74-75) • Only One Ocean • TG: Act02 (pp43-87) |
| GRADE LEVEL EXPECTATION | [7] SC3.1. | <p>The student demonstrates an understanding that all organisms are linked to each other and their physical environments through the transfer and transformation of matter and energy by recognizing and explaining that organisms can cause physical and chemical changes (e.g., digestion, growth, respiration, photosynthesis) to matter and recognizing and explaining the importance of energy transfer in these changes.</p> |

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| | | <ul style="list-style-type: none"> • Human Body Systems • SG: L04-05 (pp24-39) • SG: L07 (pp50-59) • SG: L10 (pp76-89) • SG: L12-13 (pp98-119) • TG: L02 (pp11-18) • TG: L04 (pp29-56) • TG: L07 (pp69-80) • TG: L10 (pp113-130) • TG: L11.Exts (p135) • TG: L12-13 (pp137-158) • TG: L17 (pp191-208) • Light • SG: L11 (pp116-131) • TG: L11.Exts (p131) • Organisms-From Macro to Micro • SG: L07 (pp82-93) • SG: L10 (pp120-131) • TG: L07 (pp105-130) • TG: L10 (pp167-184) |
| PERFORMANCE / CONTENT STANDARD | AK.D1. | Concepts of Earth Science (SD1, SD2, SD3, SD4) |
| GRADE LEVEL EXPECTATION | [7] SD1.1. | <p>The student demonstrates an understanding of geochemical cycles by describing the rock cycle and its relationship to igneous, metamorphic, and sedimentary rocks.</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L21-23 (pp232-263) • SG: L25 (pp274-282) • TG: L21-23 (pp293-328) • TG: L25 (pp347-372) • Earth in Space • SG: L18 (pp290-311) • TG: L18 (pp277-286) • Plate Tectonics • TG: Ses07 (pp93-111) • Stories in Stone • TG: Ses01-02 (pp15-31) • TG: Ses04-06 (pp47-81) • TG: Ses08 (pp103-113) • TG: Exts (p114) |
| GRADE LEVEL EXPECTATION | [7] SD1.2. | <p>The student demonstrates an understanding of geochemical cycles by explaining the water cycle's connection to changes in the Earth's surface.</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L06 (pp68-79) • TG: L06 (pp69-82) • Environmental Detectives • TG: Act04 (pp91-111) • Earth in Space • SG: L13 (pp174-199) • TG: L13 (pp197-208) • Human Body Systems |

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| | | <ul style="list-style-type: none"> • TG: L13.Exts (p158) • Properties of Matter • SG: L01 (pp2-13) |
| GRADE LEVEL EXPECTATION | [7] SD2.2. | <p>The student demonstrates an understanding of the forces that shape Earth by describing how the movement of the tectonic plates results in both slow changes (e.g., formation of mountains, ocean floors, and basins) and short-term events (e.g., volcanic eruptions, seismic waves, and earthquakes) on the surface.</p> <ul style="list-style-type: none"> • Convection: A Current Event • TG: Exts (pp27-29) • Catastrophic Events • SG: L10 (pp114-119) • SG: L13-17 (pp154-197) • TG: L10 (pp143-148) • TG: L13-17 (pp177-256) • Earth in Space • SG: L13 (pp174-199) • TG: L13 (pp197-208) • Plate Tectonics • TG: Ses01-03 (pp21-55) • TG: Ses08 (pp113-129) • Properties of Matter • SG: L05 (pp38-55) |
| GRADE LEVEL EXPECTATION | [7] SD4.1. | <p>The student demonstrates an understanding of the theories regarding the origin and evolution of the universe by comparing and contrasting characteristics of planets and stars. (i.e., light reflecting, light emitting, orbiting, orbited, composition.)</p> <ul style="list-style-type: none"> • Earth, Moon, and Stars • TG: Act05-06 (pp33-52) • Earth in Space • SG: L02 (pp12-21) • SG: L10-22 (pp130-343) • TG: L01 (pp3-10) • TG: L04 (pp37-52) • TG: L08 (pp97-120) • TG: L10-22 (pp147-326) • Energy, Machines, and Motion • TG: L05.Exts (pp53-54) • Invisible Universe • TG: Act04 (pp58-77) • Living with a Star • TG: Act01-06 (pp15-131) • Messages from Space • TG: Act02-03 (pp27-87) • TG: Exts (p38) • Properties of Matter • SG: L01 (pp2-13) • TG: L01.Exts (p9) |
| GRADE LEVEL EXPECTATION | [7] SD4.2. | <p>The student demonstrates an understanding of the theories regarding the origin and evolution of the universe by using light-years to describe distances between objects in the universe.</p> |

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| | | <ul style="list-style-type: none"> • Earth in Space • SG: L02 (pp12-21) • SG: L07 (pp88-101) • SG: L11 (pp146-159) • SG: L22 (pp340-343) • TG: L02 (pp11-20) • TG: L04.Exts (pp45-46) • TG: L07 (pp83-96) • TG: L11 (pp159-180) • TG: L22 (pp311-326) • Invisible Universe • TG: Act04-05 (pp58-91) • Light • SG: L03 (pp32-39) • Messages from Space • TG: Act03 (pp46-87) • Moons of Jupiter • TG: Act03 (pp31-39) • The Real Reasons for the Seasons • TG: Act03 (pp29-48) |
| PERFORMANCE / CONTENT STANDARD | AK.E1. | Science and Technology (SE1, SE2, SE3) |
| GRADE LEVEL EXPECTATION | [7] SE1.1. | <p>The student demonstrates understanding of how to integrate scientific knowledge and technology to address problems by describing how public policy affects the student's life (e.g., public waste disposal). (L)</p> <ul style="list-style-type: none"> • Acid Rain • TG: Ses03-05 (pp39-86) • TG: Ses07-08 (pp106-119) • Earth in Space • TG: L20.Exts (p297) • TG: L21.Exts (p310) • Electrical Energy and Circuit Design • SG: L02 (pp12-25) • TG: L02 (pp23-36) • Energy, Machines, and Motion • SG: L16 (pp148-161) • TG: L16 (pp185-202) • Global Warming and the Greenhouse Effect • TG: Ses05-08 (pp77-124) • Human Body Systems • TG: L18.Exts (pp215-216) • TG: L19.Exts (p225) • River Cutters • TG: Exts (p73) |
| GRADE LEVEL EXPECTATION | [7] SE2.1. | <p>The student demonstrates an understanding that solving problems involves different ways of thinking by identifying, designing, testing, and revising solutions to a local problem. (L)</p> <ul style="list-style-type: none"> • Bubble-ology • TG: Act06 (pp41-44) • Crime Lab Chemistry • TG: Act03 (pp47-62) |

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| | | <ul style="list-style-type: none"> • TG: Exts (pp63-64) • Catastrophic Events • SG: L09 (pp102-112) • SG: L17 (pp194-197) • SG: L24-25 (pp264-282) • TG: L02.Exts (p23) • TG: L03.Exts (pp35-36) • TG: L06.Exts (pp77-78) • TG: L09 (pp127-142) • TG: L14.Exts (pp193-194) • TG: L17 (pp233-256) • TG: L18.Exts (pp262-263) • TG: L23.Exts (pp325-326) • TG: L24-25 (pp329-372) • Earth in Space • SG: L22 (pp340-343) • TG: L10.Exts (p152) • TG: L20.Exts (p297) • TG: L22 (pp311-326) • Electrical Energy and Circuit Design • SG: L04 (pp36-45) • SG: L07-08 (pp70-93) • SG: L13 (pp134-141) • SG: L15 (pp156-167) • SG: L17 (pp174-185) • SG: L24 (pp244-251) • TG: L02.Exts (pp35-36) • TG: L04 (pp49-60) • TG: L07-08 (pp93-122) • TG: L13 (pp181-204) • TG: L15 (pp213-226) • TG: L16.Exts (pp236-237) • TG: L17 (pp240-248) • TG: L23.Exts (p312) • TG: L24 (pp313-326) • Energy, Machines, and Motion • SG: L07 (pp62-71) • SG: L17 (pp164-173) • SG: L22 (pp226-236) • TG: L07 (pp75-84) • TG: L12 (pp147-156) • TG: L16-17 (pp185-216) • TG: L22 (pp247-254) • Fingerprinting • TG: Ses03 (pp23-25) • Human Body Systems • SG: L09-10 (pp68-89) • SG: L23 (pp190-195) • TG: L06.Exts (p63) • TG: L08-10 (pp81-130) • TG: L17 (pp191-208) • TG: L19.Exts (p225) • TG: L23 (pp261-276) • Light • SG: L03 (pp32-39) • SG: L07 (pp68-81) • SG: L15 (pp154-165) • SG: L19 (pp214-223) • SG: L21-22 (pp230-251) |
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| | | <ul style="list-style-type: none"> • TG: L03 (pp37-48) • TG: L07 (pp83-98) • TG: L15 (pp181-194) • TG: L19 (pp247-274) • TG: L21-22 (pp295-312) • Organisms-From Macro to Micro • SG: L15 (pp180-187) • SG: L20 (pp236-243) • TG: L15 (pp253-266) • TG: L20 (pp331-350) • Properties of Matter • SG: L13 (pp112-115) • SG: L15-16 (pp122-139) • SG: L23-24 (pp208-223) • TG: L04.Exts (p45) • TG: L07.Exts (p86) • TG: L13 (pp143-152) • TG: L15-16 (pp161-178) • TG: L23-24 (pp275-302) • River Cutters • TG: Ses07 (pp67-72) |
| <p>GRADE LEVEL EXPECTATION</p> | <p>[7] SE2.2.</p> | <p>The student demonstrates an understanding that solving problems involves different ways of thinking by comparing the student's work to the work of peers in order to identify multiple paths that can be used to investigate a question or problem. (L)</p> <ul style="list-style-type: none"> • Bubble-ology • TG: Act01 (pp5-9) • Crime Lab Chemistry • TG: Act01-03 (pp7-62) • Catastrophic Events • SG: L01-25 (pp2-282) • TG: L01-25 (pp3-372) • Earth in Space • SG: L01 (pp2-11) • SG: L05 (pp62-73) • SG: L09-11 (pp122-159) • SG: L13 (pp174-199) • SG: L18-19 (pp290-323) • SG: L21-22 (pp334-343) • TG: L01 (pp3-10) • TG: L05 (pp53-72) • TG: L09-11 (pp121-180) • TG: L13-14 (pp197-220) • TG: L18-19 (pp277-292) • TG: L20.Exts (p297) • TG: L21-22 (pp309-326) • Electrical Energy and Circuit Design • SG: L02-03 (pp12-35) • SG: L08 (pp84-93) • TG: L02-03 (pp23-48) • TG: L08 (pp111-122) • Energy, Machines, and Motion • SG: L01-14 (pp2-139) • SG: L16 (pp148-161) • SG: L18-21 (pp174-225) • TG: L01-14 (pp3-176) |

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| | | <ul style="list-style-type: none"> • TG: L16 (pp185-202) • TG: L18-21 (pp217-246) • Fingerprinting • TG: Ses01-03 (pp7-25) • Human Body Systems • SG: L02 (pp8-13) • SG: L10 (pp76-89) • SG: L17 (pp144-147) • TG: L02 (pp11-18) • TG: L10 (pp113-130) • TG: L17 (pp191-208) • Light • SG: L01 (pp2-19) • SG: L03 (pp32-39) • SG: L07-08 (pp68-91) • SG: L10 (pp108-115) • SG: L12 (pp132-137) • SG: L15-16 (pp154-185) • SG: L18-19 (pp200-223) • SG: L22-23 (pp244-265) • SG: L25 (pp284-293) • TG: L01-03 (pp3-48) • TG: L07-08 (pp83-106) • TG: L10 (pp119-126) • TG: L12 (pp137-152) • TG: L15-16 (pp181-204) • TG: L18-19 (pp225-274) • TG: L22-23 (pp305-318) • TG: L25 (pp335-348) • Mystery Festival • TG: Exts (pp198-199) • Organisms-From Macro to Micro • SG: L01-20 (pp2-243) • TG: L01-20 (pp3-350) • Properties of Matter • SG: L01-08 (pp2-77) • SG: L10-18 (pp86-161) • SG: L21-25 (pp186-229) • TG: L01-08 (pp3-100) • TG: L10-18 (pp113-208) • TG: L20-25 (pp227-312) |
| <p>GRADE LEVEL EXPECTATION</p> | <p>[7] SE3.1.</p> | <p>The student demonstrates an understanding of how scientific discoveries and technological innovations affect our lives and society by recognizing the effects of a past scientific discovery, invention, or scientific breakthrough (e.g., DDT, internal combustion engine).</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L09 (pp102-112) • TG: L09 (pp127-142) • Earth in Space • SG: L10 (pp130-145) • SG: L20-21 (pp324-339) • TG: L10 (pp147-158) • TG: L20-21 (pp293-310) • Electrical Energy and Circuit Design • TG: L18.Exts (pp259-260) • Energy, Machines, and Motion |

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| | | <ul style="list-style-type: none"> • SG: L02 (pp12-19) • SG: L04 (pp26-35) • SG: L07 (pp62-71) • SG: L12-13 (pp108-129) • SG: L15-16 (pp140-161) • SG: L22 (pp226-236) • TG: L09.Exts (p105) • TG: L17.Exts (p208) • TG: L22 (pp247-254) • Human Body Systems • TG: L19.Exts (p225) • Light • SG: L01 (pp2-19) • SG: L05-06 (pp48-67) • SG: L14 (pp144-153) • SG: L22 (pp244-251) • SG: L25 (pp284-293) • TG: L25 (pp335-348) • Plate Tectonics • TG: Ses01 (pp21-29) • Properties of Matter • SG: L09 (pp78-83) • SG: L11 (pp98-105) • TG: L21.Exts (p251) |
| PERFORMANCE / CONTENT STANDARD | AK.F1. | Cultural, Social, Personal Perspectives, and Science (SF1, SF2, SF3) |
| GRADE LEVEL EXPECTATION | [7] SF1.1- SF3.1. | <p>The student demonstrates an understanding of the dynamic relationships among scientific, cultural, social, and personal perspectives by investigating the basis of local knowledge (e.g., describing and predicting weather) and sharing that information. (L) Cross referenced with SA3.1</p> <ul style="list-style-type: none"> • Earth in Space • SG: L20 (pp324-333) • TG: L20 (pp293-308) • Properties of Matter • SG: L18 (pp150-161) |
| PERFORMANCE / CONTENT STANDARD | AK.G1. | History and Nature of Science (SG1, SG2, SG3, SG4) |
| GRADE LEVEL EXPECTATION | [7] SG3.1. | <p>The student demonstrates an understanding that scientific knowledge is ongoing and subject to change by revising a personal idea when presented with experimental/observational data inconsistent with that personal idea (e.g., the rates of falling bodies of different masses). (L)</p> <ul style="list-style-type: none"> • Light • SG: L26 (pp294-297) • TG: L26 (pp349-367) |
| PERFORMANCE / CONTENT STANDARD | AK.SA. | Science as Inquiry and Process: A student should understand and be able to apply the processes and applications of scientific inquiry. A student who meets the content standard should: |
| GRADE LEVEL | SA1. | Develop an understanding of the processes of science used to investigate |

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| EXPECTATION | | <p>problems, design and conduct repeatable scientific investigations, and defend scientific arguments.</p> <ul style="list-style-type: none"> • All Units |
| GRADE LEVEL EXPECTATION | SA2. | <p>Develop an understanding that the processes of science require integrity, logical reasoning, skepticism, openness, communication, and peer review.</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L18 (pp200-209) • TG: L18 (pp257-264) • Dry Ice Investigations • TG: Act01 (pp19-47) • Electrical Energy and Circuit Design • SG: L02 (pp12-25) • TG: L02 (pp23-36) • Human Body Systems • TG: L01.Exts (p7) |
| GRADE LEVEL EXPECTATION | SA3. | <p>Develop an understanding that culture, local knowledge, history, and interaction with the environment contribute to the development of scientific knowledge, and local applications provide opportunity for understanding scientific concepts and global issues.</p> <ul style="list-style-type: none"> • Organisms-From Macro to Micro • TG: L02.Exts (p25) • Properties of Matter • SG: L18 (pp150-161) • SG: L20 (pp170-185) • TG: L04.Exts (p45) • TG: L20.Exts (p235) • TG: L21.Exts (p251) |
| PERFORMANCE / CONTENT STANDARD | AK.SB. | <p>Concepts of Physical Science: A student should understand and be able to apply the concepts, models, theories, universal principles, and facts that explain the physical world. A student who meets the content standard should:</p> |
| GRADE LEVEL EXPECTATION | SB1. | <p>Develop an understanding of the characteristic properties of matter and the relationship of these properties to their structure and behavior.</p> <ul style="list-style-type: none"> • Bubble-ology • TG: Act05 (pp35-39) • Energy, Machines, and Motion • SG: L02-03 (pp12-25) • TG: L02-03 (pp23-36) • Human Body Systems • TG: L03.Exts (p24) • TG: L07.Exts (pp74-75) • Properties of Matter • SG: L18-19 (pp150-167) • SG: L21 (pp186-197) • TG: L18-19 (pp193-226) • TG: L21 (pp241-262) |
| GRADE LEVEL EXPECTATION | SB2. | <p>Develop an understanding that energy appears in different forms, can be transformed from one form to another, can be transferred or moved from one</p> |

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| | | <p>place or system to another, may be unavailable for use, and is ultimately conserved.</p> <ul style="list-style-type: none"> • Electrical Energy and Circuit Design • SG: L01-02 (pp2-25) • SG: L05 (pp46-57) • SG: L08-10 (pp84-117) • SG: L12 (pp122-133) • SG: L15-19 (pp156-209) • TG: L01-02 (pp3-36) • TG: L05 (pp61-76) • TG: L08-10 (pp111-156) • TG: L12 (pp169-180) • TG: L15-19 (pp213-276) • Energy, Machines, and Motion • SG: L02-04 (pp12-35) • SG: L10 (pp92-97) • SG: L17 (pp164-173) • SG: L19-20 (pp188-213) • SG: L22 (pp226-236) • TG: L02-04 (pp23-46) • TG: L09-10 (pp99-130) • TG: L17 (pp203-216) • TG: L19-22 (pp229-254) • Light • SG: L02 (pp20-31) • SG: L07 (pp68-81) • SG: L26 (pp294-297) • TG: L02 (pp21-36) • TG: L26 (pp349-367) |
| <p>GRADE LEVEL EXPECTATION</p> | <p>SB3.</p> | <p>Develop an understanding of the interactions between matter and energy, including physical, chemical, and nuclear changes, and the effects of these interactions on physical systems.</p> <ul style="list-style-type: none"> • Bubble-ology • TG: Act02-03 (pp11-27) • TG: Act05-06 (pp35-44) • Chemical Reactions • TG: Part1 (pp9-14) • Of Cabbages and Chemistry • TG: Ses01-02 (pp9-28) • TG: Ses04 (pp41-46) • Properties of Matter • SG: L06 (pp56-63) • SG: L18 (pp150-161) • SG: L20 (pp170-185) • SG: L24 (pp218-223) • TG: L06 (pp65-78) • TG: L17.Exts (p185) • TG: L18 (pp193-208) • TG: L20 (pp227-240) • TG: L22.Exts (p270) • TG: L24 (pp295-302) |
| <p>GRADE LEVEL EXPECTATION</p> | <p>SB4.</p> | <p>Develop an understanding of motions, forces, their characteristics and</p> |

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| | | <p>relationships, and natural forces and their effects.</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L11-12 (pp120-153) • SG: L15 (pp170-189) • TG: L11-12 (pp149-176) • TG: L15 (pp197-218) • Earth, Moon, and Stars • TG: Act01 (pp3-8) • Earth in Space • SG: L15 (pp216-243) • TG: L15 (pp221-244) • Energy, Machines, and Motion • SG: L01 (pp2-11) • SG: L05-13 (pp36-129) • SG: L15-22 (pp140-236) • TG: L01- (pp3-22) • TG: L05-13 (pp47-166) • TG: L15-22 (pp177-254) |
| PERFORMANCE / CONTENT STANDARD | AK.SC. | Concepts of Life Science: A student should understand and be able to apply the concepts, models, theories, facts, evidence, systems, and processes of life science. A student who meets the content standard should: |
| GRADE LEVEL EXPECTATION | SC1. | <p>Develop an understanding of how science explains changes in life forms over time, including genetics, heredity, the process of natural selection, and biological evolution.</p> <ul style="list-style-type: none"> • Human Body Systems • TG: L04.Exts (p35) • Life Through Time • TG: Ses02-07 (pp37-269) • Organisms-From Macro to Micro • SG: L13 (pp158-171) • SG: L18-19 (pp204-235) • TG: L02.Exts (p25) • TG: L13 (pp219-236) • TG: L18-19 (pp293-330) |
| GRADE LEVEL EXPECTATION | SC2. | <p>Develop an understanding of the structure, function, behavior, development, life cycles, and diversity of living organisms.</p> <ul style="list-style-type: none"> • Earth in Space • SG: L16 (pp244-265) • TG: L16 (pp245-268) • Human Body Systems • TG: L07.Exts (pp74-75) • Organisms-From Macro to Micro • SG: L01-04 (pp2-45) • SG: L11 (pp132-145) • SG: L14 (pp172-179) • SG: L18 (pp204-215) • TG: L01 (pp3-14) • TG: L02.Exts (p25) • TG: L03 (pp33-48) • TG: L06 (pp73-104) • TG: L11 (pp185-200) |

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| | | <ul style="list-style-type: none"> • TG: L14 (pp237-252) • TG: L18 (pp293-302) |
| GRADE LEVEL EXPECTATION | SC3. | <p>Develop an understanding that all organisms are linked to each other and their physical environments through the transfer and transformation of matter and energy.</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) • Light • SG: L11 (pp116-131) • TG: L11.Exts (p131) • Organisms-From Macro to Micro • SG: L09 (pp106-119) • TG: L09 (pp151-166) • TG: L18.Exts (pp299-300) |
| PERFORMANCE / CONTENT STANDARD | AK.SD. | <p>Concepts of Earth Science: A student should understand and be able to apply the concepts, processes, theories, models, evidence, and systems of earth and space sciences. A student who meets the content standard should:</p> |
| GRADE LEVEL EXPECTATION | SD2. | <p>Develop an understanding of the origins, ongoing processes, and forces that shape the structure, composition, and physical history of the Earth.</p> <ul style="list-style-type: none"> • Convection: A Current Event • TG: Exts (pp27-29) • Catastrophic Events • SG: L09-10 (pp102-119) • SG: L13-18 (pp154-209) • SG: L24 (pp264-273) • TG: L09-10 (pp127-148) • TG: L13-18 (pp177-264) • TG: L19.Exts (pp274-275) • TG: L24 (pp329-346) • Earth, Moon, and Stars • TG: Act01 (pp3-8) • Earth in Space • SG: L13 (pp174-199) • TG: L13 (pp197-208) • Life Through Time • TG: Ses01-02 (pp13-100) • Plate Tectonics • TG: Ses01-03 (pp21-55) • TG: Ses08 (pp113-129) • Properties of Matter • SG: L01 (pp2-13) • SG: L05 (pp38-55) • Stories in Stone • TG: Exts (p114) |
| GRADE LEVEL EXPECTATION | SD3. | <p>Develop an understanding of the cyclical changes controlled by energy from the sun and by Earth's position and motion in our solar system.</p> |

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| | | <ul style="list-style-type: none"> • Catastrophic Events • SG: L03 (pp26-41) • SG: L07 (pp80-95) • TG: L01.Exts (pp10-11) • TG: L03 (pp27-44) • TG: L07 (pp83-102) • Earth, Moon, and Stars • TG: Act03 (pp17-24) • TG: Act05-06 (pp33-52) • Earth in Space • SG: L02-04 (pp12-61) • SG: L06 (pp74-87) • SG: L08 (pp102-121) • SG: L16 (pp244-265) • TG: L02 (pp11-20) • TG: L03-04 (pp21-52) • TG: L06 (pp73-82) • TG: L08 (pp97-120) • TG: L16 (pp245-268) • Organisms-From Macro to Micro • SG: L10 (pp120-131) • TG: L10 (pp167-184) • The Real Reasons for the Seasons • TG: Act01-02 (pp17-28) • TG: Act04-08 (pp49-88) |
| GRADE LEVEL EXPECTATION | SD4. | <p>Develop an understanding of the theories regarding the origin and evolution of the universe.</p> <ul style="list-style-type: none"> • Earth in Space • SG: L02 (pp12-21) • SG: L10 (pp130-145) • SG: L17-22 (pp268-343) • TG: L01 (pp3-10) • TG: L08 (pp97-120) • TG: L12 (pp181-196) • TG: L17-22 (pp269-326) • Messages from Space • TG: Act03 (pp46-87) • Properties of Matter • SG: L01 (pp2-13) • TG: L01.Exts (p9) |
| PERFORMANCE / CONTENT STANDARD | AK.SE. | <p>Science and Technology: A student should understand the relationships among science, technology, and society. A student who meets the content standard should:</p> |
| GRADE LEVEL EXPECTATION | SE1. | <p>Develop an understanding of how scientific knowledge and technology are used in making decisions about issues, innovations, and responses to problems and everyday events.</p> <ul style="list-style-type: none"> • Earth in Space • SG: L20-21 (pp324-339) • TG: L20-21 (pp293-310) • Energy, Machines, and Motion • SG: L16 (pp148-161) |

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| GRADE LEVEL EXPECTATION | SE2. | <p>Develop an understanding that solving problems involves different ways of thinking, perspectives, and curiosity that lead to the exploration of multiple paths that are analyzed using scientific, technological, and social merits.</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L14 (pp164-169) • SG: L18 (pp200-209) • SG: L21 (pp232-239) • TG: L14 (pp187-196) • TG: L18 (pp257-264) • TG: L21 (pp293-302) • Dry Ice Investigations • TG: Act01 (pp19-47) • Earth, Moon, and Stars • TG: Act01 (pp3-8) • Earth in Space • SG: L10 (pp130-145) • SG: L20-21 (pp324-339) • TG: L04 (pp37-52) • TG: L10 (pp147-158) • TG: L20-21 (pp293-310) • Electrical Energy and Circuit Design • SG: L02 (pp12-25) • TG: L02 (pp23-36) • Energy, Machines, and Motion • SG: L02 (pp12-19) • SG: L07 (pp62-71) • SG: L15-16 (pp140-161) • TG: L16 (pp185-202) • Human Body Systems • TG: L01.Exts (p7) • TG: L10.Exts (p122) • TG: L18.Exts (pp215-216) • TG: L19.Exts (p225) • Living with a Star • TG: Act03 (pp61-84) • Moons of Jupiter • TG: Act01 (pp7-17) • Organisms-From Macro to Micro • SG: L19 (pp216-235) • Properties of Matter • SG: L09 (pp78-83) • SG: L11 (pp98-105) • SG: L15 (pp122-129) • SG: L19 (pp162-167) • SG: L21-23 (pp186-217) • SG: L25 (pp224-229) |
| GRADE LEVEL EXPECTATION | SE3. | <p>Develop an understanding of how scientific discoveries and technological innovations affect and are affected by our lives and cultures</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L09 (pp102-112) • TG: L09 (pp127-142) • Earth in Space • SG: L20-21 (pp324-339) • TG: L20-21 (pp293-310) |

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| | | <ul style="list-style-type: none"> • Electrical Energy and Circuit Design • TG: L18.Exts (pp259-260) • Energy, Machines, and Motion • SG: L02 (pp12-19) • SG: L04 (pp26-35) • SG: L07 (pp62-71) • SG: L12-13 (pp108-129) • SG: L15-16 (pp140-161) • SG: L22 (pp226-236) • TG: L09.Exts (p105) • TG: L17.Exts (p208) • TG: L22 (pp247-254) • Human Body Systems • TG: L10.Exts (p122) • TG: L18.Exts (pp215-216) • TG: L19.Exts (p225) • Light • SG: L01 (pp2-19) • SG: L05-06 (pp48-67) • SG: L14 (pp144-153) • SG: L22 (pp244-251) • SG: L25 (pp284-293) • TG: L25 (pp335-348) • Organisms-From Macro to Micro • TG: L02.Exts (p25) • Properties of Matter • SG: L09 (pp78-83) • SG: L11 (pp98-105) • SG: L18 (pp150-161) • SG: L20 (pp170-185) • TG: L04.Exts (p45) • TG: L20.Exts (p235) • TG: L21.Exts (p251) |
| PERFORMANCE / CONTENT STANDARD | AK.SF. | Cultural, Social, Personal Perspectives and Science: A student should understand the dynamic relationships among scientific, cultural, social, and personal perspectives. A student who meets the content standard should: |
| GRADE LEVEL EXPECTATION | SF1. | <p>Develop an understanding of the interrelationships among individuals, cultures, societies, science, and technology.</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L14 (pp164-169) • SG: L21 (pp232-239) • TG: L14 (pp187-196) • TG: L21 (pp293-302) • Earth, Moon, and Stars • TG: Act01 (pp3-8) • Earth in Space • SG: L03 (pp22-41) • SG: L10 (pp130-145) • SG: L20-21 (pp324-339) • TG: L03-04 (pp21-52) • TG: L10 (pp147-158) • TG: L20-21 (pp293-310) • Electrical Energy and Circuit Design • SG: L02 (pp12-25) • TG: L02 (pp23-36) • Energy, Machines, and Motion |

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| | | <ul style="list-style-type: none"> • SG: L02 (pp12-19) • SG: L04 (pp26-35) • SG: L07 (pp62-71) • SG: L13 (pp120-129) • SG: L15-16 (pp140-161) • TG: L16 (pp185-202) • Human Body Systems • TG: L01.Exts (p7) • TG: L10.Exts (p122) • TG: L18.Exts (pp215-216) • TG: L19.Exts (p225) • Living with a Star • TG: Act03 (pp61-84) • Light • SG: L01 (pp2-19) • SG: L05 (pp48-57) • SG: L11 (pp116-131) • SG: L14-15 (pp144-165) • SG: L25 (pp284-293) • TG: L15.Exts (p187) • TG: L25 (pp335-348) • Moons of Jupiter • TG: Act01 (pp7-17) • Organisms-From Macro to Micro • SG: L19 (pp216-235) • Properties of Matter • SG: L07 (pp64-73) • SG: L09 (pp78-83) • SG: L11 (pp98-105) • SG: L15 (pp122-129) • SG: L18-19 (pp150-167) • SG: L21-23 (pp186-217) • SG: L25 (pp224-229) |
| <p>GRADE LEVEL EXPECTATION</p> | <p>SF2.</p> | <p>Develop an understanding that some individuals, cultures, and societies use other beliefs and methods in addition to scientific methods to describe and understand the world.</p> <ul style="list-style-type: none"> • Earth in Space • SG: L03 (pp22-41) • SG: L20 (pp324-333) • TG: L03 (pp21-36) • TG: L20 (pp293-308) • Energy, Machines, and Motion • SG: L16 (pp148-161) • Light • SG: L05 (pp48-57) • SG: L11 (pp116-131) • SG: L15 (pp154-165) • TG: L15.Exts (p187) • Properties of Matter • SG: L07 (pp64-73) • SG: L11 (pp98-105) |
| <p>GRADE LEVEL EXPECTATION</p> | <p>SF3.</p> | <p>Develop an understanding of the importance of recording and validating cultural knowledge.</p> |

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| | | <ul style="list-style-type: none"> • Earth in Space • SG: L03 (pp22-41) • SG: L20 (pp324-333) • TG: L03 (pp21-36) • TG: L20 (pp293-308) • Energy, Machines, and Motion • SG: L16 (pp148-161) • Light • SG: L05 (pp48-57) • SG: L11 (pp116-131) • SG: L15 (pp154-165) • TG: L15.Exts (p187) • Properties of Matter • SG: L07 (pp64-73) • SG: L11 (pp98-105) |
| PERFORMANCE / CONTENT STANDARD | AK.SG. | History and Nature of Science: A student should understand the history and nature of science. A student who meets the content standard should: |
| GRADE LEVEL EXPECTATION | SG1. | <p>Develop an understanding that historical perspectives of scientific explanations demonstrate that scientific knowledge changes over time, building on prior knowledge.</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L14 (pp164-169) • SG: L21 (pp232-239) • TG: L14 (pp187-196) • TG: L21 (pp293-302) • Earth, Moon, and Stars • TG: Act01 (pp3-8) • Earth in Space • SG: L10 (pp130-145) • SG: L20-21 (pp324-339) • TG: L04 (pp37-52) • TG: L10 (pp147-158) • TG: L20-21 (pp293-310) • Electrical Energy and Circuit Design • SG: L02 (pp12-25) • TG: L02 (pp23-36) • Energy, Machines, and Motion • SG: L02 (pp12-19) • SG: L07 (pp62-71) • SG: L15-16 (pp140-161) • TG: L16 (pp185-202) • Human Body Systems • TG: L01.Exts (p7) • TG: L10.Exts (p122) • TG: L18.Exts (pp215-216) • TG: L19.Exts (p225) • Living with a Star • TG: Act03 (pp61-84) • Moons of Jupiter • TG: Act01 (pp7-17) • Organisms-From Macro to Micro • SG: L19 (pp216-235) • TG: L02.Exts (p25) • Properties of Matter |

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| | | <ul style="list-style-type: none"> • SG: L09 (pp78-83) • SG: L11 (pp98-105) • SG: L15 (pp122-129) • SG: L19-23 (pp162-217) • SG: L25 (pp224-229) • TG: L04.Exts (p45) • TG: L20.Exts (p235) • TG: L21.Exts (p251) |
| <p>GRADE LEVEL EXPECTATION</p> | <p>SG2.</p> | <p>Develop an understanding that the advancement of scientific knowledge embraces innovation and requires empirical evidence, repeatable investigations, logical arguments, and critical review in striving for the best possible explanations of the natural world.</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L14 (pp164-169) • SG: L18 (pp200-209) • SG: L21 (pp232-239) • TG: L14 (pp187-196) • TG: L18 (pp257-264) • TG: L21 (pp293-302) • Dry Ice Investigations • TG: Act01 (pp19-47) • Earth, Moon, and Stars • TG: Act01 (pp3-8) • Earth in Space • SG: L10 (pp130-145) • SG: L20-21 (pp324-339) • TG: L04 (pp37-52) • TG: L10 (pp147-158) • TG: L20-21 (pp293-310) • Electrical Energy and Circuit Design • SG: L02 (pp12-25) • TG: L02 (pp23-36) • TG: L18.Exts (pp259-260) • Energy, Machines, and Motion • SG: L02 (pp12-19) • SG: L04 (pp26-35) • SG: L07 (pp62-71) • SG: L12-13 (pp108-129) • SG: L15 (pp140-147) • SG: L22 (pp226-236) • TG: L09.Exts (p105) • TG: L17.Exts (p208) • TG: L22 (pp247-254) • Human Body Systems • TG: L01.Exts (p7) • TG: L10.Exts (p122) • TG: L18.Exts (pp215-216) • TG: L19.Exts (p225) • Living with a Star • TG: Act03 (pp61-84) • Light • SG: L01 (pp2-19) • SG: L05-06 (pp48-67) • SG: L14 (pp144-153) • SG: L22 (pp244-251) • SG: L25 (pp284-293) |

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| | | <ul style="list-style-type: none"> • TG: L25 (pp335-348) • Moons of Jupiter • TG: Act01 (pp7-17) • Organisms-From Macro to Micro • SG: L19 (pp216-235) • Properties of Matter • SG: L09 (pp78-83) • SG: L11 (pp98-105) • SG: L15 (pp122-129) • SG: L19 (pp162-167) • SG: L21-23 (pp186-217) • SG: L25 (pp224-229) |
| GRADE LEVEL EXPECTATION | SG3. | <p>Develop an understanding that scientific knowledge is ongoing and subject to change as new evidence becomes available through experimental and/or observational confirmation(s).</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L14 (pp164-169) • SG: L21 (pp232-239) • TG: L14 (pp187-196) • TG: L21 (pp293-302) • Earth, Moon, and Stars • TG: Act01 (pp3-8) • Earth in Space • SG: L10 (pp130-145) • SG: L20-21 (pp324-339) • TG: L04 (pp37-52) • TG: L10 (pp147-158) • TG: L20-21 (pp293-310) • Energy, Machines, and Motion • SG: L02 (pp12-19) • SG: L07 (pp62-71) • SG: L15 (pp140-147) • Human Body Systems • TG: L01.Exts (p7) • TG: L10.Exts (p122) • TG: L18.Exts (pp215-216) • TG: L19.Exts (p225) • Living with a Star • TG: Act03 (pp61-84) • Moons of Jupiter • TG: Act01 (pp7-17) • Organisms-From Macro to Micro • SG: L19 (pp216-235) • Properties of Matter • SG: L09 (pp78-83) • SG: L11 (pp98-105) • SG: L15 (pp122-129) • SG: L19 (pp162-167) • SG: L21-23 (pp186-217) • SG: L25 (pp224-229) |
| GRADE LEVEL EXPECTATION | SG4. | <p>Develop an understanding that advancements in science depend on curiosity, creativity, imagination, and a broad knowledge base.</p> <ul style="list-style-type: none"> • Catastrophic Events |

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| | | <ul style="list-style-type: none"> • SG: L14 (pp164-169) • SG: L21 (pp232-239) • TG: L14 (pp187-196) • TG: L21 (pp293-302) • Earth, Moon, and Stars • TG: Act01 (pp3-8) • Earth in Space • SG: L10 (pp130-145) • SG: L20-21 (pp324-339) • TG: L04 (pp37-52) • TG: L10 (pp147-158) • TG: L20-21 (pp293-310) • Electrical Energy and Circuit Design • TG: L18.Exts (pp259-260) • Energy, Machines, and Motion • SG: L02 (pp12-19) • SG: L04 (pp26-35) • SG: L07 (pp62-71) • SG: L12-13 (pp108-129) • SG: L15 (pp140-147) • SG: L22 (pp226-236) • TG: L09.Exts (p105) • TG: L17.Exts (p208) • TG: L22 (pp247-254) • Human Body Systems • TG: L01.Exts (p7) • TG: L10.Exts (p122) • TG: L18.Exts (pp215-216) • TG: L19.Exts (p225) • Living with a Star • TG: Act03 (pp61-84) • Light • SG: L01 (pp2-19) • SG: L05-06 (pp48-67) • SG: L14 (pp144-153) • SG: L22 (pp244-251) • SG: L25 (pp284-293) • TG: L25 (pp335-348) • Moons of Jupiter • TG: Act01 (pp7-17) • Organisms-From Macro to Micro • SG: L19 (pp216-235) • Properties of Matter • SG: L09 (pp78-83) • SG: L11 (pp98-105) • SG: L15 (pp122-129) • SG: L19 (pp162-167) • SG: L21-23 (pp186-217) • SG: L25 (pp224-229) |
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Grade 8

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| PERFORMANCE / CONTENT STANDARD | AK.A1. | Science as Inquiry and Process (SA1, SA2, SA3) |
| GRADE LEVEL EXPECTATION | [8] SA1.1. | <p>The student demonstrates an understanding of the processes of science by asking questions, predicting, observing, describing, measuring, classifying, making generalizations, inferring and communicating.</p> <ul style="list-style-type: none"> • All Units |
| GRADE LEVEL EXPECTATION | [8] SA1.2. | <p>The student demonstrates an understanding of the processes of science by collaborating to design and conduct repeatable investigations, in order to record, analyze (i.e., range, mean, median, mode), interpret data, and present findings. (L)</p> <ul style="list-style-type: none"> • All Units |
| GRADE LEVEL EXPECTATION | [8] SA2.1. | <p>The student demonstrates an understanding of the attitudes and approaches to scientific inquiry by recognizing and analyzing differing scientific explanations and models.</p> <ul style="list-style-type: none"> • All Units |
| GRADE LEVEL EXPECTATION | [8] SA3.1. | <p>The student demonstrates an understanding that interactions with the environment provide an opportunity for understanding scientific concepts by conducting research to learn how the local environment is used by a variety of competing interests (e.g., competition for habitat/resources, tourism, oil and mining companies, hunting groups). (L)</p> <ul style="list-style-type: none"> • Environmental Detectives • TG: Act01 (pp15-31) • TG: Act05 (pp113-141) • Global Warming and the Greenhouse Effect • TG: Ses06-08 (pp93-124) • Ocean Currents • TG: Act01 (pp9-28) • Organisms-From Macro to Micro • SG: L06 (pp64-81) • SG: L13 (pp158-171) • Properties of Matter • SG: L12 (pp106-111) • River Cutters • TG: Exts (p73) |
| PERFORMANCE / CONTENT STANDARD | AK.B1. | Concepts of Physical Science (SB1, SB2, SB3, SB4) |
| GRADE LEVEL EXPECTATION | [8] SB1.1. | <p>The student demonstrates an understanding of the structure and properties of matter by using physical and chemical properties (i.e., density, boiling point, freezing point, conductivity, flammability) to differentiate among materials (i.e., elements, compounds, and mixtures).</p> <ul style="list-style-type: none"> • Bubble-ology • TG: Act03 (pp19-27) |

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| | | <ul style="list-style-type: none"> • TG: Act05 (pp35-39) • Catastrophic Events • SG: L04 (pp42-53) • TG: L04 (pp45-56) • Discovering Density • TG: Ses01-05 (pp5-46) • TG: Exts (p48) • Energy, Machines, and Motion • SG: L02-03 (pp12-25) • TG: L02-03 (pp23-36) • Human Body Systems • TG: L03.Exts (p24) • TG: L07.Exts (pp74-75) • Ocean Currents • TG: Act03-05 (pp47-93) • Properties of Matter • SG: L01-03 (pp2-29) • SG: L05 (pp38-55) • SG: L09 (pp78-83) • SG: L18-23 (pp150-217) • SG: L26 (pp230-235) • TG: L01- (pp3-38) • TG: L04.Exts (p45) • TG: L05 (pp49-64) • TG: L09 (pp101-112) • TG: L18-23 (pp193-294) • TG: L26 (pp313-332) |
| <p>GRADE LEVEL EXPECTATION</p> | <p>[8] SB2.1.</p> | <p>The student demonstrates an understanding of how energy can be transformed, transferred, and conserved by identifying the initial source and resulting change in forms of energy in common phenomena (e.g., sun to tree to wood to stove to cabin heat).</p> <ul style="list-style-type: none"> • Electrical Energy and Circuit Design • SG: L01-02 (pp2-25) • SG: L05 (pp46-57) • SG: L08-10 (pp84-117) • SG: L12 (pp122-133) • SG: L15-19 (pp156-209) • TG: L01-02 (pp3-36) • TG: L05 (pp61-76) • TG: L08-10 (pp111-156) • TG: L12 (pp169-180) • TG: L15-19 (pp213-276) • Energy, Machines, and Motion • SG: L02-04 (pp12-35) • SG: L10 (pp92-97) • SG: L17 (pp164-173) • SG: L19-20 (pp188-213) • SG: L22 (pp226-236) • TG: L02-04 (pp23-46) • TG: L09-10 (pp99-130) • TG: L17 (pp203-216) • TG: L19-22 (pp229-254) • Light • SG: L02 (pp20-31) • SG: L07 (pp68-81) • SG: L26 (pp294-297) |

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| | | <ul style="list-style-type: none"> • TG: L02 (pp21-36) • TG: L26 (pp349-367) |
| GRADE LEVEL EXPECTATION | [8] SB3.1. | <p>The student demonstrates an understanding of the interactions between matter and energy and the effects of these interactions on systems by exploring changes of state with increase or decrease of particle speed associated with heat transfer. (L)</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L04 (pp42-53) • TG: L04 (pp45-56) • Properties of Matter • SG: L06-08 (pp56-77) • SG: L25 (pp224-229) • TG: L02.Exts (p21) • TG: L06-08 (pp65-100) • TG: L12.Exts (p140) • TG: L14.Exts (p157) • TG: L15.Exts (p166) • TG: L25 (pp303-312) |
| GRADE LEVEL EXPECTATION | [8] SB3.2. | <p>The student demonstrates an understanding of the interactions between matter and energy and the effects of these interactions on systems by exploring through a variety of models (e.g., gumdrops and toothpicks) how atoms may bond together into well defined molecules or bond together in large arrays. (L)</p> <ul style="list-style-type: none"> • Crime Lab Chemistry • TG: Act01-03 (pp7-62) |
| PERFORMANCE / CONTENT STANDARD | AK.C1. | Concepts of Life Science (SC1, SC2, SC3) |
| GRADE LEVEL EXPECTATION | [8] SC1.1. | <p>The student demonstrates an understanding of how science explains changes in life forms over time, including genetics, heredity, the process of natural selection and biological evolution by describing the role of genes in sexual reproduction (i.e., traits of the offspring).</p> <ul style="list-style-type: none"> • Organisms-From Macro to Micro • SG: L19 (pp216-235) • TG: L19 (pp303-330) |
| GRADE LEVEL EXPECTATION | [8] SC2.1. | <p>The student demonstrates an understanding of the structure, function, behavior, development, life cycles, and diversity of living organisms by placing vertebrates into correct classes of taxonomy based on external, observable features.</p> <ul style="list-style-type: none"> • Human Body Systems • TG: L18.Exts (pp215-216) • Organisms-From Macro to Micro • SG: L01 (pp2-11) • SG: L13 (pp158-171) • TG: L01 (pp3-14) • TG: L13 (pp219-236) |
| GRADE LEVEL | [8] | The student demonstrates an understanding of the structure, function, behavior, |

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| EXPECTATION | SC2.2. | <p>development, life cycles, and diversity of living organisms by explaining that most organisms utilize inherited and learned behaviors to meet the basic requirements of life.</p> <ul style="list-style-type: none"> • Organisms-From Macro to Micro • SG: L02 (pp12-27) • SG: L06 (pp64-81) • TG: L02 (pp15-32) • TG: L06 (pp73-104) • TG: L16.Exts (p273) • TG: L17.Exts (pp287-288) |
| GRADE LEVEL EXPECTATION | [8] SC2.3. | <p>The student demonstrates an understanding of the structure, function, behavior, development, life cycles, and diversity of living organisms by describing the functions and interdependence of human body systems (i.e., circulatory, respiratory, nervous).</p> <ul style="list-style-type: none"> • Human Body Systems • SG: L01 (pp2-7) • SG: L15 (pp130-137) • SG: L17-18 (pp144-159) • SG: L20-23 (pp168-195) • TG: L01-23 (pp3-276) |
| GRADE LEVEL EXPECTATION | [8] SC3.1. | <p>The student demonstrates an understanding that all organisms are linked to each other and their physical environments through the transfer and transformation of matter and energy by stating that energy flows and that matter cycles but is conserved within an ecosystem.</p> <ul style="list-style-type: none"> • Human Body Systems • SG: L13 (pp110-119) • TG: L13 (pp153-158) • Light • SG: L11 (pp116-131) |
| GRADE LEVEL EXPECTATION | [8] SC3.2. | <p>The student demonstrates an understanding that all organisms are linked to each other and their physical environments through the transfer and transformation of matter and energy by organizing a food web that shows the cycling of matter.</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) • Light • SG: L11 (pp116-131) • TG: L11.Exts (p131) |
| PERFORMANCE / CONTENT STANDARD | AK.D1. | Concepts of Earth Science (SD1, SD2, SD3, SD4) |
| GRADE LEVEL EXPECTATION | [8] SD1.1. | <p>The student demonstrates an understanding of geochemical cycles by making connections between components of the locally observable geologic environment</p> |

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| | | <p>and the rock cycle. (L)</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L21-22 (pp232-251) • TG: L21-22 (pp293-316) • Plate Tectonics • TG: Ses07 (pp93-111) • Stories in Stone • TG: Ses08 (pp103-113) |
| GRADE LEVEL EXPECTATION | [8] SD1.2. | <p>The student demonstrates an understanding of geochemical cycles by applying knowledge of the water cycle to explain changes in the Earth's surface.</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L06 (pp68-79) • TG: L06 (pp69-82) • Environmental Detectives • TG: Act04 (pp91-111) • Earth in Space • SG: L13 (pp174-199) • TG: L13 (pp197-208) • Human Body Systems • TG: L13.Exts (p158) • Properties of Matter • SG: L01 (pp2-13) |
| GRADE LEVEL EXPECTATION | [8] SD2.1. | <p>The student demonstrates an understanding of the forces that shape Earth by interpreting topographical maps to identify features (i.e., rivers, lakes, mountains, valleys, islands, and tundra).</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L15 (pp170-189) • SG: L17 (pp194-197) • TG: L15 (pp197-218) • TG: L17 (pp233-256) • Earth in Space • SG: L13 (pp174-199) • SG: L19 (pp312-323) • TG: L12-13 (pp181-208) • TG: L19 (pp287-292) • Plate Tectonics • TG: Ses02 (pp31-41) • TG: Ses06 (pp79-91) • River Cutters • TG: Ses02-03 (pp27-47) • TG: Ses06-07 (pp59-72) • Stories in Stone • TG: Ses07 (pp83-101) |
| GRADE LEVEL EXPECTATION | [8] SD2.2. | <p>The student demonstrates an understanding of the forces that shape Earth by using models to show the relationship between convection currents within the mantle and the large-scale movement of the surface. (L)</p> <ul style="list-style-type: none"> • Convection: A Current Event • TG: Exts (pp27-29) • Catastrophic Events |

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| | | <ul style="list-style-type: none"> • SG: L16 (pp190-193) • TG: L16 (pp219-232) • Properties of Matter • TG: L05.Exts (p56) • Stories in Stone • TG: Ses07 (pp83-101) |
| GRADE LEVEL EXPECTATION | [8] SD4.1. | <p>The student demonstrates an understanding of the theories regarding the origin and evolution of the universe by creating models of the solar system illustrating size, location/position, composition, moons/rings, and conditions. (L)</p> <ul style="list-style-type: none"> • Earth in Space • SG: L01-08 (pp2-121) • SG: L10-13 (pp130-199) • SG: L15 (pp216-243) • SG: L17-22 (pp268-343) • TG: L01-22 (pp3-326) • Messages from Space • TG: Act02-03 (pp27-87) • TG: Act05 (pp96-123) |
| GRADE LEVEL EXPECTATION | [8] SD4.2. | <p>The student demonstrates an understanding of the theories regarding the origin and evolution of the universe by comparing the brightness of a star to its distance and size.</p> <ul style="list-style-type: none"> • Earth, Moon, and Stars • TG: Act05-06 (pp33-52) • Earth in Space • TG: L04 (pp37-52) • Invisible Universe • TG: Act04 (pp58-77) • Living with a Star • TG: Act01-06 (pp15-131) • Messages from Space • TG: Act02 (pp27-45) • TG: Exts (p38) |
| PERFORMANCE / CONTENT STANDARD | AK.E1. | Science and Technology (SE1, SE2, SE3) |
| GRADE LEVEL EXPECTATION | [8] SE1.1. | <p>The student demonstrates an understanding of how to integrate scientific knowledge and technology to address problems by describing how public policy affects their lives and participating diplomatically in evidence-based discussions relating to their community. (L)</p> <ul style="list-style-type: none"> • Acid Rain • TG: Ses03-05 (pp39-86) • TG: Ses07-08 (pp106-119) • Earth in Space • TG: L20.Exts (p297) • TG: L21.Exts (p310) • Electrical Energy and Circuit Design • SG: L02 (pp12-25) • TG: L02 (pp23-36) • Energy, Machines, and Motion |

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| | | <ul style="list-style-type: none"> • SG: L16 (pp148-161) • TG: L16 (pp185-202) • Global Warming and the Greenhouse Effect • TG: Ses05-08 (pp77-124) • Human Body Systems • TG: L18.Exts (pp215-216) • TG: L19.Exts (p225) • River Cutters • TG: Exts (p73) |
| GRADE LEVEL EXPECTATION | [8] SE2.1. | <p>The student demonstrates an understanding that solving problems involves different ways of thinking by identifying, designing, testing, and revising solutions to a local problem. (L)</p> <ul style="list-style-type: none"> • Bubble-ology • TG: Act06 (pp41-44) • Crime Lab Chemistry • TG: Act03 (pp47-62) • TG: Exts (pp63-64) • Catastrophic Events • SG: L09 (pp102-112) • SG: L17 (pp194-197) • SG: L24-25 (pp264-282) • TG: L02.Exts (p23) • TG: L03.Exts (pp35-36) • TG: L06.Exts (pp77-78) • TG: L09 (pp127-142) • TG: L14.Exts (pp193-194) • TG: L17 (pp233-256) • TG: L18.Exts (pp262-263) • TG: L23.Exts (pp325-326) • TG: L24-25 (pp329-372) • Earth in Space • SG: L22 (pp340-343) • TG: L10.Exts (p152) • TG: L20.Exts (p297) • TG: L22 (pp311-326) • Electrical Energy and Circuit Design • SG: L04 (pp36-45) • SG: L07-08 (pp70-93) • SG: L13 (pp134-141) • SG: L15 (pp156-167) • SG: L17 (pp174-185) • SG: L24 (pp244-251) • TG: L02.Exts (pp35-36) • TG: L04 (pp49-60) • TG: L07-08 (pp93-122) • TG: L13 (pp181-204) • TG: L15 (pp213-226) • TG: L16.Exts (pp236-237) • TG: L17 (pp240-248) • TG: L23.Exts (p312) • TG: L24 (pp313-326) • Energy, Machines, and Motion • SG: L07 (pp62-71) • SG: L17 (pp164-173) • SG: L22 (pp226-236) • TG: L07 (pp75-84) |

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| | | <ul style="list-style-type: none"> • TG: L12 (pp147-156) • TG: L16-17 (pp185-216) • TG: L22 (pp247-254) • Fingerprinting • TG: Ses03 (pp23-25) • Human Body Systems • SG: L09-10 (pp68-89) • SG: L23 (pp190-195) • TG: L06.Exts (p63) • TG: L08-10 (pp81-130) • TG: L17 (pp191-208) • TG: L19.Exts (p225) • TG: L23 (pp261-276) • Light • SG: L03 (pp32-39) • SG: L07 (pp68-81) • SG: L15 (pp154-165) • SG: L19 (pp214-223) • SG: L21-22 (pp230-251) • TG: L03 (pp37-48) • TG: L07 (pp83-98) • TG: L15 (pp181-194) • TG: L19 (pp247-274) • TG: L21-22 (pp295-312) • Organisms-From Macro to Micro • SG: L15 (pp180-187) • SG: L20 (pp236-243) • TG: L15 (pp253-266) • TG: L20 (pp331-350) • Properties of Matter • SG: L13 (pp112-115) • SG: L15-16 (pp122-139) • SG: L23-24 (pp208-223) • TG: L04.Exts (p45) • TG: L07.Exts (p86) • TG: L13 (pp143-152) • TG: L15-16 (pp161-178) • TG: L23-24 (pp275-302) • River Cutters • TG: Ses07 (pp67-72) |
| <p>GRADE LEVEL EXPECTATION</p> | <p>[8] SE2.2.</p> | <p>The student demonstrates an understanding that solving problems involves different ways of thinking by comparing the student's work to the work of peers in order to identify multiple paths that can be used to investigate and evaluate potential solutions to a question or problem. (L)</p> <ul style="list-style-type: none"> • Bubble-ology • TG: Act01 (pp5-9) • Crime Lab Chemistry • TG: Act01-03 (pp7-62) • Catastrophic Events • SG: L01-25 (pp2-282) • TG: L01-25 (pp3-372) • Earth in Space • SG: L01 (pp2-11) • SG: L05 (pp62-73) • SG: L09-11 (pp122-159) • SG: L13 (pp174-199) |

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| | | <ul style="list-style-type: none"> • SG: L18-19 (pp290-323) • SG: L21-22 (pp334-343) • TG: L01 (pp3-10) • TG: L05 (pp53-72) • TG: L09-11 (pp121-180) • TG: L13-14 (pp197-220) • TG: L18-19 (pp277-292) • TG: L20.Exts (p297) • TG: L21-22 (pp309-326) • Electrical Energy and Circuit Design • SG: L02-03 (pp12-35) • SG: L08 (pp84-93) • TG: L02-03 (pp23-48) • TG: L08 (pp111-122) • Energy, Machines, and Motion • SG: L01-14 (pp2-139) • SG: L16 (pp148-161) • SG: L18-21 (pp174-225) • TG: L01-14 (pp3-176) • TG: L16 (pp185-202) • TG: L18-21 (pp217-246) • Fingerprinting • TG: Ses01-03 (pp7-25) • Human Body Systems • SG: L02 (pp8-13) • SG: L10 (pp76-89) • SG: L17 (pp144-147) • TG: L02 (pp11-18) • TG: L10 (pp113-130) • TG: L17 (pp191-208) • Light • SG: L01 (pp2-19) • SG: L03 (pp32-39) • SG: L07-08 (pp68-91) • SG: L10 (pp108-115) • SG: L12 (pp132-137) • SG: L15-16 (pp154-185) • SG: L18-19 (pp200-223) • SG: L22-23 (pp244-265) • SG: L25 (pp284-293) • TG: L01-03 (pp3-48) • TG: L07-08 (pp83-106) • TG: L10 (pp119-126) • TG: L12 (pp137-152) • TG: L15-16 (pp181-204) • TG: L18-19 (pp225-274) • TG: L22-23 (pp305-318) • TG: L25 (pp335-348) • Mystery Festival • TG: Exts (pp198-199) • Organisms-From Macro to Micro • SG: L01-20 (pp2-243) • TG: L01-20 (pp3-350) • Properties of Matter • SG: L01-08 (pp2-77) • SG: L10-18 (pp86-161) • SG: L21-25 (pp186-229) • TG: L01-08 (pp3-100) • TG: L10-18 (pp113-208) |
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| | | <ul style="list-style-type: none"> TG: L20-25 (pp227-312) |
| GRADE LEVEL EXPECTATION | [8] SE3.1. | <p>The student demonstrates an understanding of how scientific discoveries and technological innovations affect our lives and society by predicting the possible effects of a recent scientific discovery, invention, or scientific breakthrough. (L)</p> <ul style="list-style-type: none"> Catastrophic Events SG: L09 (pp102-112) TG: L09 (pp127-142) Earth in Space SG: L10 (pp130-145) SG: L20-21 (pp324-339) TG: L10 (pp147-158) TG: L20-21 (pp293-310) Electrical Energy and Circuit Design TG: L18.Exts (pp259-260) Energy, Machines, and Motion SG: L02 (pp12-19) SG: L04 (pp26-35) SG: L07 (pp62-71) SG: L12-13 (pp108-129) SG: L15-16 (pp140-161) SG: L22 (pp226-236) TG: L09.Exts (p105) TG: L17.Exts (p208) TG: L22 (pp247-254) Human Body Systems TG: L19.Exts (p225) Light SG: L01 (pp2-19) SG: L05-06 (pp48-67) SG: L14 (pp144-153) SG: L22 (pp244-251) SG: L25 (pp284-293) TG: L25 (pp335-348) Plate Tectonics TG: Ses01 (pp21-29) Properties of Matter SG: L09 (pp78-83) SG: L11 (pp98-105) TG: L21.Exts (p251) |
| PERFORMANCE / CONTENT STANDARD | AK.F1. | Cultural, Social, Personal Perspectives, and Science (SF1, SF2, SF3) |
| GRADE LEVEL EXPECTATION | [8] SF1.1-SF3.1. | <p>The student demonstrates an understanding of the dynamic relationships among scientific, cultural, social, and personal perspectives by describing how local knowledge, culture, and the technologies of various activities (e.g., hunting, fishing, subsistence) influence the development of scientific knowledge. (L) Cross referenced with SA3.1, grade 8</p> <ul style="list-style-type: none"> Acid Rain TG: Ses03-05 (pp39-86) TG: Ses07-08 (pp106-119) Earth in Space TG: L20.Exts (p297) |

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| | | <ul style="list-style-type: none"> • TG: L21.Exts (p310) • Electrical Energy and Circuit Design • SG: L02 (pp12-25) • TG: L02 (pp23-36) • Energy, Machines, and Motion • SG: L16 (pp148-161) • TG: L16 (pp185-202) • Global Warming and the Greenhouse Effect • TG: Ses05-08 (pp77-124) • Human Body Systems • TG: L18.Exts (pp215-216) • TG: L19.Exts (p225) • River Cutters • TG: Exts (p73) |
| PERFORMANCE / CONTENT STANDARD | AK.G1. | History and Nature of Science (SG1, SG2, SG3, SG4) |
| GRADE LEVEL EXPECTATION | [8] SG3.1. | <p>The student demonstrates an understanding that scientific knowledge is ongoing and subject to change by revising a personal idea when presented with experimental/observational data inconsistent with that personal idea (e.g., the rates of falling bodies of different masses). (L)</p> <ul style="list-style-type: none"> • Light • SG: L26 (pp294-297) • TG: L26 (pp349-367) |
| PERFORMANCE / CONTENT STANDARD | AK.SA. | Science as Inquiry and Process: A student should understand and be able to apply the processes and applications of scientific inquiry. A student who meets the content standard should: |
| GRADE LEVEL EXPECTATION | SA1. | <p>Develop an understanding of the processes of science used to investigate problems, design and conduct repeatable scientific investigations, and defend scientific arguments.</p> <ul style="list-style-type: none"> • All Units |
| GRADE LEVEL EXPECTATION | SA2. | <p>Develop an understanding that the processes of science require integrity, logical reasoning, skepticism, openness, communication, and peer review.</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L18 (pp200-209) • TG: L18 (pp257-264) • Dry Ice Investigations • TG: Act01 (pp19-47) • Electrical Energy and Circuit Design • SG: L02 (pp12-25) • TG: L02 (pp23-36) • Human Body Systems • TG: L01.Exts (p7) |
| GRADE LEVEL EXPECTATION | SA3. | <p>Develop an understanding that culture, local knowledge, history, and interaction with the environment contribute to the development of scientific knowledge, and local applications provide opportunity for understanding scientific concepts</p> |

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| | | <p>and global issues.</p> <ul style="list-style-type: none"> • Organisms-From Macro to Micro • TG: L02.Exts (p25) • Properties of Matter • SG: L18 (pp150-161) • SG: L20 (pp170-185) • TG: L04.Exts (p45) • TG: L20.Exts (p235) • TG: L21.Exts (p251) |
| PERFORMANCE / CONTENT STANDARD | AK.SB. | Concepts of Physical Science: A student should understand and be able to apply the concepts, models, theories, universal principles, and facts that explain the physical world. A student who meets the content standard should: |
| GRADE LEVEL EXPECTATION | SB1. | <p>Develop an understanding of the characteristic properties of matter and the relationship of these properties to their structure and behavior.</p> <ul style="list-style-type: none"> • Bubble-ology • TG: Act03 (pp19-27) • TG: Act05 (pp35-39) • Energy, Machines, and Motion • SG: L02-03 (pp12-25) • TG: L02-03 (pp23-36) • Human Body Systems • TG: L03.Exts (p24) • TG: L07.Exts (pp74-75) • Properties of Matter • SG: L18-23 (pp150-217) • TG: L18-23 (pp193-294) |
| GRADE LEVEL EXPECTATION | SB2. | <p>Develop an understanding that energy appears in different forms, can be transformed from one form to another, can be transferred or moved from one place or system to another, may be unavailable for use, and is ultimately conserved.</p> <ul style="list-style-type: none"> • Electrical Energy and Circuit Design • SG: L01-02 (pp2-25) • SG: L05 (pp46-57) • SG: L08-10 (pp84-117) • SG: L12 (pp122-133) • SG: L15-19 (pp156-209) • TG: L01-02 (pp3-36) • TG: L05 (pp61-76) • TG: L08-10 (pp111-156) • TG: L12 (pp169-180) • TG: L15-19 (pp213-276) • Energy, Machines, and Motion • SG: L02-04 (pp12-35) • SG: L10 (pp92-97) • SG: L17 (pp164-173) • SG: L19-20 (pp188-213) • SG: L22 (pp226-236) • TG: L02-04 (pp23-46) • TG: L09-10 (pp99-130) • TG: L17 (pp203-216) |

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| | | <ul style="list-style-type: none"> • TG: L19-22 (pp229-254) • Light • SG: L02 (pp20-31) • SG: L07 (pp68-81) • SG: L26 (pp294-297) • TG: L02 (pp21-36) • TG: L26 (pp349-367) |
| GRADE LEVEL EXPECTATION | SB3. | <p>Develop an understanding of the interactions between matter and energy, including physical, chemical, and nuclear changes, and the effects of these interactions on physical systems.</p> <ul style="list-style-type: none"> • Bubble-ology • TG: Act02-03 (pp11-27) • TG: Act05-06 (pp35-44) • Chemical Reactions • TG: Part1 (pp9-14) • Of Cabbages and Chemistry • TG: Ses01-02 (pp9-28) • TG: Ses04 (pp41-46) • Properties of Matter • SG: L06 (pp56-63) • SG: L18 (pp150-161) • SG: L20 (pp170-185) • SG: L24 (pp218-223) • TG: L06 (pp65-78) • TG: L17.Exts (p185) • TG: L18 (pp193-208) • TG: L20 (pp227-240) • TG: L22.Exts (p270) • TG: L24 (pp295-302) |
| GRADE LEVEL EXPECTATION | SB4. | <p>Develop an understanding of motions, forces, their characteristics and relationships, and natural forces and their effects.</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L11-12 (pp120-153) • SG: L15 (pp170-189) • TG: L11-12 (pp149-176) • TG: L15 (pp197-218) • Earth, Moon, and Stars • TG: Act01 (pp3-8) • Earth in Space • SG: L15 (pp216-243) • TG: L15 (pp221-244) • Energy, Machines, and Motion • SG: L01 (pp2-11) • SG: L05-13 (pp36-129) • SG: L15-22 (pp140-236) • TG: L01 (pp3-22) • TG: L05-13 (pp47-166) • TG: L15-22 (pp177-254) |
| PERFORMANCE / CONTENT STANDARD | AK.SC. | <p>Concepts of Life Science: A student should understand and be able to apply the concepts, models, theories, facts, evidence, systems, and processes of life science. A student who meets the content standard should:</p> |

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| GRADE LEVEL EXPECTATION | SC1. | <p>Develop an understanding of how science explains changes in life forms over time, including genetics, heredity, the process of natural selection, and biological evolution.</p> <ul style="list-style-type: none"> • Human Body Systems • TG: L04.Exts (p35) • Life Through Time • TG: Ses02-07 (pp37-269) • Organisms-From Macro to Micro • SG: L13 (pp158-171) • SG: L18-19 (pp204-235) • TG: L02.Exts (p25) • TG: L13 (pp219-236) • TG: L18-19 (pp293-330) |
| GRADE LEVEL EXPECTATION | SC2. | <p>Develop an understanding of the structure, function, behavior, development, life cycles, and diversity of living organisms.</p> <ul style="list-style-type: none"> • Earth in Space • SG: L16 (pp244-265) • TG: L16 (pp245-268) • Human Body Systems • TG: L07.Exts (pp74-75) • Organisms-From Macro to Micro • SG: L01-04 (pp2-45) • SG: L11 (pp132-145) • SG: L14 (pp172-179) • SG: L18 (pp204-215) • TG: L01 (pp3-14) • TG: L02.Exts (p25) • TG: L03 (pp33-48) • TG: L06 (pp73-104) • TG: L11 (pp185-200) • TG: L14 (pp237-252) • TG: L18 (pp293-302) |
| GRADE LEVEL EXPECTATION | SC3. | <p>Develop an understanding that all organisms are linked to each other and their physical environments through the transfer and transformation of matter and energy.</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) • Light • SG: L11 (pp116-131) • TG: L11.Exts (p131) • Organisms-From Macro to Micro • SG: L09 (pp106-119) • TG: L09 (pp151-166) • TG: L18.Exts (pp299-300) |
| PERFORMANCE / CONTENT STANDARD | AK.SD. | Concepts of Earth Science: A student should understand and be able to apply the concepts, processes, theories, models, evidence, and systems of earth and space sciences. A student who meets the content standard should: |

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| <p>GRADE LEVEL EXPECTATION</p> | <p>SD2.</p> | <p>Develop an understanding of the origins, ongoing processes, and forces that shape the structure, composition, and physical history of the Earth.</p> <ul style="list-style-type: none"> • Convection: A Current Event • TG: Exts (pp27-29) • Catastrophic Events • SG: L09-10 (pp102-119) • SG: L13-18 (pp154-209) • SG: L24 (pp264-273) • TG: L09-10 (pp127-148) • TG: L13-18 (pp177-264) • TG: L19.Exts (pp274-275) • TG: L24 (pp329-346) • Earth, Moon, and Stars • TG: Act01 (pp3-8) • Earth in Space • SG: L13 (pp174-199) • TG: L13 (pp197-208) • Life Through Time • TG: Ses01-02 (pp13-100) • Plate Tectonics • TG: Ses01-03 (pp21-55) • TG: Ses08 (pp113-129) • Properties of Matter • SG: L01 (pp2-13) • SG: L05 (pp38-55) • Stories in Stone • TG: Exts (p114) |
| <p>GRADE LEVEL EXPECTATION</p> | <p>SD3.</p> | <p>Develop an understanding of the cyclical changes controlled by energy from the sun and by Earth's position and motion in our solar system.</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L03 (pp26-41) • SG: L07 (pp80-95) • TG: L01.Exts (pp10-11) • TG: L03 (pp27-44) • TG: L07 (pp83-102) • Earth, Moon, and Stars • TG: Act03 (pp17-24) • TG: Act05-06 (pp33-52) • Earth in Space • SG: L02-04 (pp12-61) • SG: L06 (pp74-87) • SG: L08 (pp102-121) • SG: L16 (pp244-265) • TG: L02-04 (pp11-52) • TG: L06 (pp73-82) • TG: L08 (pp97-120) • TG: L16 (pp245-268) • Organisms-From Macro to Micro • SG: L10 (pp120-131) • TG: L10 (pp167-184) • The Real Reasons for the Seasons • TG: Act01-02 (pp17-28) • TG: Act04-08 (pp49-88) |

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| GRADE LEVEL EXPECTATION | SD4. | <p>Develop an understanding of the theories regarding the origin and evolution of the universe.</p> <ul style="list-style-type: none"> • Earth in Space • SG: L02 (pp12-21) • SG: L10 (pp130-145) • SG: L17-22 (pp268-343) • TG: L01 (pp3-10) • TG: L08 (pp97-120) • TG: L12 (pp181-196) • TG: L17-22 (pp269-326) • Messages from Space • TG: Act03 (pp46-87) • Properties of Matter • SG: L01 (pp2-13) • TG: L01.Exts (p9) |
| PERFORMANCE / CONTENT STANDARD | AK.SE. | Science and Technology: A student should understand the relationships among science, technology, and society. A student who meets the content standard should: |
| GRADE LEVEL EXPECTATION | SE1. | <p>Develop an understanding of how scientific knowledge and technology are used in making decisions about issues, innovations, and responses to problems and everyday events.</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L09 (pp102-112) • TG: L09 (pp127-142) • Earth in Space • SG: L10 (pp130-145) • SG: L20-21 (pp324-339) • TG: L10 (pp147-158) • TG: L20-21 (pp293-310) • Energy, Machines, and Motion • SG: L16 (pp148-161) • Plate Tectonics • TG: Ses01 (pp21-29) • Properties of Matter • TG: L21.Exts (p251) |
| GRADE LEVEL EXPECTATION | SE2. | <p>Develop an understanding that solving problems involves different ways of thinking, perspectives, and curiosity that lead to the exploration of multiple paths that are analyzed using scientific, technological, and social merits.</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L14 (pp164-169) • SG: L18 (pp200-209) • SG: L21 (pp232-239) • TG: L14 (pp187-196) • TG: L18 (pp257-264) • TG: L21 (pp293-302) • Dry Ice Investigations • TG: Act01 (pp19-47) • Earth, Moon, and Stars • TG: Act01 (pp3-8) • Earth in Space • SG: L10 (pp130-145) |

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| | | <ul style="list-style-type: none"> • SG: L20-21 (pp324-339) • TG: L04 (pp37-52) • TG: L10 (pp147-158) • TG: L20-21 (pp293-310) • Electrical Energy and Circuit Design • SG: L02 (pp12-25) • TG: L02 (pp23-36) • Energy, Machines, and Motion • SG: L02 (pp12-19) • SG: L07 (pp62-71) • SG: L15-16 (pp140-161) • TG: L16 (pp185-202) • Human Body Systems • TG: L01.Exts (p7) • TG: L10.Exts (p122) • TG: L18.Exts (pp215-216) • TG: L19.Exts (p225) • Living with a Star • TG: Act03 (pp61-84) • Moons of Jupiter • TG: Act01 (pp7-17) • Organisms-From Macro to Micro • SG: L19 (pp216-235) • Properties of Matter • SG: L09 (pp78-83) • SG: L11 (pp98-105) • SG: L15 (pp122-129) • SG: L19 (pp162-167) • SG: L21-23 (pp186-217) • SG: L25 (pp224-229) |
| <p>GRADE LEVEL EXPECTATION</p> | <p>SE3.</p> | <p>Develop an understanding of how scientific discoveries and technological innovations affect and are affected by our lives and cultures</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L09 (pp102-112) • TG: L09 (pp127-142) • Earth in Space • SG: L20-21 (pp324-339) • TG: L20-21 (pp293-310) • Electrical Energy and Circuit Design • TG: L18.Exts (pp259-260) • Energy, Machines, and Motion • SG: L02 (pp12-19) • SG: L04 (pp26-35) • SG: L07 (pp62-71) • SG: L12-13 (pp108-129) • SG: L15-16 (pp140-161) • SG: L22 (pp226-236) • TG: L09.Exts (p105) • TG: L17.Exts (p208) • TG: L22 (pp247-254) • Human Body Systems • TG: L10.Exts (p122) • TG: L18.Exts (pp215-216) • TG: L19.Exts (p225) • Light • SG: L01 (pp2-19) |

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| | | <ul style="list-style-type: none"> • SG: L05-06 (pp48-67) • SG: L14 (pp144-153) • SG: L22 (pp244-251) • SG: L25 (pp284-293) • TG: L25 (pp335-348) • Organisms-From Macro to Micro • TG: L02.Exts (p25) • Properties of Matter • SG: L09 (pp78-83) • SG: L11 (pp98-105) • SG: L18 (pp150-161) • SG: L20 (pp170-185) • TG: L04.Exts (p45) • TG: L20.Exts (p235) • TG: L21.Exts (p251) |
| PERFORMANCE / CONTENT STANDARD | AK.SF. | Cultural, Social, Personal Perspectives and Science: A student should understand the dynamic relationships among scientific, cultural, social, and personal perspectives. A student who meets the content standard should: |
| GRADE LEVEL EXPECTATION | SF1. | <p>Develop an understanding of the interrelationships among individuals, cultures, societies, science, and technology.</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L14 (pp164-169) • SG: L21 (pp232-239) • TG: L14 (pp187-196) • TG: L21 (pp293-302) • Earth, Moon, and Stars • TG: Act01 (pp3-8) • Earth in Space • SG: L03 (pp22-41) • SG: L10 (pp130-145) • SG: L20-21 (pp324-339) • TG: L03-04 (pp21-52) • TG: L10 (pp147-158) • TG: L20-21 (pp293-310) • Electrical Energy and Circuit Design • SG: L02 (pp12-25) • TG: L02 (pp23-36) • Energy, Machines, and Motion • SG: L02 (pp12-19) • SG: L04 (pp26-35) • SG: L07 (pp62-71) • SG: L13 (pp120-129) • SG: L15-16 (pp140-161) • TG: L16 (pp185-202) • Human Body Systems • TG: L01.Exts (p7) • TG: L10.Exts (p122) • TG: L18.Exts (pp215-216) • TG: L19.Exts (p225) • Living with a Star • TG: Act03 (pp61-84) • Light • SG: L01 (pp2-19) • SG: L05 (pp48-57) • SG: L11 (pp116-131) |

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| | | <ul style="list-style-type: none"> • SG: L14-15 (pp144-165) • SG: L25 (pp284-293) • TG: L15.Exts (p187) • TG: L25 (pp335-348) • Moons of Jupiter • TG: Act01 (pp7-17) • Organisms-From Macro to Micro • SG: L19 (pp216-235) • Properties of Matter • SG: L07 (pp64-73) • SG: L09 (pp78-83) • SG: L11 (pp98-105) • SG: L15 (pp122-129) • SG: L18-19 (pp150-167) • SG: L21-23 (pp186-217) • SG: L25 (pp224-229) |
| <p>GRADE LEVEL EXPECTATION</p> | <p>SF2.</p> | <p>Develop an understanding that some individuals, cultures, and societies use other beliefs and methods in addition to scientific methods to describe and understand the world.</p> <ul style="list-style-type: none"> • Earth in Space • SG: L03 (pp22-41) • SG: L20 (pp324-333) • TG: L03 (pp21-36) • TG: L20 (pp293-308) • Energy, Machines, and Motion • SG: L16 (pp148-161) • Light • SG: L05 (pp48-57) • SG: L11 (pp116-131) • SG: L15 (pp154-165) • Properties of Matter • SG: L07 (pp64-73) • SG: L11 (pp98-105) |
| <p>GRADE LEVEL EXPECTATION</p> | <p>SF3.</p> | <p>Develop an understanding of the importance of recording and validating cultural knowledge.</p> <ul style="list-style-type: none"> • Earth in Space • SG: L03 (pp22-41) • SG: L20 (pp324-333) • TG: L03 (pp21-36) • TG: L20 (pp293-308) • Energy, Machines, and Motion • SG: L16 (pp148-161) • Light • SG: L05 (pp48-57) • SG: L11 (pp116-131) • SG: L15 (pp154-165) • TG: L15.Exts (p187) • Properties of Matter • SG: L07 (pp64-73) • SG: L11 (pp98-105) |

Carolina™ Curriculum Correlation to Alaska Content and Performance Standards – Science Grades 3-8

| PERFORMANCE / CONTENT STANDARD | AK.SG. | History and Nature of Science: A student should understand the history and nature of science. A student who meets the content standard should: |
|--------------------------------|--------|---|
| GRADE LEVEL EXPECTATION | SG1. | <p>Develop an understanding that historical perspectives of scientific explanations demonstrate that scientific knowledge changes over time, building on prior knowledge.</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L14 (pp164-169) • SG: L21 (pp232-239) • TG: L14 (pp187-196) • TG: L21 (pp293-302) • Earth, Moon, and Stars • TG: Act01 (pp3-8) • Earth in Space • SG: L10 (pp130-145) • SG: L20-21 (pp324-339) • TG: L04 (pp37-52) • TG: L10 (pp147-158) • TG: L20-21 (pp293-310) • Electrical Energy and Circuit Design • SG: L02 (pp12-25) • TG: L02 (pp23-36) • Energy, Machines, and Motion • SG: L02 (pp12-19) • SG: L07 (pp62-71) • SG: L15-16 (pp140-161) • TG: L16 (pp185-202) • Human Body Systems • TG: L01.Exts (p7) • TG: L10.Exts (p122) • TG: L18.Exts (pp215-216) • TG: L19.Exts (p225) • Living with a Star • TG: Act03 (pp61-84) • Moons of Jupiter • TG: Act01 (pp7-17) • Organisms-From Macro to Micro • SG: L19 (pp216-235) • TG: L02.Exts (p25) • Properties of Matter • SG: L09 (pp78-83) • SG: L11 (pp98-105) • SG: L15 (pp122-129) • SG: L19-23 (pp162-217) • SG: L25 (pp224-229) • TG: L04.Exts (p45) • TG: L20.Exts (p235) • TG: L21.Exts (p251) |
| GRADE LEVEL EXPECTATION | SG2. | <p>Develop an understanding that the advancement of scientific knowledge embraces innovation and requires empirical evidence, repeatable investigations, logical arguments, and critical review in striving for the best possible explanations of the natural world.</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L14 (pp164-169) |

Carolina™ Curriculum Correlation to Alaska Content and Performance Standards – Science Grades 3-8

| | | |
|------------------------------------|-------------|--|
| | | <ul style="list-style-type: none"> • SG: L18 (pp200-209) • SG: L21 (pp232-239) • TG: L14 (pp187-196) • TG: L18 (pp257-264) • TG: L21 (pp293-302) • Dry Ice Investigations • TG: Act01 (pp19-47) • Earth, Moon, and Stars • TG: Act01 (pp3-8) • Earth in Space • SG: L10 (pp130-145) • SG: L20-21 (pp324-339) • TG: L04 (pp37-52) • TG: L10 (pp147-158) • TG: L20-21 (pp293-310) • Electrical Energy and Circuit Design • SG: L02 (pp12-25) • TG: L02 (pp23-36) • TG: L18.Exts (pp259-260) • Energy, Machines, and Motion • SG: L02 (pp12-19) • SG: L04 (pp26-35) • SG: L07 (pp62-71) • SG: L12-13 (pp108-129) • SG: L15 (pp140-147) • SG: L22 (pp226-236) • TG: L09.Exts (p105) • TG: L17.Exts (p208) • TG: L22 (pp247-254) • Human Body Systems • TG: L01.Exts (p7) • TG: L10.Exts (p122) • TG: L18.Exts (pp215-216) • TG: L19.Exts (p225) • Living with a Star • TG: Act03 (pp61-84) • Light • SG: L01 (pp2-19) • SG: L05-06 (pp48-67) • SG: L14 (pp144-153) • SG: L22 (pp244-251) • SG: L25 (pp284-293) • TG: L25 (pp335-348) • Moons of Jupiter • TG: Act01 (pp7-17) • Organisms-From Macro to Micro • SG: L19 (pp216-235) • Properties of Matter • SG: L09 (pp78-83) • SG: L11 (pp98-105) • SG: L15 (pp122-129) • SG: L19 (pp162-167) • SG: L21-23 (pp186-217) • SG: L25 (pp224-229) |
| GRADE LEVEL EXPECTATION | SG3. | Develop an understanding that scientific knowledge is ongoing and subject to change as new evidence becomes available through experimental and/or |

Carolina™ Curriculum Correlation to Alaska Content and Performance Standards – Science Grades 3-8

| | | |
|---|--------------------|--|
| | | <p>observational confirmation(s).</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L14 (pp164-169) • SG: L21 (pp232-239) • TG: L14 (pp187-196) • TG: L21 (pp293-302) • Earth, Moon, and Stars • TG: Act01 (pp3-8) • Earth in Space • SG: L10 (pp130-145) • SG: L20-21 (pp324-339) • TG: L04 (pp37-52) • TG: L10 (pp147-158) • TG: L20-21 (pp293-310) • Energy, Machines, and Motion • SG: L02 (pp12-19) • SG: L07 (pp62-71) • SG: L15 (pp140-147) • Human Body Systems • TG: L01.Exts (p7) • TG: L10.Exts (p122) • TG: L18.Exts (pp215-216) • TG: L19.Exts (p225) • Living with a Star • TG: Act03 (pp61-84) • Moons of Jupiter • TG: Act01 (pp7-17) • Organisms-From Macro to Micro • SG: L19 (pp216-235) • Properties of Matter • SG: L09 (pp78-83) • SG: L11 (pp98-105) • SG: L15 (pp122-129) • SG: L19 (pp162-167) • SG: L21-23 (pp186- -217) • SG: L25 (pp224-229) |
| <p>GRADE LEVEL EXPECTATION</p> | <p>SG4.</p> | <p>Develop an understanding that advancements in science depend on curiosity, creativity, imagination, and a broad knowledge base.</p> <ul style="list-style-type: none"> • Catastrophic Events • SG: L14 (pp164-169) • SG: L21 (pp232-239) • TG: L14 (pp187-196) • TG: L21 (pp293-302) • Earth, Moon, and Stars • TG: Act01 (pp3-8) • Earth in Space • SG: L10 (pp130-145) • SG: L20-21 (pp324-339) • TG: L04 (pp37-52) • TG: L10 (pp147-158) • TG: L20-21 (pp293-310) • Electrical Energy and Circuit Design • TG: L18.Exts (pp259-260) • Energy, Machines, and Motion |

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- SG: L02 (pp12-19)
- SG: L04 (pp26-35)
- SG: L07 (pp62-71)
- SG: L12-13 (pp108-129)
- SG: L15 (pp140-147)
- SG: L22 (pp226-236)
- TG: L09.Exts (p105)
- TG: L17.Exts (p208)
- TG: L22 (pp247-254)
- **Human Body Systems**
- TG: L01.Exts (p7)
- TG: L10.Exts (p122)
- TG: L18.Exts (pp215-216)
- TG: L19.Exts (p225)
- **Living with a Star**
- TG: Act03 (pp61-84)
- **Light**
- SG: L01 (pp2-19)
- SG: L05-06 (pp48-67)
- SG: L14 (pp144-153)
- SG: L22 (pp244-251)
- SG: L25 (pp284-293)
- TG: L25 (pp335-348)
- **Moons of Jupiter**
- TG: Act01 (pp7-17)
- **Organisms-From Macro to Micro**
- SG: L19 (pp216-235)
- **Properties of Matter**
- SG: L09 (pp78-83)
- SG: L11 (pp98-105)
- SG: L15 (pp122-129)
- SG: L19 (pp162-167)
- SG: L21-23 (pp186-217)
- SG: L25 (pp224-229)

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2700 York Road • Burlington NC 27215-3398
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