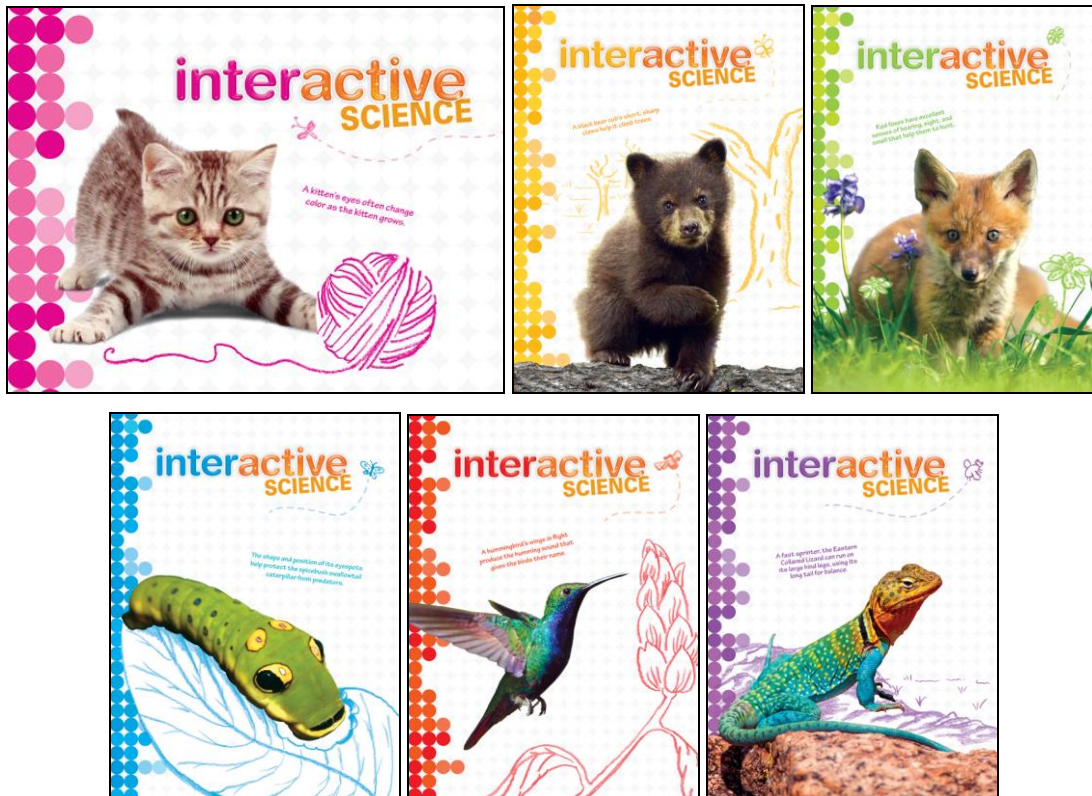


A Correlation of
Interactive Science
©2016



To the
**2016 Massachusetts Science and
Technology/Engineering Standards**
Grades Kindergarten - 5

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INTRODUCTION

The following document demonstrates how ***Interactive Science***, ©2016, Grades K-5, supports the 2016 Massachusetts Science and Technology/Engineering Standards for Grades K-5. Correlation references are to the Student Edition and Teacher Edition. Please note that the Kindergarten Student Edition text pages are two-sided; each singular page contains a corresponding Activity Page on the reverse side.

Interactive Science is an elementary science program that makes learning personal, engaging, and relevant for today's student. The program features an innovative Write-in Student Edition that enables students to become active participants in their learning and truly connect the Big Ideas of science to their world.

The 2016 editions of ***Interactive Science*** support the Next Generation Science Standards (NGSS) in several ways. In the Student Edition, lessons provide interactive opportunities for students to acquire the Disciplinary Core Ideas that are the building blocks of the NGSS Performance Expectations at each grade level. STEM Activities, Apply It! activities, Design It! Activities, and Performance-Based Assessments enable students to research, investigate, and apply Science and Engineering Practices to real-world problems in a meaningful way. In the Teacher's Edition, a detailed and focused Performance Expectation Activity is provided for each NGSS standard.

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| 2016 Massachusetts Science and Technology/Engineering Standards | Interactive Science, ©2016 Kindergarten |
|--|--|
| Kindergarten: Earth and Space Sciences | |
| ESS2. Earth's Systems | |
| <p>K-ESS2-1. Use and share quantitative observations of local weather conditions to describe patterns over time.</p> <p>Clarification Statements:</p> <ul style="list-style-type: none"> • Examples of quantitative observations could include numbers of sunny, windy, and rainy days in a month, and relative temperature. • Quantitative observations should be limited to whole numbers. | <p>SE Only:</p> <p>42, Try It! How does weather change? 57, Lesson 4: What are some kinds of weather?</p> <p>TE Only:</p> <p>xxxvi-xxxvii, Quest: Weather and Seasons of the World 80, Try It! How does weather change? 92, Vocabulary Smart Cards 92, Envision It! 92, Activate Prior Knowledge 92, For Interactive Whiteboard Classrooms 92, 21st Century Learning 93, ELL Support 93, Explain 93, Elaborate 104, Chapter 3 Test - Questions 3, 4 105, Chapter 3 Test - Question 6 107, Performance-Based Assessment: Make a Weather Calendar 109a, Performance Expectation Activity 109a, ELA/Literacy 109a, Mathematics</p> |
| <p>K-ESS2-2. Construct an argument supported by evidence for how plants and animals (including humans) can change the environment.</p> <p>Clarification Statement:</p> <ul style="list-style-type: none"> • Examples of plants and animals changing their environment could include a squirrel digging holes in the ground and tree roots that break concrete. | <p>SE Only:</p> <p>38, Lesson 6: How do living things affect where they live?</p> <p>TE Only:</p> <p>58, Activate Prior Knowledge 58, For Interactive Whiteboard Classrooms 58, 21st Century Learning 59, ELL Support 59, Explain 59, Elaborate 67, Chapter 2 Test – Question 6 71b, Performance Expectation Activity 71b, ELA/Literacy</p> |

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|---|---|
| ESS3. Earth and Human Activity | |
| <p>K-ESS3-2. Obtain and use information about weather forecasting to prepare for, and respond to, different types of local weather.</p> | <p>SE Only: 61, Ready for the Weather</p> <p>TE Only: xxxvi-xxxvii, Quest: Weather and Seasons of the World 99, Activate Prior Knowledge 99, Teach with Visuals 109b, Performance Expectation Activity 109b, ELA/Literacy 109b, Mathematics</p> |
| <p>K-ESS3-3. Communicate solutions to reduce the amount of natural resources an individual uses.* Clarification Statement:</p> <ul style="list-style-type: none"> • Examples of solutions could include reusing paper to reduce the number of trees cut down and recycling cans and bottles to reduce the amount of plastic or metal used. | <p>SE Only: 59, Lesson 6: What is recycling?</p> <p>TE Only: 96, Vocabulary Smart Cards 96, Envision It! 96, Activate Prior Knowledge 96, For Interactive Whiteboard Classrooms 96, 21st Century Learning 97, Professional Development Note 97, Explain 97, Elaborate 104, Chapter 3 Test – Question 2 148, Social Studies</p> |
| [NOTE: K-ESS3-1 from NGSS is not included.] | |
| Kindergarten: Life Science | |
| LS1. From Molecules to Organisms: Structures and Processes | |
| <p>K-LS1-1. Observe and communicate that animals (including humans) and plants need food, water, and air to survive. Animals get food from plants or other animals. Plants make their own food and need light to live and grow.</p> | <p>SE Only: 21, Try It! Do plants need water? 34, Lesson 2: What are living things? 35, Lesson 3: What do plants need? 36, Lesson 4: What do animals need? 37, Lesson 5: What do you need?</p> |

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| <p>(continued) K-LS1-1. Observe and communicate that animals (including humans) and plants need food, water, and air to survive. Animals get food from plants or other animals. Plants make their own food and need light to live and grow.</p> | <p>TE Only: 36, Social Studies 37, Rhyme 39A-39B, Leveled Content Reader Support 42, Try It! Do plants need water? 50, Activate Prior Knowledge 50, For Interactive Whiteboard Classrooms 50, Differentiated Instruction 51, ELL Support 51, Explain 51, Elaborate 52, Vocabulary Smart Cards 52, Envision It! 52, Activate Prior Knowledge 52, For Interactive Whiteboard Classrooms 52, Differentiated Instruction 53, ELL Support 53, Explain 53, Elaborate 54, Vocabulary Smart Cards 54, Envision It! 54, Activate Prior Knowledge 54, For Interactive Whiteboard Classroom 54, 21st Century Learning 55, ELL Support 55, Explain 55, Elaborate 56, Envision It! 56, Activate Prior Knowledge 56, For Interactive Whiteboard Classroom 56, Differentiated Instruction 57, ELL Support 57, Explain 57, Elaborate 58, 21st Century Learning 66, Chapter 2 Test- Questions 3, 4 67, Chapter 2 Test - Question 5 69, Performance-Based Assessment: Write Plant Sentences 71a, Performance Expectation Activity 71a, ELA/Literacy</p> |

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| <p>K-LS1-2(MA). Recognize that all plants and animals grow and change over time.</p> | <p>SE Only: 21, Try It! Do plants need water? 34, Lesson 2: What are living things? 35, Lesson 3: What do plants need?</p> <p>TE Only: 39A-39B, Leveled Content Reader Support 42, Try It! Do plants need water? 50, Explore 50, For Interactive Whiteboard Classrooms 51, Explain 52, For Interactive Whiteboard Classrooms 53, ELL Support 54, Elaborate</p> |
| Kindergarten: Physical Science | |
| PS1. Matter and its Interactions | |
| <p>K-PS1-1(MA). Investigate and communicate the idea that different kinds of materials can be solid or liquid depending on temperature. Clarification Statements:</p> <ul style="list-style-type: none"> • Materials chosen must exhibit solid and liquid states in a reasonable temperature range for Kindergarten students (e.g., 0-80°F), such as water, crayons, or glue sticks. • Only a qualitative description of temperature, such as hot, warm, and cool, is expected. | <p>For supporting content on measuring temperature, please see</p> <p>SE Only: 79, Lesson 5: What do you use to observe?</p> <p>TE Only: 109c, Performance Expectation Activity 109c, Mathematics</p> |
| PS2. Motion and Stability: Forces and interactions | |
| <p>K-PS2-1. Compare the effects of different strengths or different directions of pushes and pulls on the motion of an object. Clarification Statements:</p> <ul style="list-style-type: none"> • Examples of pushes or pulls could include a string attached to an object being pulled, a person pushing an object, a person stopping a rolling ball, and two objects colliding and pushing on each other. • Comparisons should be on different relative strengths or different directions, not both at the same time. • Non-contact pushes or pulls such as those produced by magnets are not expected. | <p>SE Only: 3, Let's Read Science! 10-11, STEM Activity: Move Around It! 15, Lesson 2: What makes objects move? 16, Lesson 3: What are some ways objects move? 17, Lesson 4: How do moving objects affect each other? 18, Investigate It! How can you move the car?</p> |

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|---|---|
| <p>(continued) K-PS2-1. Compare the effects of different strengths or different directions of pushes and pulls on the motion of an object. Clarification Statements:</p> <ul style="list-style-type: none"> • Examples of pushes or pulls could include a string attached to an object being pulled, a person pushing an object, a person stopping a rolling ball, and two objects colliding and pushing on each other. • Comparisons should be on different relative strengths or different directions, not both at the same time. • Non-contact pushes or pulls such as those produced by magnets are not expected. | <p>TE Only: 7A-7B, Leveled Content Reader Support 11, Let’s Read Science! 18, Activate Prior Knowledge 18, Differentiated Instruction 19, Explain 20, Envision It! 22, Activate Prior Knowledge 22, Differentiated Instruction 23, Explain 23, Elaborate 33, Performance-Based Assessment: Write About Pushes and Pulls 33a, Performance Expectation Activity</p> |
| <p>[NOTE: K-PS2-2 from NGSS is not included.]</p> | |
| <p>PS3. Energy</p> | |
| <p>K-PS3-1. Make observations to determine that sunlight warms materials on Earth’s surface. Clarification Statements:</p> <ul style="list-style-type: none"> • Examples of materials on Earth’s surface could include sand, soil, rocks, and water. • Measures of temperature should be limited to relative measures such as warmer/cooler. | <p>SE Only: 44, STEM Activity: Cool Down! 56, Lesson 3: What do you get from the sun? 60, Investigate It! How can the sun make temperatures change?</p> <p>TE Only: 90, Vocabulary Smart Cards 90, Activate Prior Knowledge 90, For Interactive Whiteboard Classrooms 91, ELL Support 91, Explain 91, Elaborate 102-103, Activity Card Support 109c, Performance Expectation Activity 109c, ELA/Literacy 109c, Mathematics</p> |
| <p>K-PS3-2. Use tools and materials to design and build a model of a structure that will reduce the warming effect of sunlight on an area.*</p> | <p>TE Only: 109d, Performance Expectation Activity 109d, Mathematics</p> |

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| 2016 Massachusetts Science and Technology/Engineering Standards | Interactive Science, ©2016 Grade 1 |
|---|---|
| Grade 1: Earth and Space Sciences | |
| ESS1. Earth's Place in the Universe | |
| <p>1-ESS1-1. Use observations of the sun, moon, and stars to describe that each appears to rise in one part of the sky, appears to move across the sky, and appears to set.</p> | <p>SE/TE: 118-119, Envision It! 118-123, Lesson 2: What causes day and night? 131-132, Vocabulary Smart Cards 134, Chapter Review – Lesson 2 139, Performance-Based Assessment: Day and Night</p> <p>TE Only: 100C, Reading 100C, Social Studies 123a, Explore It! How does the shape of the moon appear to change? 123b, Lesson 2 Check – Questions 1-5 139a, Performance Expectation Activity 139a, ELA/Literacy</p> |
| <p>1-ESS1-2. Analyze provided data to identify relationships among seasonal patterns of change, including relative sunrise and sunset time changes, seasonal temperature and rainfall or snowfall patterns, and seasonal changes to the environment. Clarification Statement: <ul style="list-style-type: none"> • Examples of seasonal changes to the environment can include foliage changes, bird migration, and differences in amount of insect activity. </p> | <p>SE/TE: 122, Sunrise and Sunset 125, Spring 126, Summer and Fall 127, Winter 131-132, Vocabulary Smart Cards 139, Performance-Based Assessment: Sunrise, Sunset</p> <p>TE Only: 100C, Writing 139b, Performance Expectation Activity 139b, Mathematics</p> |

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|---|--|
| Grade 1: Life Science | |
| LS1. From Molecules to Organisms: Structures and Processes | |
| <p>1-LS1-1. Use evidence to explain that (a) different animals use their body parts and senses in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water, and air, and (b) plants have roots, stems, leaves, flowers, and fruits that are used to take in water, air, and other nutrients, and produce food for the plant. Clarification Statement:</p> <ul style="list-style-type: none"> • Descriptions are not expected to include mechanisms such as the process of photosynthesis. | <p>SE/TE: 46, Try It! How are flowers alike and different? 58-63, Lesson 1: What are some groups of living things? 64-67, Lesson 2: What are some parts of plants? 68-71, Lesson 3: How do plants grow? 89-90, Vocabulary Smart Cards 94, Chapter Review – Lessons 1, 2, 3 96-97, Apply It! How can a mouse’s color keep it safe from hawks? 98, Performance-Based Assessment: Draw a Picture 99, Performance-Based Assessment: Design a Helmet</p> <p>TE Only: 44G-44H, Leveled Content Reader Support 63b, Lesson 1 Check – Questions 1, 2, 4 67a, My Planet Diary 67b, Lesson 2 Check – Questions 1-6 71b, Lesson 3 Check – Questions 1-4 95a, Chapter 2 Test – Questions 1, 2 95b, Chapter 2 Test – Question 6</p> |
| <p>1-LS1-2. Obtain information to compare ways in which the behavior of different animal parents and their offspring help the offspring to survive. Clarification Statement:</p> <ul style="list-style-type: none"> • Examples of behaviors could include the signals that offspring make (such as crying, cheeping, and other vocalizations) and the responses of the parents (such as feeding, comforting, and protecting the offspring). | <p>SE/TE: 74, Life Cycle of a Sea Turtle</p> <p>TE Only: 99b, Performance Expectation Activity</p> |

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| LS3. Heredity: Inheritance and Variation of Traits | |
| <p>1-LS3-1. Use information from observations (first-hand and from media) to identify similarities and differences among individual plants or animals of the same kind.</p> <p>Clarification Statements:</p> <ul style="list-style-type: none"> • Examples of observations could include leaves from the same kind of plant are the same shape but can differ in size. • Inheritance, animals that undergo metamorphosis, or hybrids are not expected. | <p>SE/TE:</p> <p>44, How is a young orangutan like its mother? 72-73, Envision It! 75, A baby sea turtle... 76, Life Cycle of a Grasshopper 78-79, Envision It! 78-81, Lesson 5: How are living things like their parents? 82-85, Lesson 6: how are groups of living things different? 92, Vocabulary Smart Cards 95, Chapter Review – Lesson 5</p> <p>TE Only:</p> <p>44C, Critical Thinking 44G-44H, Leveled Content Reader Support 81a, Explore It! How are babies and parents alike and different? 81b, Lesson 5 Check, Question 4 95a, Chapter 2 Test – Question 3 95b, Chapter 2 Test – Questions 7, 8 99c, Performance Expectation Activity 99c, ELA/Literacy</p> |
| Grade 1: Physical Science | |
| PS4. Waves and their Applications in Technologies for Information Transfer | |
| <p>1-PS4-1. Demonstrate that vibrating materials can make sound and that sound can make materials vibrate.</p> <p>Clarification Statements:</p> <ul style="list-style-type: none"> • Examples of vibrating materials that make sound could include tuning forks, a stretched string or rubber band, and a drum head. • Examples of how sound can make materials vibrate could include holding a piece of paper near a speaker making sound and holding an object near a vibrating tuning fork. | <p>SE/TE:</p> <p>6-15, STEM Activity: Let's Talk! 28, Explore It! how can you make sound? 29, Sounds 32-33, Investigate It! What sounds can bottles make? 35-37, Vocabulary Smart Cards</p> <p>TE Only:</p> <p>31, Professional Development Note 31a, Explore It! how can you make sound? 31b, Lesson 4 Check – Questions 1, 4 33a-33d, Activity Card Support 43a, Performance Expectation Activity</p> |

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| <p>1-PS4-3. Conduct an investigation to determine the effect of placing materials that allow light to pass through them, allow only some light through them, block all the light, or redirect light when put in the path of a beam of light.</p> <p>Clarification Statements:</p> <ul style="list-style-type: none"> • Effects can include some or all light passing through, creation of a shadow, and redirecting light. • Quantitative measures are not expected. | <p>SE/TE:</p> <p>4, Try It! What does light do? 26, Light Shines Through 27, What Light Can Do 35-36, Vocabulary Smart Cards 39, Chapter Review – Lesson 3 40-41, Apply It! How does light move through water? 43, Performance-Based Assessment: Make a Presentation</p> <p>TE Only:</p> <p>xliv-xlv, STEMQuest: Keep Out the Sun! 2C, Art 27b, Lesson 3 Check – Questions 3, 4 43c, Performance Expectation Activity</p> |
| <p>1-PS4-4. Use tools and materials to design and build a device that uses light or sound to send a signal over a distance.*</p> <p>Clarification Statements:</p> <ul style="list-style-type: none"> • Examples of devices could include a light source to send signals, paper cup and string “telephones,” and a pattern of drum beats. • Technological details for how communication devices work are not expected. | <p>SE/TE:</p> <p>6-15, STEM Activity: Let’s Talk! 29, Sounds 43, Performance-Based Assessment: Send a Message with Sound</p> <p>TE Only:</p> <p>43d, Performance Expectation Activity</p> |
| <p>[NOTE: 1-PS4-2 from NGSS is not included.]</p> | |

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|---|--|
| Grade 1: Technology/Engineering | |
| ETS1. Engineering Design | |
| <p>1.K-2-ETS1-1. Ask questions, make observations, and gather information about a situation people want to change that can be solved by developing or improving an object or tool.*</p> | <p>SE/TE: 6, STEM Activity: Let’s Talk! 7, Find a Problem 8-9, Plan and Draw 10, Choose Materials 48, STEM Activity: Mix It Up! 49, Find a Problem 50-51, Plan and Draw 52, Choose Materials 104, STEM Activity: How Does a Greenhouse Work? 105, Find a Problem 106-107, Plan and Draw 108, Choose Materials 144, STEM Activity: What’s Over the Wall? 145, Find a Problem 146-147, Plan and Draw 148, Choose Materials 190, STEM Activity: Reach, Grab, Pull 191, Find a Problem 192-193, Plan and Draw 194, Choose Materials 222-227, Design It! What do pill bugs need?</p> <p>TE Only: 43d, Performance Expectation Activity 186G-186H, Leveled Content Reader Support</p> |
| <p>1.K-2-ETS1-2. Generate multiple solutions to a design problem and make a drawing (plan) to represent one or more of the solutions.*</p> | <p>SE/TE: 188, Try It! How can you design a top? 208-213, Lesson 3: What is the design process? 214-215, Investigate It! How can you build a boat? 228, Performance-Based Assessment: Design a New Hat</p> |
| [NOTE: K-2-ETS1-3 is found in Grade 2] | |

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| Grade 2: Earth and Space Sciences | |
| ESS1. Earth's Place in the Universe | |
| [NOTE: 2-ESS1-1 from NGSS is not included] | |
| ESS2. Earth's Systems | |
| 2-ESS2-1. Investigate and compare the effectiveness of multiple solutions designed to slow or prevent wind or water from changing the shape of the land.* Clarification Statements: <ul style="list-style-type: none"> • Solutions to be compared could include different designs of dikes and windbreaks to hold back wind and water, and different designs for using shrubs, grass, and trees to hold back the land. • Solutions can be generated or provided. | TE Only: 159b, Performance Expectation Activity 159b, ELA/Literacy |
| 2-ESS2-2. Map the shapes and types of landforms and bodies of water in an area. Clarification Statements: <ul style="list-style-type: none"> • Examples of types of landforms can include hills, valleys, river banks, and dunes. • Examples of water bodies can include streams, ponds, bays, and rivers. • Quantitative scaling in models or contour mapping is not expected. | SE/TE: 120, Try It! How Much water and land are on earth? 133, Land and Water 134, At-Home Lab 159, Performance-Based Assessment: Make a Puzzle TE Only: 135, Elaborate 135, 21 st Century Learning 159c, Performance Expectation Activity 159c, ELA/Literacy 159c, Mathematics |
| 2-ESS2-3. Use examples obtained from informational sources to explain that water is found in the ocean, rivers and streams, lakes and ponds, and may be solid or liquid. | SE/TE: 120, Try It! How Much water and land are on earth? 133, Land and Water 135, Water surrounds an island 136, The Ocean/Lakes and Ponds 137, Rivers and Streams/Glaciers 151, Vocabulary Smart Cards 154, Chapter Review – Lesson 1 159, Performance-Based Assessment: Make a Puzzle |

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| <p>(continued) 2-ESS2-3. Use examples obtained from informational sources to explain that water is found in the ocean, rivers and streams, lakes and ponds, and may be solid or liquid.</p> | <p>TE Only: 137b, Lesson 1 Check – Question 4 159c, Performance Expectation Activity 159d, Performance Expectation Activity 159d, ELA/ Literacy</p> |
| <p>2-ESS2-4(MA). Observe how blowing wind and flowing water can move Earth materials from one place to another and change the shape of a landform. Clarification Statement: <ul style="list-style-type: none"> • Examples of types of landforms can include hills, valleys, river banks, and dunes. </p> | <p>SE/TE: 133, Land and Water 139, Changes on Earth 140, Earthquakes and Volcanoes 141, Weathering and Erosion 142, Water Changes the Land 143, Other Causes of Erosion 151-152, Vocabulary Smart Cards 154-155, Chapter Review, Lesson 2 158, Performance-Based Assessment: Erosion</p> <p>TE Only: 118D, Teacher Background 118G, Leveled Content Reader Support 118, Talk About the Picture 140, Differentiated Instruction 143b, Lesson 2 Check - Questions 1, 2, 4 155a, Chapter 3 Test – Questions 3, 4 155b, Chapter 3 Test – Question 8 159a, Performance Expectation Activity</p> |

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| Grade 2: Life Science | |
| LS2. Ecosystems: Interactions, Energy, and Dynamics | |
| <p>2-LS2-3(MA). Develop and use models to compare how plants and animals depend on their surroundings and other living things to meet their needs in the places they live.</p> <p>Clarification Statement:</p> <ul style="list-style-type: none"> Animals need food, water, air, shelter, and favorable temperature; plants need sufficient light, water, minerals, favorable temperature, and animals or other mechanisms to disperse seeds. | <p>SE/TE:</p> <p>64, Try It! What do plants need to be healthy? 65, Let’s Read Science! Compare and Contrast 77, Plant Needs 79, Flowers contain pollen 81, Pine trees have... 89, Animal Needs 90, Lightning Lab: Animal Needs 96-97, Forest 98, Ocean/Desert 99, Wetland/Rain Forest 101, Energy from Food 104-105, Investigate It! How does water affect plant growth? 112, Chapter Review - Lesson 2 113, Chapter Review - Lessons 4, 5 116, Performance-Based Assessment: Light and Seeds</p> <p>TE Only:</p> <p>62G-62H, Leveled Content Reader Support 105a-105d, Activity Card Support 117a, Performance Expectation Activity 117b, Performance Expectation Activity</p> |
| [NOTE: 2-LS2-1 is included in other standards, including K-LS1-1 and 2-LS2-3(MA). 2-LS2-2 from NGSS is not included.] | |
| LS4. Biological Evolution: Unity and Diversity | |
| <p>2-LS4-1. Use texts, media, or local environments to observe and compare (a) different kinds of living things in an area, and (b) differences in the kinds of living things living in different types of areas.</p> <p>Clarification Statements:</p> <ul style="list-style-type: none"> Examples of areas to compare can include temperate forest, desert, tropical rain forest, grassland, arctic, and aquatic. Specific animal and plant names in specific areas are not expected. | <p>SE/TE:</p> <p>76, My Planet Diary 82, My Planet Diary 94-95, Envision It! 94-99, Lesson 4: Where do plants and animals live? 107-110, Vocabulary Smart Cards 113, Chapter Review – Lesson 4 116, Performance-Based Assessment: Put on a Play 117, Performance-Based Assessment: Write a Song</p> |

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| <p>(continued) 2-LS4-1. Use texts, media, or local environments to observe and compare (a) different kinds of living things in an area, and (b) differences in the kinds of living things living in different types of areas. Clarification Statements:</p> <ul style="list-style-type: none"> • Examples of areas to compare can include temperate forest, desert, tropical rain forest, grassland, arctic, and aquatic. • Specific animal and plant names in specific areas are not expected. | <p>TE Only: xliv-xlv, Quest: Describe a Habitat 62G-62H, Leveled Content Reader Support 81a, My Planet Diary 87a, My Planet Diary 99a, Explore It! Where can plants live? 99b, Lesson 4, Check – Questions 1-5 113b, Chapter 2 Test – Questions 5, 8 117c, Performance Expectation Activity 117c, ELA/Literacy 117c, Mathematics</p> |
| <p>Grade 2: Physical Science</p> | |
| <p>PS1. Matter and its Interactions</p> | |
| <p>2-PS1-1. Describe and classify different kinds of materials by observable properties of color, flexibility, hardness, texture, and absorbency.</p> | <p>SE/TE: 8-11, STEM Activity: Trails That Last 16-23, Lesson 1: What are some properties of matter? 24-29, Lesson 2: What are solids, liquids, and gases? 36, Explore It! How much water is in each cup? 38, Cooling Matter 41, Properties of Materials 48-49, Investigate It! How can properties change? 56, Chapter Review – Lessons 1, 2 58-59, Apply It! Which objects will float? 60, Performance-Based Assessment: Group Objects 180-181, Science Skills</p> <p>TE Only: 2D, Social Studies 23b, Lesson 1 Check – Questions 2, 5 43, Differentiated Instruction 49a-49d, Activity Card Support 57a, Chapter 1 Test – Question 1 61a, Performance Expectation Activity 61a, ELA/Literacy 61a, Mathematics</p> |

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| <p>2-PS1-2. Test different materials and analyze the data obtained to determine which materials have the properties that are best suited for an intended purpose.*</p> <p>Clarification Statements:</p> <ul style="list-style-type: none"> • Examples of properties could include, color, flexibility, hardness, texture, and absorbency. • Data should focus on qualitative and relative observations. | <p>SE/TE: 6-15, STEM Activity: Trails That Last 40-41, Envision It! 40-47, Lesson 5: How can you combine materials? 57, Chapter Review – Lesson 5 58-59, Apply It! Which objects will float? 122-131, STEM Activity: How Can You Make Recycled Paper? 208-217, STEM Activity: All Bound Up!</p> <p>TE Only: 47a, Explore It! How can you build a bridge? 47b, Lesson 5 Check – Questions 3, 4 57b, Chapter 1 Test – Question 8 61b, Performance Expectation Activity 61b, ELA/Literacy 61b, Mathematics 61c, ELA/Literacy</p> |
| <p>2-PS1-3. Analyze a variety of evidence to conclude that when a chunk of material is cut or broken into pieces, each piece is still the same material and, however small each piece is, has weight. Show that the material properties of a small set of pieces do not change when the pieces are used to build larger objects.</p> <p>Clarification Statements:</p> <ul style="list-style-type: none"> • Materials should be pure substances or microscopic mixtures that appear contiguous at observable scales. • Examples of pieces could include blocks, building bricks, and other assorted small objects. | <p>SE/TE: 32, Mold It, Fold It, Tear It, Bend It 34, Mix and Separate Matter 40-41, Envision It! 40-47, Lesson 5: How can you combine materials? 57, Chapter Review – Lesson 5 61, Performance-Based Assessment: Make a Presentation</p> <p>TE Only: 35a, Explore It! How can you change clay? 47a, Explore It! How can you build a bridge? 47b, Lesson 5 Check – Questions 3, 4</p> |

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| <p>2-PS1-4. Construct an argument with evidence that some changes to materials caused by heating or cooling can be reversed and some cannot.</p> <p>Clarification Statements:</p> <ul style="list-style-type: none"> • Examples of reversible changes could include materials such as water and butter at different temperatures. • Examples of irreversible changes could include cooking an egg, freezing a plant leaf, and burning paper. | <p>SE/TE: 5, Let’s Read Science! 33, Other Ways Matter Can Change 38, Cooling Matter 39, Heating Matter 50, From Sand to Glass 56, Chapter Review – Lesson 3 60, Performance-Based Assessment: Cool a Balloon</p> <p>TE Only: 2G-2H, Leveled Content Reader Support 61d, Performance Expectation Activity 61d, ELA/Literacy</p> |
| PS3. Energy | |
| <p>2-PS3-1(MA). Design and conduct an experiment to show the effects of friction on the relative temperature and speed of objects that rub against each other.</p> <p>Clarification Statements:</p> <ul style="list-style-type: none"> • Examples could include an object sliding on rough vs. smooth surfaces. • Observations of temperature and speed should be qualitative. | <p>This standard is met in Grade 3, Chapter 1, Lesson 2: How does force affect motion?</p> |
| Grade 2: Technology/Engineering | |
| ETS1. Engineering Design | |
| <p>2.K-2-ETS1-3. Analyze data from tests of two objects designed to solve the same design problem to compare the strengths and weaknesses of how each object performs.*</p> <p>Clarification Statements:</p> <ul style="list-style-type: none"> • Data can include observations and be either qualitative or quantitative. • Examples can include how different objects insulate cold water or how different types of grocery bags perform. | <p>SE/TE: 12-13, Make and Test 14-15, Record and Share 128-129, Make and Test 130-131, Record and Share 214-215, Make and Test 216-217, Record and Share 222, Explore It! How can you keep warm water warm? 228, Explore It! How does a lever work?</p> <p>TE Only: 15, Post-Activity Discussion 131, Post-Activity Discussion 217, Post-Activity Discussion</p> |
| [NOTE: K-2-ETS1-1 and K-2-ETS1-2 are found in Grade 1] | |

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| 2016 Massachusetts Science and Technology/Engineering Standards | Interactive Science, ©2016 Grade 3 |
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| Grade 3: Earth and Space Sciences | |
| ESS2. Earth's Systems | |
| <p>3-ESS2-1. Use graphs and tables of local weather data to describe and predict typical weather during a particular season in an area. Clarification Statements:</p> <ul style="list-style-type: none"> • Examples of weather data could include temperature, amount and type of precipitation (e.g., rain, snow), wind direction, and wind speed. • Graphical displays should focus on pictographs and bar graphs. | <p>SE/TE: 258, Explore It! What is the daily temperature? 259, Weather 265, Seasonal Weather Data 266, Explore It! How does an anemometer work? 268, Lightning Lab: Measure and Record Temperatures 289, Performance-Based Assessment: Measure Rainfall</p> <p>TE Only: 289a, Performance Expectation Activity 289a, Mathematics</p> |
| <p>3-ESS2-2. Obtain and summarize information about the climate of different regions of the world to illustrate that typical weather conditions over a year vary by region. Clarification Statement:</p> <ul style="list-style-type: none"> • Examples of information can include climate data (average temperature, average precipitation, average wind speed) or comparative descriptions of seasonal weather for different regions. <p>State Assessment Boundary:</p> <ul style="list-style-type: none"> • An understanding of climate change is not expected in state assessment. | <p>SE/TE: 260-261, Climate 262-263, Factors That Affect Climate 264-265, Seasonal Weather Patterns 279-280, Vocabulary Smart Cards 282, Chapter Review – Lesson 2 284, Benchmark Practice – Questions 1, 3</p> <p>TE Only: 246G-246H, Leveled Content Reader Support 265b, Lesson 2 Check – Questions 2, 3 283a, Chapter 6 Test – Question 3 283b, Chapter 6 Test – Questions 3, 9 289b, Performance Expectation Activity</p> |
| ESS3. Earth and Human Activity | |
| <p>3-ESS3-1. Evaluate the merit of a design solution that reduces the damage caused by weather.* Clarification Statement:</p> <ul style="list-style-type: none"> • Examples of design solutions to reduce weather-related damage could include a barrier to prevent flooding, a wind-resistant roof, and a lightning rod. | <p>TE Only: 289c, Performance Expectation Activity 289c, ELA/Literacy</p> |

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| 2016 Massachusetts Science and Technology/Engineering Standards | Interactive Science, ©2016 Grade 3 |
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| Grade 3: Life Science | |
| LS1. From Molecules to Organisms: Structures and Processes | |
| <p>3-LS1-1. Use simple graphical representations to show that different types of organisms have unique and diverse life cycles. Describe that all organisms have birth, growth, reproduction, and death in common but there are a variety of ways in which these happen.</p> <p>Clarification Statements:</p> <ul style="list-style-type: none"> • Examples can include different ways plants and animals begin (e.g., sprout from a seed, born from an egg), grow (e.g., increase in size and weight, produce new part), reproduce (e.g., develop seeds, root runners, mate and lay eggs that hatch), and die (e.g., length of life). • Plant life cycles should focus on those of flowering plants. • Describing variation in organism life cycles should focus on comparisons of the general stages of each, not specifics. <p>State Assessment Boundary:</p> <ul style="list-style-type: none"> • Detailed descriptions of any one organism’s cycle, the differences of “complete metamorphosis” and “incomplete metamorphosis”, or details of human reproduction are not expected in state assessment. | <p>SE/TE:</p> <p>128-129, Envision It! 128-133, Lesson 4: How do plants use flowers on cones to reproduce? 134-135, Envision It! 134-139, Lesson 5: What are the life cycles of some plants? 143-146, Vocabulary Smart Cards 176-177, Envision It! 176-183, Lesson 3: What are the life cycles of some animals? 193, Chapter Review – Lesson 3 245, Performance-Based Assessment: Life Cycle Poster</p> <p>TE Only:</p> <p>133a, Explore It! What is inside a seed? 133b, Lesson 4 Check – Questions 1-5 139a, My Planet Diary 139b, Lesson 5 Check – Questions 1-6 183a, Explore It! What is the life cycle of a grain beetle? 183b, Lesson 3 Check – Questions 1, 2, 3, 6 245a, Performance Expectation Activity 245a, ELA/Literacy</p> |
| LS2. Ecosystems: Interactions, Energy, and Dynamics | |
| [NOTE: 3-LS2-1 from NGSS is not included] | |
| LS3. Heredity: Inheritance and Variation of Traits | |
| <p>3-LS3-1. Provide evidence, including through the analysis of data, that plants and animals have traits inherited from parents and that variation of these traits exist in a group of similar organisms.</p> <p>Clarification Statements:</p> <ul style="list-style-type: none"> • Examples of inherited traits that vary can include the color of fur, shape of leaves, length of legs, and size of flowers. • Focus should be on non-human examples. <p>State Assessment Boundary:</p> <ul style="list-style-type: none"> • Genetic mechanisms of inheritance or prediction of traits are not expected in state assessment. | <p>SE/TE:</p> <p>129, Reproduction 169, Both Alike and Different 170, Inherited Characteristics 171, Acquired Characteristics - Question 4 172, Inherited Behavior 194, Benchmark Practice – Question 5 245, Performance-Based Assessment: Matching Traits</p> <p>TE Only:</p> <p>175a, My Planet Diary 175b, Lesson 2 Check – Question 3 245c, Performance Expectation Activity 245c, ELA/Literacy</p> |

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| <p>3-LS3-2. Distinguish between inherited characteristics and those characteristics that result from a direct interaction with the environment. Give examples of characteristics of living organisms that are influenced by both inheritance and the environment.</p> <p>Clarification Statements:</p> <ul style="list-style-type: none"> • Examples of the environment affecting a characteristic could include normally tall plants grown with insufficient water or light are stunted, a lizard missing a tail due to a predator, and a pet dog that is given too much food and little exercise may become overweight. • Focus should be on non-human examples. | <p>SE/TE: 168, My Planet Diary 171, Acquired Characteristics 172, Inherited Behavior 173, Learned Behavior 175, Got It? – Question 12</p> <p>TE Only: 171, Science Notebook 175b, Lesson 2 Check – Question 6 182, Elaborate 245d, Performance Expectation Activity 245d, ELA/Literacy</p> |
| LS4. Biological Evolution: Unity and Diversity | |
| <p>3-LS4-1. Use fossils to describe types of organisms and their environments that existed long ago and compare those to living organisms and their environments. Recognize that most kinds of plants and animals that once lived on Earth are no longer found anywhere.</p> <p>Clarification Statement:</p> <ul style="list-style-type: none"> • Comparisons should focus on physical or observable features. <p>State Assessment Boundary:</p> <ul style="list-style-type: none"> • Identification of specific fossils or specific present-day plants and animals, dynamic processes, or genetics are not expected in state assessment. | <p>SE/TE: 224-225, Envision It! 224-227, Lesson 4: What can we learn from fossils? 228-229, Investigate It! What can you find in your local ecosystem? 231-234, Vocabulary Smart Cards 237, Chapter Review – Lesson 4 238, Benchmark Practice – Question 6</p> <p>TE Only: 227a, Explore It! What can a fossil tell you? 227b, Lesson 4 Check – Questions 1-5 237b, Chapter 5 Test – Question 10 245e, Performance Expectation Activity 245e, ELA/Literacy 245e, Mathematics</p> |

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| <p>3-LS4-2. Use evidence to construct an explanation for how the variations in characteristics among individuals within the same species may provide advantages to these individuals in their survival and reproduction.</p> <p>Clarification Statements:</p> <ul style="list-style-type: none"> • Examples can include rose bushes of the same species, one with slightly longer thorns than the other which may prevent its predation by deer, and color variation within a species that may provide advantages so one organism may be more likely to survive and therefore more likely to produce offspring. • Examples of evidence could include needs and characteristics of the organisms and habitats involved. | <p>SE/TE: 174, Differences That Can Help an Animal</p> <p>TE Only: 174, Explain 174, Science – Writing 174, Professional Development Note 175, 21st Century Learning 245b, Performance Expectation Activity 245b, ELA/Literacy</p> |
| <p>3-LS4-3. Construct an argument with evidence that in a particular environment some organisms can survive well, some survive less well, and some cannot survive.</p> <p>Clarification Statement:</p> <ul style="list-style-type: none"> • Examples of evidence could include needs and characteristics of the different organisms (species) and habitats involved. | <p>SE/TE: 209, Ecosystems Change 215, Changes in Food Webs 216-217, Envision It! 216-223, Lesson 3: How do ecosystems change? 237, Chapter Review – Lesson 3 238, Benchmark Practice, Question 3 244, Performance-Based Assessment: Germinating Seeds</p> <p>TE Only: xlvii-xlviii, STEMQuest: Where Have All the Organisms Gone? 196G-196H, Leveled Content Reader Support 223a, Explore It! How can pollution affect an organism? 223b, Lesson 3 Check- Questions 4, 5 237a, Chapter 5 Test – Question 6 237b, Chapter 5 Test – Questions 8, 9 245g, Performance Expectation Activity 245g, ELA/Literacy</p> |

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| <p>3-LS4-4. Analyze and interpret given data about changes in a habitat and describe how the changes may affect the ability of organisms that live in that habitat to survive and reproduce. Clarification Statements:</p> <ul style="list-style-type: none"> • Changes should include changes to landforms, distribution of water, climate, and availability of resources. • Changes in the habitat could range in time from a season to a decade. • While it is understood that ecological changes are complex the focus should be on a single change to the habitat. | <p>SE/TE: 205, Places for Living Things 208, Habitats 209, Ecosystems Change 209, At-Home Lab 215, Changes in Food Webs 216-223, Lesson 3: How do ecosystems change? 219, Do the Math! 231-232, Vocabulary Smart Cards 238, Benchmark Practice – Question 3 244, Performance-Based Assessment: Animals and Seasons</p> <p>TE Only: 245h, Performance Expectation Activity 245h, ELA/Literacy</p> |
| <p>3-LS4-5(MA). Provide evidence to support a claim that the survival of a population is dependent upon reproduction. State Assessment Boundary:</p> <ul style="list-style-type: none"> • Details of reproduction are not expected in state assessment. | <p>SE/TE: 128-129, Envision It! 128-133, Lesson 4: How do plants use flowers or cones to reproduce? 134-135, Envision It! 134-139, Lesson 5: What are the life cycles of some plants? 143-146, Vocabulary Smart Cards 176-177, Envision It! 176-183, Lesson 3: What are the life cycles of some animals? 193, Chapter Review – Lesson 3 245, Performance-Based Assessment: Life Cycle Poster</p> <p>TE Only: 133a, Explore It! What is inside a seed? 133b, Lesson 4 Check – Questions 1-5 139a, My Planet Diary 139b, Lesson 5 Check – Questions 1-6 183a, Explore It! What is the life cycle of a grain beetle? 245a, Performance Expectation Activity 245a, ELA/Literacy</p> |

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| Grade 3: Physical Science | |
| PS2. Motion and Stability: Forces and Interactions | |
| <p>3-PS2-1. Provide evidence to explain the effect of multiple forces, including friction, on an object. Include balanced forces that do not change the motion of the object and unbalanced forces that do change the motion of the object.</p> <p>Clarification Statements:</p> <ul style="list-style-type: none"> • Descriptions of force magnitude should be qualitative and relative. • Force due to gravity is appropriate but only as a force that pulls objects down. <p>State Assessment Boundaries:</p> <ul style="list-style-type: none"> • Quantitative force magnitude is not expected in state assessment. • State assessment will be limited to one variable at a time: number, size, or direction of forces. | <p>SE/TE:</p> <p>15, Causes of Motion 16-17, Effects of Mass and Friction 18-19, Motion and Combined Forces: Balanced Forces and Unbalanced Forces 22, Explore It! How does gravity pull an object? 23, Law of Gravity 34, Chapter Review - Lesson 2 36, Chapter 1 Benchmark Practice - Questions 2, 4, 5 99, Performance-Based Assessment: Plan an Investigation</p> <p>TE Only:</p> <p>99a, Performance Expectation Activity 99a, ELA/Literacy</p> |
| <p>3-PS2-3. Conduct an investigation to determine the nature of the forces between two magnets based on their orientations and distance relative to each other.</p> <p>Clarification Statement:</p> <ul style="list-style-type: none"> • Focus should be on forces produced by magnetic objects that are easily manipulated. | <p>SE/TE:</p> <p>20-21, Magnetism 29-32, Vocabulary Smart Cards 77, Electric Charges</p> <p>TE Only:</p> <p>21b, Lesson 2 Check - Question 1 99c, Performance Expectation Activity 99c, ELA/Literacy 99c, Mathematics 99d, Performance Expectation Activity 99d, Mathematics</p> |
| <p>3-PS2-4. Define a simple design problem that can be solved by applying the use of the interactions between magnets.*</p> <p>Clarification Statement:</p> <ul style="list-style-type: none"> • Examples of problems could include constructing a latch to keep a door shut and creating a device to keep two moving objects from touching each other. | <p>SE/TE:</p> <p>20-21, Magnetism 99, Performance-Based Assessment: Solve a Problem</p> <p>TE Only:</p> <p>99d, Performance Expectation Activity</p> |
| <p>[NOTE: 3-PS2-2 from NGSS is not included.]</p> | |

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| Grade 3: Technology/Engineering | |
| ETS1. Engineering Design | |
| <p>3.3-5-ETS1-1. Define a simple design problem that reflects a need or a want. Include criteria for success and constraints on materials, time, or cost that a potential solution must meet.*</p> | <p>SE/TE: 4-7, STEM Activity: Heave Ho! 42-45, STEM Activity: Sun, Light, Energy 104-107, STEM Activity: Watch it Grow! 156-159, STEM Activity: Bird Feather Cleaning 200-203, STEM Activity: Nothing Like a Habitat 250-253, STEM Activity: Runaway Water! 294-297, STEM Activity: Can You Hear Me? 342-345, STEM Activity: Bird Food Is Served! 357-361, Design Process 374-379, Design It! What Parachute Design Works Best?</p> <p>TE Only: 99d, Performance Expectation Activity 361b, Lesson 3 Check – Question 4</p> |
| <p>3.3-5-ETS1-2. Generate several possible solutions to a given design problem. Compare each solution based on how well each is likely to meet the criteria and constraints of the design problem.*</p> <p>Clarification Statement:</p> <ul style="list-style-type: none"> Examples of design problems can include adapting a switch on a toy for children that have a motor coordination disability, designing a way to clear or collect debris or trash from a storm drain, or creating safe moveable playground equipment for a new recess game. | <p>SE/TE: 5, Develop Possible Solutions 7, Compare Your Data 43, Develop Possible Solutions 105, Develop Possible Solutions 157, Develop Possible Solutions 201, Develop Possible Solutions 203, Share and Compare 251, Develop Possible Solutions 295, Develop Possible Solutions 296, Compare 344, Develop Possible Solutions 345, Compare</p> <p>TE Only: 289c, Performance Expectation Activity 289c, ELA/Literacy</p> |

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| <p>3.3-5-ETS1-4(MA). Gather information using various informational resources on possible solutions to a design problem. Present different representations of a design solution. *</p> <p>Clarification Statements:</p> <ul style="list-style-type: none"> • Examples of informational resources can include books, videos, and websites. • Examples of representations can include graphic organizers, sketches, models, and prototypes. | <p>SE/TE:</p> <p>4-6, STEM Activity: Heave Ho! 42-44, STEM Activity: Sun, Light, Energy 104-106, STEM Activity: Watch it Grow! 156-158, STEM Activity: Bird Feather Cleaning 200-202, STEM Activity: Nothing Like a Habitat 250-252, STEM Activity: Runaway Water! 294-296, STEM Activity: Can You Hear Me? 342-344, STEM Activity: Bird Food Is Served! 358-359, Design Process 375-377, Design It! What Parachute Design Works Best?</p> <p>TE Only:</p> <p>6, Post-Activity Discussion 44, Post-Activity Discussion 55, 21st Century Learning 106, Post-Activity Discussion 158, Post-Activity Discussion 202, Post-Activity Discussion 252, Post-Activity Discussion 296, Post-Activity Discussion 344, Post-Activity Discussion</p> |
| <p>[NOTE: 3-5-ETS1-3 and 3-5-ETS1-5(MA) are found in Grade 4.]</p> | |

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| 2016 Massachusetts Science and Technology/Engineering Standards | Interactive Science, ©2016 Grade 4 |
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| Grade 4: Earth and Space Sciences | |
| ESS1. Earth's Place in the Universe | |
| <p>4-ESS1-1. Use evidence from a given landscape that includes simple landforms and rock layers to support a claim about the role of erosion or deposition in the formation of the landscape over long periods of time.</p> <p>Clarification Statements:</p> <ul style="list-style-type: none"> • Examples of evidence and claims could include rock layers with shell fossils above rock layers with plant fossils and no shells, indicating a change from deposition on land to deposition in water over time, and a canyon with rock layers in the walls and a river in the bottom, indicating that a river eroded the rock over time. • Examples of simple landforms can include valleys, hills, mountains, plains, and canyons. • Focus should be on relative time. <p>State Assessment Boundary:</p> <ul style="list-style-type: none"> • Specific details of the mechanisms of rock formation or specific rock formations and layers are not expected in state assessment. | <p>SE/TE:</p> <p>244, Explore It! What can you learn from rock layers?</p> <p>248-249, Sedimentary Rocks</p> <p>254-259, Lesson 3: What are weathering and erosion?</p> <p>260-261 Envision It!</p> <p>264, Landslides and Floods</p> <p>286, Chapter Review, Lesson 3</p> <p>288, Benchmark Practice – Question 3</p> <p>290-293, Apply It! What affects how soil erodes?</p> <p>295, Performance-Based Assessment: Create a Booklet</p> <p>TE Only:</p> <p>229c, Performance Expectation Activity</p> <p>229c, ELA/Literacy</p> <p>295d, Performance Expectation Activity</p> <p>295d, ELA/Literacy</p> |
| ESS2. Earth's Systems | |
| <p>4-ESS2-1. Make observations and collect data to provide evidence that rocks, soils, and sediments are broken into smaller pieces through mechanical weathering and moved around through erosion by water, ice, wind, and vegetation.</p> <p>Clarification Statements:</p> <ul style="list-style-type: none"> • Mechanical weathering processes can include frost wedging, abrasion, and tree root wedging. • Erosion can include movement by blowing wind, flowing water, and moving ice. <p>State Assessment Boundary:</p> <ul style="list-style-type: none"> • Chemical processes are not expected in state assessment. | <p>SE/TE:</p> <p>254-255, Envision It!</p> <p>254-259, Lesson 3: What are weathering and erosion?</p> <p>286, Chapter Review – Lesson 3</p> <p>Benchmark Practice – Questions 7, 8</p> <p>TE Only:</p> <p>259a, Explore It! How does a rock wear away?</p> <p>259b, Lesson 3 Check – Questions 1-6</p> <p>287b, Chapter 6 Test – Questions 9, 10)</p> <p>295a, Performance Expectation Activity</p> <p>295a, ELA/Literacy</p> |

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| <p>4-ESS2-2. Analyze and interpret maps of Earth’s mountain ranges, deep ocean trenches, volcanoes, and earthquake epicenters to describe patterns of these features and their locations relative to boundaries between continents and oceans.</p> | <p>SE/TE: 255, Earth’s Surface 260, My Planet Diary 261, Earth’s Moving Plates 262, Volcanoes 263, Earthquakes 265, Got It? – Questions 8, 9 280, The Galápagos Islands 287, Chapter Review – Lesson 4 295, Performance-Based Assessment: Create a Booklet 295, Performance-Based Assessment: Make a Map</p> <p>TE Only: 265a, My Planet Diary 265b, Lesson 4 Check – Questions 1, 4, 5 287b, Chapter 6 Test – Question 8 295b, Performance Expectation Activity 295b, ELA/Literacy</p> |
| ESS3. Earth and Human Activity | |
| <p>4-ESS3-1. Obtain information to describe that energy and fuels humans use are derived from natural resources and that some energy and fuel sources are renewable and some are not. Clarification Statements:</p> <ul style="list-style-type: none"> • Examples of renewable energy resources could include wind energy, water behind dams, tides, and sunlight. • Non-renewable energy resources are fossil fuels and nuclear materials. | <p>SE/TE: 13, Go Green 194-199, Lesson 3: What are natural resources? 211, Fossil Fuels 215-216, Vocabulary Smart Cards 220, Chapter Review – Lesson 3 222, Benchmark Practice – Question 4</p> <p>TE Only: 199a, Explore It! How can you collect the sun’s energy? 199b, Lesson 3 Check – Questions 1-6 221a, Chapter 5 Test – Question 5 221b, Chapter 5 Test – Questions 7, 9 229d, Performance Expectation Activity 230D, Harnessing Solar Energy 230G-230H, Leveled Content Reader Support</p> |

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| <p>4-ESS3-2. Evaluate different solutions to reduce the impacts of a natural event such as an earthquake, blizzard, or flood on humans.* Clarification Statement:</p> <ul style="list-style-type: none"> • Examples of solutions could include an earthquake-resistant building or a constructed wetland to mediate flooding. | <p>SE/TE: 234-237, STEM Activity: Hold Back the Water 260-265, Lesson 4: How can earth’s surface change rapidly? 295, Performance-Based Assessment: Create a Booklet</p> <p>TE Only: 237, Post-Activity Discussion 265a, My Planet Diary 265b, Lesson 4 Check – Questions 2, 3 295c, Performance Expectation Activity 295c, ELA/Literacy</p> |
| Grade 4: Life Science | |
| LS1. From Molecules to Organisms: Structures and Processes | |
| <p>4-LS1-1. Construct an argument that animals and plants have internal and external structures that support their survival, growth, behavior, and reproduction. Clarification Statements:</p> <ul style="list-style-type: none"> • Animal structures can include legs, wings, fins, feathers, trunks, claws, horns, antennae, eyes, ears, nose, heart, stomach, lung, brain, and skin. • Plant structures can include leaves, roots, stems, bark, branches, flowers, fruit, and seeds. <p>State Assessment Boundary:</p> <ul style="list-style-type: none"> • State assessment will be limited to macroscopic structures. | <p>SE/TE: 114, Try It! How can flower parts be classified? 122-123, Classifying Plants 124-127, Classifying Animals 128-129, Envision It! 128-135, Lesson 2: How do plants reproduce? 136-137, Envision It! 136-141, Lesson 3: How do plants make food? 142-143, Envision It! 142-147, Lesson 4: What are adaptations? 170, Chapter Review – Lessons 1-4 172, Benchmark Practice – Questions 4, 5, 6</p> <p>TE Only: xlvi-xlvii, STEMQuest Make a Human Body Road Map 112G-112H, Leveled Content Reader Support 127b, Lesson 1 Check – Questions 1-5 135a, My Planet Diary 135b, Lesson 2 Check – Questions 1-6 141a, Explore It! how can plants react to light? 141b, Lesson 3 Check – Questions 1-6 147a, Explore It! How can some fish float? 147b, Lesson 4 Check – Questions 1-6 171a, Chapter 4 Test – Questions 2, 3 171b, Chapter 4 Test – Question 9 229a, Performance Expectation Activity</p> |
| [NOTE: 4-LS2-1 from NGSS is not included.] | |

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| Grade 4: Physical Science | |
| PS3. Energy | |
| <p>4-PS3-1. Use evidence to construct an explanation relating the speed of an object to the energy of that object.</p> <p>State Assessment Boundaries:</p> <ul style="list-style-type: none"> • State assessment will be limited to analysis of kinetic energy. • Accounting for mass, quantitative measures of changes in the speed of an object, or any precise or quantitative definition of energy are not expected in state assessment. | <p>SE/TE:</p> <p>10, Forms of Energy 63, Speed 64, At-Home Lab 75, Chapter Review, Lesson 2 76, Benchmark Practice- Question 3</p> <p>TE Only:</p> <p>1G-1H, Leveled Content Reader Support 111a, Performance Expectation Activity</p> |
| <p>4-PS3-2. Make observations to show that energy can be transferred from place to place by sound, light, heat, and electric currents.</p> <p>Clarification Statement:</p> <ul style="list-style-type: none"> • Evidence of energy being transferred can include vibrations felt a small distance from a source, a solar-powered toy that moves when placed in direct light, warming a metal object on one end and observing the other end getting warm, and a wire carrying electric energy from a battery to light a bulb. <p>State Assessment Boundary:</p> <ul style="list-style-type: none"> • Quantitative measurements of energy are not expected in state assessment. | <p>SE/TE:</p> <p>9, Energy 10-11, Forms of Energy 12-13, Where is the Energy? 80, Try It! What can electricity flow through? 88, How Electric Charges Flow 90-91, Circuits 92-95, Lesson 2: How can energy change? 102, Chapter Review – Lesson 1 103, Chapter Review – Lesson 2 104, Benchmark Practice – Question 3</p> <p>TE Only:</p> <p>1G-1H, Leveled Content Reader Support 91b, Lesson 1 Check – Questions 1, 6 95a, Explore It! How can a switch make a complete circuit? 95b, Lesson 2 Check – Questions 1-6 103a, Chapter 3 Test – Questions 3, 4 103b, Chapter 3 Test – Questions 9, 10 111b, Performance Expectation Activity 111b, ELA/Literacy</p> |
| <p>4-PS3-3. Ask questions and predict outcomes about the changes in energy that occur when objects collide.</p> <p>Clarification Statement:</p> <ul style="list-style-type: none"> • Changes in energy can include a change in the object's motion, position, and the generation of heat and/or sound. <p>State Assessment Boundary:</p> <ul style="list-style-type: none"> • Analysis of forces or quantitative measurements of energy are not expected in state assessment. | <p>SE/TE:</p> <p>17, Sound Energy 58, Forces Affect Objects 59, Force and Motion 59, Lightning Lab</p> <p>TE Only:</p> <p>111c, Performance Expectation Activity 111c, ELA/Literacy</p> |

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| <p>4-PS3-4. Apply scientific principles of energy and motion to test and refine a device that converts kinetic energy to electrical energy or uses stored energy to cause motion or produce light or sound.*</p> <p>Clarification Statement:</p> <ul style="list-style-type: none"> • Sources of stored energy can include water in a bucket or a weight suspended at a height, and a battery. | <p>SE/TE: 9, Energy 10-11, Forms of Energy 14, Energy and Motion 17, Sound Energy 37-40, Vocabulary Smart Cards 42, Chapter Review - Lesson 1 80, Try It! What can electricity flow through? 87, Electric Charges 93, Energy Changing Form 96-97, Investigate It! How does a circuit board work?</p> <p>TE Only: 111d, Performance Expectation Activity</p> |
| PS4. Waves and their Applications in Technologies for Information Transfer | |
| <p>4-PS4-1. Develop a model of a simple mechanical wave (including sound) to communicate that waves (a) are regular patterns of motion along which energy travels, and (b) can cause objects to move.</p> <p>Clarification Statement:</p> <ul style="list-style-type: none"> • Examples of models could include diagrams, analogies, and physical models. <p>State Assessment Boundary:</p> <ul style="list-style-type: none"> • Interference effects, electromagnetic waves, or non-periodic waves are not expected in state assessment. | <p>SE/TE: 19, Frequency and Wavelength</p> <p>TE Only: 111e, Performance Expectation Activity 111e, ELA/Literacy</p> |
| <p>4-PS4-2. Develop a model to describe that light must reflect off an object and enter the eye for the object to be seen.</p> <p>State Assessment Boundary:</p> <ul style="list-style-type: none"> • Specific colors reflected and seen, the cellular mechanisms of vision, angles of incidence and reflection, or how the retina works are not expected in state assessment. | <p>SE/TE: 26-27, Light and Matter</p> <p>TE Only: 1G-1H, Leveled Content Reader Support 26, Science – Writing 26, Common Misconception 111g, Performance Expectation Activity 111g, ELA/Literacy 111g, Mathematics</p> |

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| <p>4-PS4-3. Develop and compare multiple ways to transfer information through encoding, sending, receiving, and decoding a pattern.* Clarification Statement: <ul style="list-style-type: none"> Examples of solutions could include drums sending coded information through sound waves, using a grid of 1s and 0s representing black and white to send information about a picture, and using Morse code to send text. </p> | <p>SE/TE: 10, Sound Energy 350-351, Envision It! 351, Scientific Discoveries 353, Today's transportations systems... 354-355, Everyday Technologies</p> <p>TE Only: 111f, Performance Expectation Activity</p> |
| Grade 4: Technology/Engineering | |
| ETS1. Engineering Design | |
| <p>4.3-5-ETS1-3. Plan and carry out tests of one or more design features of a given model or prototype in which variables are controlled and failure points are considered to identify which features need to be improved. Apply the results of tests to redesign a model or prototype.* Clarification Statement: <ul style="list-style-type: none"> Examples of design features can include materials, size, shape, and weight. </p> | <p>SE/TE: 6, Test the Prototype 7, Evaluate and Redesign 53, Test the Prototype 53, Evaluate and Redesign 84, Test the Prototype 85, Evaluate and Redesign 111, Performance-Based Assessment: Design a Device 119, Test the Prototype 119, Evaluate and Redesign 180-181, Test the Prototype 181, Evaluate and Redesign 236, Test the Prototype 237, Evaluate and Redesign 303, Test the Prototype 303, Evaluate and Redesign 349, Test the Prototype 349, Evaluate and Redesign 361, Step 6: Test the Prototype 363, Step 8: Evaluate and Redesign 378, Test the Prototype 379, Evaluate and Redesign</p> <p>TE Only: 295c, Performance Expectation Activity</p> |

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| <p>4.3-5-ETS1-5(MA). Evaluate relevant design features that must be considered in building a model or prototype of a solution to a given design problem.*</p> | <p>SE/TE: 7, Evaluate and Redesign 53, Evaluate and Redesign 85, Evaluate and Redesign 111, Performance-Based Assessment: Design a Device 119, Evaluate and Redesign 181, Evaluate and Redesign 237, Evaluate and Redesign 303, Evaluate and Redesign 349, Evaluate and Redesign 363, Step 8: Evaluate and Redesign 379, Evaluate and Redesign 380, Performance-Based Assessment: Design a Package</p> |
| <p>[NOTE: 3-5-ETS1-1, 3-5-ETS1-2, and 3-5-ETS1-4(MA) are found in Grade 3.]</p> | |

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| Grade 5: Earth and Space Sciences | |
| ESS1. Earth's Place in the Universe | |
| <p>5-ESS1-1. Use observations, first-hand and from various media, to argue that the Sun is a star that appears larger and brighter than other stars because it is closer to Earth.</p> <p>State Assessment Boundary:</p> <ul style="list-style-type: none"> Other factors that affect apparent brightness (such as stellar masses, age, or stage) are not expected in state assessment. | <p>SE/TE: 268, Seasons 271, Stars 272-273, Characteristics of the Sun 274, Constellations 275, Stars on the Move 275, Got It? – Question 9</p> <p>TE Only: 275b, Lesson 2 Check – Question 4 313c, Performance Expectation Activity 313c, ELA/Literacy 313c, Mathematics</p> |
| <p>5-ESS1-2. Use a model to communicate Earth's relationship to the Sun, Moon, and other stars that explain (a) why people on Earth experience day and night, (b) patterns in daily changes in length and direction of shadows over a day, and (c) changes in the apparent position of the Sun, Moon, and stars at different times during a day, over a month, and over a year.</p> <p>Clarification Statement:</p> <ul style="list-style-type: none"> Models should illustrate that the Earth, Sun, and Moon are spheres, include orbits of the Earth around the Sun and of the Moon around Earth, and demonstrate Earth's rotation about its axis. <p>State Assessment Boundary:</p> <ul style="list-style-type: none"> Causes of lunar phases or seasons, or use of Earth's tilt are not expected in state assessment. | <p>SE/TE: 264-265, Envision It! 264-269, Lesson 1: How does Earth move? 278, Orbiting Objects 299-302, Vocabulary Smart Cards 304, Chapter Review – Lesson 1 306, Benchmark Practice – Question 5</p> <p>TE Only: xlvi-xlvii, STEMQuest: Plan a Trip Around the World of Patterns 269a, Explore It! How does sunlight strike Earth's surface? 269b, Lesson 1 Check – Questions 1-6 305a, Chapter 6 Test – Question 1 305b, Chapter 6 Test – Question 9 313d, Performance Expectation Activity 313d, ELA/Literacy 313d, Mathematics</p> |

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| ESS2. Earth's Systems | |
| <p>5-ESS2-1. Use a model to describe the cycling of water through a watershed through evaporation, precipitation, absorption, surface runoff, and condensation.</p> <p>State Assessment Boundary:</p> <ul style="list-style-type: none"> • Transpiration or explanations of mechanisms that drive the cycle are not expected in state assessment. | <p>SE/TE: 198, Try It! How can water move in the weather cycle? 206-207, The Water Cycle 208, Energy in the Water Cycle 209, Got It? - Question 9 221, Water in the Atmosphere 245-250, Vocabulary Smart Cards 252, Chapter Review - Lesson 1 253, Chapter Review - Question 11 254, Benchmark Practice – Question 1</p> <p>TE Only: 196G-196H, Leveled Content Reader Support 197, SEP: Developing and Using Models 209b, Chapter 5, Lesson 1 Check – Question 6 253a, Chapter 5 Test – Questions 1, 3</p> |
| <p>5-ESS2-2. Describe and graph the relative amounts of salt water in the ocean, fresh water in lakes, rivers, and ground water, and fresh water frozen in glaciers and polar ice caps to provide evidence about the availability of fresh water in Earth's biosphere.</p> <p>State Assessment Boundary:</p> <ul style="list-style-type: none"> • Inclusion of the atmosphere is not expected in state assessment. | <p>SE/TE: 204, My Planet Diary 213, Do the Math! Read a Circle Graph 215, Biosphere 234, Bodies of Water</p> <p>TE Only: 313b, Performance Expectation Activity</p> |
| ESS3. Earth and Human Activity | |
| <p>5-ESS3-1. Obtain and combine information about ways communities reduce human impact on the Earth's resources and environment by changing an agricultural, industrial, or community practice or process.</p> <p>Clarification Statement:</p> <ul style="list-style-type: none"> • Examples of changed practices or processes include treating sewage, reducing the amounts of materials used, capturing polluting emissions from factories or power plants, and preventing runoff from agricultural activities. <p>State Assessment Boundary:</p> <ul style="list-style-type: none"> • Climate change or social science aspects of practices such as regulation or policy are not expected in state assessment. | <p>SE/TE: 169, Changes Caused by Humans 174-175, Envision It! 174-177, Lesson 4: How do humans impact ecosystems? 178-179, Investigate It! What heats up air? 183-184, Vocabulary Smart Cards 187, Chapter Review – Lesson 4 188, Benchmark Practice – Question 1 189, Go Green! Create a Compost Pile 195, Performance-Based Assessment: Local Resources</p> |

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| <p>(continued) 5-ESS3-1. Obtain and combine information about ways communities reduce human impact on the Earth’s resources and environment by changing an agricultural, industrial, or community practice or process. Clarification Statement: <ul style="list-style-type: none"> • Examples of changed practices or processes include treating sewage, reducing the amounts of materials used, capturing polluting emissions from factories or power plants, and preventing runoff from agricultural activities. State Assessment Boundary: <ul style="list-style-type: none"> • Climate change or social science aspects of practices such as regulation or policy are not expected in state assessment. </p> | <p>TE Only: 142D, Teacher Background 142G-142H, Leveled Content Reader Support 173a, My Planet Diary 177a, Explore It! 177b, Lesson 4 Check – Questions 5, 6 179a-179d, Activity Card Support 195d, Performance Expectation Activity 195d, ELA/Literacy</p> |
| <p>5-ESS3-2(MA). Test a simple system designed to filter particulates out of water and propose one change to the design to improve it.*</p> | <p>SE/TE: 200-203, STEM Activity: Filter It Out!</p> |
| <p>Grade 5: Life Science</p> | |
| <p>LS1. From Molecules to Organisms: Structures and Processes</p> | |
| <p>5-LS1-1. Ask testable questions about the process by which plants use air, water, and energy from sunlight to produce sugars and plant materials needed for growth and reproduction. State Assessment Boundary: <ul style="list-style-type: none"> • The chemical formula or molecular details about the process of photosynthesis are not expected in state assessment. </p> | <p>SE/TE: 37, Chemical Changes 112, Structures for Respiration and Circulation 150-151, Envision It! 151, Plants and Energy 154-155, Photosynthesis 157, Got It? – Questions 1, 2 181-184, Vocabulary Smart Cards, 185, Study Guide 186, Chapter Review - Lesson 1</p> <p>TE Only: 157b, Lesson 1 Check – Questions 3, 6 187a, Chapter 1 Test – Questions 1, 3 195b, Performance Expectation Activity 195c, Performance Expectation Activity 195c, ELA/Literacy</p> |

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| LS2. Ecosystems: Interactions, Energy, and Dynamics | |
| <p>5-LS2-1. Develop a model to describe the movement of matter among producers, consumers, decomposers, and the air, water, and soil in the environment to (a) show that plants produce sugars and plant materials, (b) show that animals can eat plants and/or other animals for food, and (c) show that some organisms, including fungi and bacteria, break down dead organisms and recycle some materials back to the air and soil.</p> <p>Clarification Statement:</p> <ul style="list-style-type: none"> • Emphasis is on matter moving throughout the ecosystem. <p>State Assessment Boundary:</p> <ul style="list-style-type: none"> • Molecular explanations, or distinctions among primary, secondary, and tertiary consumers are not expected in state assessment. | <p>SE/TE:</p> <p>151, Plants and Energy 158-159, Envision It! 158-165, Lesson 2: How do organisms interact in ecosystems? 181-184, Vocabulary Smart Cards 186, Chapter Review – Lesson 2 188, Benchmark Practice – Questions 3, 4, 5 195, Create a Food Web Model</p> <p>TE Only:</p> <p>142, Predict 165a, Explore It! What do some molds need to grow? 165b, Lesson 2 Check – Questions 1-7 187a, Chapter 4 Test – Questions 4, 5 187b, Chapter 4 Test – Questions 8, 9, 10 195a, Performance Expectation Activity 195a, ELA/Literacy 195c, Performance Expectation Activity 195c, ELA/Literacy</p> |
| <p>5-LS2-2(MA). Compare at least two designs for a composter to determine which is most likely to encourage decomposition of materials.*</p> <p>Clarification Statement:</p> <ul style="list-style-type: none"> • Measures or evidence of decomposition should be on qualitative descriptions or comparisons. | <p>SE/TE:</p> <p>189, Go Green! Create a Compost Pile</p> |

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| Grade 5: Physical Science | |
| PS1. Matter and Its Interactions | |
| <p>5-PS1-1. Use a particle model of matter to explain common phenomena involving gases, and phase changes between gas and liquid and between liquid and solid.</p> <p>Clarification Statement:</p> <ul style="list-style-type: none"> • Examples of common phenomena the model should be able to describe include adding air to expand a balloon, compressing air in a syringe, and evaporating water from a salt water solution. <p>State Assessment Boundary:</p> <ul style="list-style-type: none"> • Atomic-scale mechanisms of evaporation and condensation or defining unseen particles are not expected in state assessment. | <p>SE/TE:</p> <p>8, My Planet Diary 9, Matter 12, Atoms 13, Atomic Arrangement 15, Molecule 48, Chapter Review – Lesson 1</p> <p>TE Only:</p> <p>1C-1D, Teacher Background 1G-1H, Leveled Content Reader Support 15a, My Planet Diary 15b, Lesson 1 Check – Questions 1, 3, 4 49a, Chapter 1 Test – Question 5 99a, Performance Expectation Activity</p> |
| <p>5-PS1-2. Measure and graph the weights (masses) of substances before and after a reaction or phase change to provide evidence that regardless of the type of change that occurs when heating, cooling, or combining substances, the total weight (mass) of matter is conserved.</p> <p>Clarification Statement:</p> <ul style="list-style-type: none"> • Assume that reactions with any gas production are conducted in a closed system. <p>State Assessment Boundary:</p> <ul style="list-style-type: none"> • Distinguishing mass and weight is not expected in state assessment. | <p>SE/TE:</p> <p>2, Try It! How are weight and volume affected when objects are combined? 9, Matter</p> <p>TE Only:</p> <p>1C, Teacher Background 99b, Performance Expectation Activity 99b, ELA/Literacy</p> |

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| <p>5-PS1-3. Make observations and measurements of substances to describe characteristic properties of each, including color, hardness, reflectivity, electrical conductivity, thermal conductivity, response to magnetic forces, and solubility.</p> <p>Clarification Statements:</p> <ul style="list-style-type: none"> • Emphasis is on describing how each substance has a unique set of properties. • Examples of substances could include baking soda and other powders, metals, minerals, and liquids. <p>State Assessment Boundary:</p> <ul style="list-style-type: none"> • Density, distinguishing mass and weight, or specific tests or procedures are not expected in state assessment. | <p>SE/TE: 2, Try It! How are weight and volume affected when objects are combined? 17, Color 18, Mass 19, Volume 20, Temperature 23-24, States of Matter 25, Freezing and Melting 26, Evaporation 27, Condensation 98, Performance-Based Assessment: Plan an Investigation</p> <p>TE Only: 21b, Lesson 2 Check – Questions 1-4, 7 99c, Performance Expectation Activity</p> |
| <p>5-PS1-4. Conduct an experiment to determine whether the mixing of two or more substances results in new substances with new properties (a chemical reaction) or not (a mixture).</p> | <p>SE/TE: 99, Performance-Based Assessment: Investigate Mixtures</p> <p>TE Only: 99d, Performance Expectation Activity</p> |
| PS2. Motion and Stability: Forces and Interactions | |
| <p>5-PS2-1. Support an argument with evidence that the gravitational force exerted by Earth on objects is directed toward Earth’s center.</p> <p>State Assessment Boundary:</p> <ul style="list-style-type: none"> • Mathematical representations of gravitational force are not expected in state assessment. | <p>SE/TE: 61, Forces 64, Gravity 64, At-Home Lab 218, Barometric Pressure 238-239, Water Erosion and Deposition</p> <p>TE Only: 65, RTI: Response to Intervention 99e, Performance Expectation Activity 99e, ELA/Literacy</p> |

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| PS3. Energy | |
| <p>5-PS3-1. Use a model to describe that the food animals digest (a) contains energy that was once energy from the sun, and (b) provides energy and nutrients for life processes, including body repair, growth, motion, body warmth, and reproduction.</p> <p>Clarification Statement:</p> <ul style="list-style-type: none"> • Examples of models could include diagrams and flow charts. <p>State Assessment Boundary:</p> <ul style="list-style-type: none"> • Details of cellular respiration, ATP, or molecular details of the process of photosynthesis or respiration are not expected in state assessment. | <p>SE/TE:</p> <p>151, Plants and Energy 156, Respiration 158-159, Envision It! 158-165, Lesson 2: How do organisms interact in ecosystems? 181-184, Vocabulary Smart Cards 186, Chapter Review – Lesson 2 188, Benchmark Practice – Questions 3, 4, 5 195, Performance-Based Assessment: Create a Food Web Model</p> <p>TE Only:</p> <p>165b, Lesson 2 Check – Questions 1-7 187a, Chapter 4 Test – Question 3 195a, Performance Expectation Activity 195a, ELA/Literacy 195c, Performance Expectation Activity 195c, ELA/Literacy</p> |
| Grade 5: Technology/Engineering | |
| ETS3. Technological Systems | |
| <p>5.3-5-ETS3-1(MA). Use informational text to provide examples of improvements to existing technologies (innovations) and the development of new technologies (inventions). Recognize that technology is any modification of the natural or designed world done to fulfill human needs or wants.*</p> | <p>SE/TE:</p> <p>359, Flight Simulators 361, Predict 363, Technology and Our Homes 369, Problems and Solutions 370-371, Tools in Medicine 374, My Planet Diary 375-377, Technology and the Human Body 378, Animals and Technology 379, Nanobots 381-385, Design Process 386-387 Designing Robotic Arms 390, Denim Insulation 394, Chapter Review – Lesson 2 395, Chapter Review – Lesson 3 395, Chapter Review- Question 10 396, Benchmark Practice – Questions 2, 3, 5 397, Infrared Technology</p> |

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| <p>(continued) 5.3-5-ETS3-1(MA). Use informational text to provide examples of improvements to existing technologies (innovations) and the development of new technologies (inventions). Recognize that technology is any modification of the natural or designed world done to fulfill human needs or wants.*</p> | <p>TE Only: 360G-360H, Leveled Content Reader Support 360, CCC: Influence of Engineering, Technology, and Science on Society and the Natural World 379a, My Planet Diary 379b, Lesson 2 Check – Question 6</p> |
| <p>5.3-5-ETS3-2(MA). Use sketches or drawings to show how each part of a product or device relates to other parts in the product or device.*</p> | <p>SE/TE: 386-387, Designing Robotic Arms 388-389, Investigate It! How can you make and redesign a model of a robotic arm?</p> |