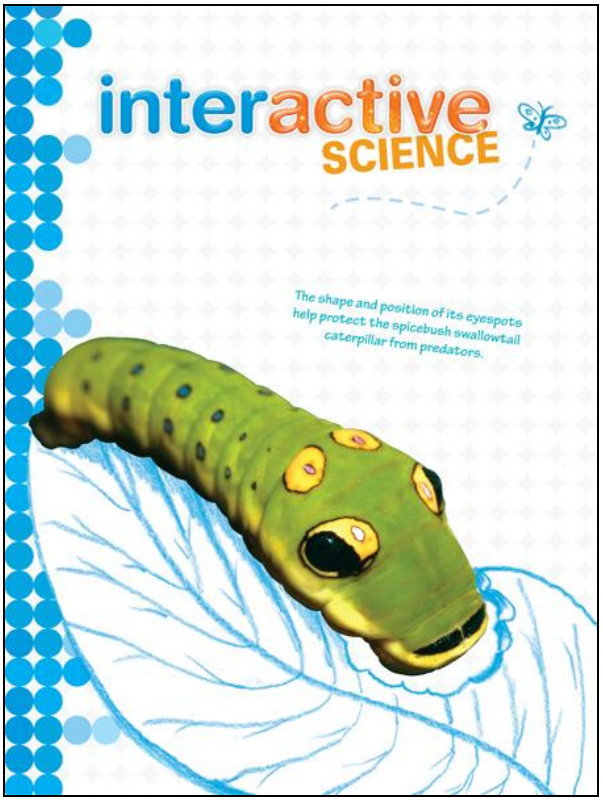
**A Correlation of**

# Interactive Science

**Grade 3, ©2016**




**To the**

# Louisiana Student Standards for Science

Pearson

**A Correlation of Interactive Science, Grade 3, ©2016, to the Louisiana Student Standards for Science**

## Introduction

The following document indicates how closely ***Interactive Science,* ©2016, Grades K-5,** supports Louisiana's Standards for Science, 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, the NGSS Cross-Cutting Concepts that link across grade levels and across disciplines within grade levels are noted at the chapter level, and a detailed and focused Performance Expectation Activity is provided for each NGSS standard.

**A Correlation of Interactive Science, Grade 3, ©2016, to the Louisiana Student Standards for Science**

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| **3-PS2-1 MOTION AND STABILITY: FORCES AND INTERACTIONS** | |
| **Performance Expectation** | |
| Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object. | **TE Only:** Chapter 1 Performance Expectation Activity, 99a |
| **Clarification Statement** | |
| Examples could include an unbalanced force on one side of an object that can make it start moving, or balanced forces pushing on an object from opposite sides will not produce any motion at all. Investigations include one variable at a time: number, size, or direction of forces. | |
| **Science & Engineering Practices** | |
| **3. Planning and carrying out investigations:** Planning and carrying out investigations to answer questions (science) or test solutions (engineering) to problems in 3–5 builds on K–2 experiences and progresses to include investigations that control variables and provide evidence to support explanations or design solutions. | |
| • Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence, using fair tests in which variables are controlled and the number of trials considered. | **SE/TE:** 4-7, STEM Activity; 14, Explore It!; 22, Explore It!; 26-27, Investigate It!; 99, Plan an Investigation; 314-319, Lesson 4<br>**TE Only:** 1, SEP: Planning and Carrying Out Investigations; 21a, Explore It!; 25a, Explore It!; 27a-27d, Activity Card Support; 99a, Performance Expectation Activity |
| **Disciplinary Core Ideas** | |
| **FORCES AND MOTION** | |
| Each force acts on one particular object and has both strength and a direction. An object at rest typically has multiple forces acting on it but they add to give zero net force on the object. (UE.PS2A.a) | **SE/TE:** 2, Try It!; 14, Explore It!; 15, Causes of Motion; 16-17, Effects of Mass and Friction; 18-19, Motion and Combined Forces; 23-25, Lesson 3; 34, Chapter 1 Review – Lesson 2; 36, Benchmark Practice – Questions 1-6; 99, Plan an Investigation<br>**TE Only:** 1C-1D, Teacher Background; 1G-1H, Leveled Content Reader Support; 1I, Professional Development Note; 21a, Explore It!; 21b, Lesson 2 Check – Questions 2, 6, 7; 35a-35b, Chapter 1 Test – Questions 4, 5, 9, 10; 99a, Performance Expectation Activity; 99a, ELA/Literacy |

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| Forces that do not sum to zero can cause changes in the object's speed or direction of motion. (Qualitative and conceptual, but not quantitative addition of forces are used at this level.) (UE.PS2A.b) | **SE/TE:** 2, Try It!; 14, Explore It!; 15, Causes of Motion; 16-17, Effects of Mass and Friction; 18-19, Motion and Combined Forces; 23-25, Lesson 3; 34, Chapter 1 Review – Lesson 2; 36, Benchmark Practice – Questions 1-6; 99, Plan an Investigation<br>**TE Only:** 1C-1D, Teacher Background; 1G-1H, Leveled Content Reader Support; 1I, Professional Development Note; 21a, Explore It!; 21b, Lesson 2 Check – Questions 2, 6, 7; 35a-35b, Chapter 1 Test – Questions 4, 5, 9, 10; 99a, Performance Expectation Activity; 99a, ELA/Literacy |
| **TYPES OF INTERACTIONS** | |
| Objects in contact exert forces on each other. (UE.PS2B.a) | **SE/TE:** 14, Explore It!; 15, Causes of Motion; 16-17, Effects of Mass and Friction; 34, Chapter Review - Lesson 2; 99, Plan an Investigation<br>**TE Only:** 1G-1H, Leveled Content Reader Support; 21a, Explore It!; 21b, Lesson 2 Check – Question 3; 35a, Chapter 1 Test – Questions 1, 3, 5; 99a, Performance Expectation Activity; |
| **Crosscutting Concepts** | |
| **CAUSE AND EFFECT** | |
| Cause and effect relationships are routinely identified, tested, and used to explain change. | **SE/TE:** 2, Try It!; 77, Electric Charges<br>**TE Only:** 1I, CCC: Cause and Effect; 21, Common Misconception; 38, CCC: Cause and Effect; 80, Professional Development Note; 99c, Performance Expectation Activity |

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| **3-PS2-2 MOTION AND STABILITY: FORCES AND INTERACTIONS** | |
| **Performance Expectation** | |
| Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future motion. | **TE Only:** Chapter 1 Performance Expectation Activity, 99b |
| **Clarification Statement** | |
| Examples of motion with a predictable pattern could include a child swinging in a swing, a ball rolling back and forth in a bowl, or two children on a see-saw. | |
| **Science & Engineering Practices** | |
| **3. Planning and carrying out investigations:** Planning and carrying out investigations to answer questions (science) or test solutions (engineering) to problems in 3–5 builds on K–2 experiences and progresses to include investigations that control variables and provide evidence to support explanations or design solutions. | |
| • Make observations and/or measurements to produce data to serve as the basis for evidence for an explanation of a phenomenon or test a design solution. | **SE/TE:** 10, At-Home Lab; 22, Explore It!; 26-27, Investigate It!; 50, At-Home Lab; 94-97, Apply It!; 99, Plan an Investigation<br>**TE Only:** 25a, Explore It!; 27a-27d, Activity Card Support; 99b, Performance Expectation Activity; 99b, ELA/Literacy |
| **Disciplinary Core Ideas** | |
| **FORCES AND MOTION** | |
| The patterns of an object's motion in various situations can be observed and measured; when that past motion exhibits a regular pattern, future motion can be predicted from it. (Technical terms, such as magnitude, velocity, momentum, and vector quantity, are not introduced at this level, but the concept that some quantities need both size and direction to be described is developed.) (UE.PS2A.c) | **SE/TE:** 10, At-Home Lab; 12, How Fast Objects Move; 13, Variable Speed; 26-27, Investigate It; 34, Chapter Review - Lesson 1; 94-97, Investigate It!<br>**TE Only:** 1G-1H, Leveled Content Reader Support; 12, Professional Development Note; 13b, Lesson 1 Check, Questions 2, 5, 6; 25a, Explore It!; 27a-27d, Activity Card Support; 99b, Performance Expectation Activity; 99b, ELA/Literacy |
| **Crosscutting Concepts** | |
| **PATTERNS** | |
| Patterns of change can be used to make predictions. | **SE/TE:** 12, How Fast Objects Move; 13, Variable Speed; 14-15, Envision It!; 14, Explore It!; 25, Got It? – Question 5; 34, Chapter Review – Lesson 2<br>**TE Only:** 21a, Explore It!; 27c, Guided Inquiry; 99b, Performance Expectation Activity; 99b, ELA/Literacy |

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| **3-PS2-3 MOTION AND STABILITY: FORCES AND INTERACTIONS** | |
| **Performance Expectation** | |
| Ask questions to determine cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other. | **TE Only:** 99c, Chapter 1 Performance Expectation Activity |
| **Clarification Statement** | |
| Examples of an electric force could include the force on hair from an electrically charged balloon or the electrical forces between a charged rod and pieces of paper; examples of a magnetic force could include the force between two permanent magnets, the force between an electromagnet and steel paper clips, or the force exerted by one magnet versus the force exerted by two magnets. Examples of cause and effect relationships could include how the distance between objects affects the strength of the force or how the orientation of magnets affects the direction of the magnetic force. Examples could include forces produced by objects that can be manipulated by students, or electrical interactions could include static electricity. | |
| **Science & Engineering Practices** | |
| **1. Asking questions and defining problems:** Asking questions (science) and defining problems (engineering) in 3–5 builds on K–2 experiences and progresses to specifying qualitative relationships. | |
| • Ask questions that can be investigated and predict reasonable outcomes based on patterns such as cause and effect relationships. | **SE/TE:** 99, Plan an Investigation; 300, Questions **TE Only:** 27d, Open Inquiry; 39, SEP: Asking Questions and Defining Problems; 83d, Open Inquiry; 99c, Performance Expectation Activity |
| **Disciplinary Core Ideas** | |
| **TYPES OF INTERACTIONS** | |
| Electric and magnetic forces between a pair of objects do not require that the objects be in contact. The sizes of the forces in each situation depend on the properties of the objects and their distances apart and, for forces between two magnets, on their orientation relative to each other. (UE.PS2B.b) | **SE/TE:** 2, Try It!; 15, Causes of Motion; 20-21, Magnetism; 77, Electric Charges **TE Only:** 21b, Lesson 2 Check, Question 1; 38, CCC: Cause and Effect; 77, Infer; 99c, Performance Expectation Activity; 99c, ELA/Literacy; 99d, Performance Expectation Activity; 99d, Mathematics |
| **Crosscutting Concepts** | |
| **CAUSE AND EFFECT** | |
| Cause and effect relationships are routinely identified, tested, and used to explain change. | **SE/TE:** 2, Try It!; 77, Electric Charges **TE Only:** 1l, CCC: Cause and Effect; 21, Common Misconception; 38, CCC: Cause and Effect; 80, Professional Development Note; 99c, Performance Expectation Activity |

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| **3-PS2-4 MOTION AND STABILITY: FORCES AND INTERACTIONS** | |
| **Performance Expectation** | |
| Define a simple design problem that can be solved by applying scientific ideas about magnets. | **TE Only: 99d,** Chapter 1 Performance Expectation Activity |
| **Clarification Statement** | |
| Examples of problems could include constructing a latch to keep a door shut or creating a device to keep two moving objects from touching each other. | |
| **Science & Engineering Practices** | |
| **1. Asking questions and defining problems:** Asking questions (science) and defining problems (engineering) in 3–5 builds on K–2 experiences and progresses to specifying qualitative relationships. | |
| • Define a simple design problem that can be solved through the development of an object, tool, process, or system and includes several criteria for success and constraints on materials, time, or cost. | **SE/TE:** 4-7, STEM Activity; 99, Solve a Problem; 356-361, Lesson 3;<br>**TE Only:** 24, 21st Century Learning; 99d, Performance Expectation Activity; 349a, My Planet Diary; 349b, Lesson 1 Check – Questions 3, 4 |
| **Disciplinary Core Ideas** | |
| **TYPES OF INTERACTIONS** | |
| Electric and magnetic forces between a pair of objects do not require that the objects be in contact. The sizes of the forces in each situation depend on the properties of the objects and their distances apart and, for forces between two magnets, their orientation relative to each other. (UE.PS2B.b) | **SE/TE:** 2, Try It!; 15, Causes of Motion; 20-21, Magnetism; 77, Electric Charges<br>**TE Only:** 21b, Lesson 2 Check, Question 1; 38, CCC: Cause and Effect; 77, Infer; 99c, Performance Expectation Activity; 99c, ELA/Literacy; 99d, Performance Expectation Activity; 99d, Mathematics |
| **DEFINING AND DELIMITING ENGINEERING PROBLEMS** | |
| Possible solutions to a problem are limited by available materials and resources (constraints). The success of a designed solution is determined by considering the desired features of a solution (criteria). Different proposals for solutions can be compared on the basis of how well each one meets the specified criteria for success or how well each takes the constraints into account. (UE.ETS1A.a) | **Grade 3 SE/TE:** 4-7, STEM Activity; 42-45, STEM Activity; 104-107; 156-159, STEM Activity; 200-203, STEM Activity; 250-253, STEM Activity; 294-297, STEM Activity; 342-345, STEM Activity; 357-361, Design Process; 374-379, Design It!<br>**Grade 3 TE Only:** 361b, Lesson 3 Check – Question 4 |

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| **Crosscutting Concepts** | |
| **PATTERNS** | |
| Patterns can be used as evidence to support an explanation. | **SE/TE:** 12, How Fast Objects Move; 13, Variable Speed; 14-15, Envision It!; 14, Explore It!; 25, Got It? – Question 5; 34, Chapter Review – Lesson 2<br>**TE Only:** 21a, Explore It!; 27c, Guided Inquiry; 99b, Performance Expectation Activity; 99b, ELA/Literacy |
| **3-LS1-1 FROM MOLECULES TO ORGANISMS: STRUCTURES AND PROCESSES** | |
| **Performance Expectation** | |
| Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death. | **TE Only:** 245a, Chapters 3, 4, 5 Performance Expectation Activity |
| **Clarification Statement** | |
| Changes that organisms go through during their lives form a pattern. For plant life cycles there is an emphasis on flowering plants. | |
| **Science & Engineering Practices** | |
| **2. Developing and using models:** Modeling in 3–5 builds on K–2 experiences and progresses to building and revising simple models and using models to represent events and design solutions. | |
| • Develop and/or use models to describe and/or predict phenomena. | **SE/TE:** 138, At-Home Lab; 245, Life Cycle Poster; 312, Models<br>**TE Only:** 101, SEP: Developing and Using Models; 179, 21st Century Learning; 245a, Performance Expectation Activity; 245a, ELA/Literacy |
| **Disciplinary Core Ideas** | |
| **GROWTH AND DEVELOPMENT OF ORGANISMS** | |
| Reproduction is essential to the continued existence of every kind of organism. Plants and animals have unique and diverse life cycles. (UE.LS1B.a) | **SE/TE:** 128-133, Lesson 4; 134-139, Lesson 5; 176-183, Lesson 3; 193, Chapter Review – Lesson 3; 245, Life Cycle Poster<br>**TE Only:** 133a, Explore It!; 133b, Lesson 4 Check – Questions 1-5; 139a, My Planet Diary; 139b, Lesson 5 Check – Questions 1-6; 152D, Animal Reproduction/Metamorphosis; 178, Differentiated Learning; 180, Professional Development Note; 183, Differentiated Learning; 183a, Explore It!; 183b, Lesson 3 Check – Questions 1-6; 245a, Performance Expectation Activity; 245a, ELA/Literacy |

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| **Crosscutting Concepts** | |
| **PATTERNS** | |
| Patterns of change can be used to make predictions. | **SE/TE:** 102, Try It!; 104-107, STEM Activity; 133, Do the Math!; 136, Life Cycle of a Flowering Plant; 176, Explore It!; 176-183, Lesson; 186, STEM: Shark Tracking;<br>**TE Only:** 100, CCC: Patterns; 136, 21st Century Learning; 137, Science Notebook; 139, Professional Development Note; 176, Lab Support |
| **3-LS2-1 ECOSYSTEMS: INTERACTIONS, ENERGY, AND DYNAMICS** | |
| **Performance Expectation** | |
| Construct and support an argument that some animals form groups that help members survive. | **TE Only: 245f,** Chapter 5 Performance Expectation Activity |
| **Clarification Statement** | |
| Arguments could include examples of group behavior such as division of labor in a bee colony, flocks of birds staying together to confuse or intimidate predators, or wolves hunting in packs to more efficiently catch and kill prey. | |
| **Science & Engineering Practices** | |
| **7. Engaging in argument from evidence:** Engaging in argument from evidence in 3–5 builds on K–2 experiences and progresses to critiquing the scientific explanations or solutions proposed by peers by citing relevant evidence about the natural and designed world(s). | |
| • Construct and/or support an argument with evidence, data, and/or a model. | **SE/TE:** 216, Explore It!; 244, Animals and Seasons; 245, Matching Traits<br>**TE Only:** xlvi-xlvii, STEMQuest; 197, SEP: Engaging in Argument from Evidence; 223a, Explore It!; 245f, Performance Expectation Activity; 245f, ELA/Literacy; 245g, Performance Expectation Activity; 245g, ELA/Literacy |
| **Disciplinary Core Ideas** | |
| **SOCIAL INTERACTIONS AND GROUP BEHAVIOR** | |
| Being part of a group helps animals obtain food, defend themselves, and cope with changes. Groups may serve different functions and vary dramatically in size. (UE.LS2D.a) | **SE/TE:** 208, Groups Within Ecosystems; 219, Do the Math<br>**TE Only:** xlvi-xlvii, STEMQuest; 196C, Adaptations; 245f, Performance Expectation Activity; 245f, ELA/Literacy |

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| **Crosscutting Concepts** | |
| **SYSTEMS AND SYSTEM MODELS** | |
| A system is a group of related parts that make up a whole and can carry out functions its individual parts cannot. | **SE/TE:** 206-207, Parts of an Ecosystem<br>See also supporting content: 312, Models |
| **3-LS3-1 HEREDITY: INHERITANCE AND VARIATION OF TRAITS** | |
| **Performance Expectation** | |
| Analyze and interpret data to provide evidence that plants and animals have traits inherited from their parents and that variation of these traits exists in a group of similar organisms. | **TE Only:** 245c, Chapter 3 and 4 Performance Expectation Activity |
| **Clarification Statement** | |
| Emphasis is on organisms other than humans and does not include genetic mechanisms of inheritance and prediction of traits. Data can include drawings, photographs, measurements, or written observations. Patterns are the similarities and differences in traits shared between offspring and their parents, or among siblings. | |
| **Science & Engineering Practices** | |
| **4. Analyzing and interpreting data:** Analyzing data in 3–5 builds on K–2 experiences and progresses to introducing quantitative approaches to collecting data and conducting multiple trials of qualitative observations. When possible and feasible, digital tools should be used. | |
| • Analyze and interpret data to make sense of phenomena, using logical reasoning, mathematics, and/or computation. | **SE/TE:** 162, Science Notebook; 164; Lightning Lab; 170, At-Home Lab;<br>**TE Only:** 153, SEP: Analyzing and Interpreting Data; 175, 21st Century Learning; 245c, Performance Expectation Activity; 245c, ELA/Literacy |
| **Disciplinary Core Ideas** | |
| **INHERITANCE OF TRAITS** | |
| Many characteristics of organisms are inherited from their parents. (UE.LS3A.a) | **SE/TE:** 129, Reproduction; 168, My Planet Diary; 161-167, Lesson 1; 169, Both Alike and Different; 170, Inherited Characteristics; 172, Inherited Behavior; 192, Chapter Review – Question 6; 194, Benchmark Practice – Questions 2, 5; 245, Matching Traits<br>**TE Only:** 167b, Lesson 1 Check; 168, Professional Development Note; 172, 21st Century Learning; 175a, My Planet Diary; 175b, Lesson 2 Check – Question 3; 193a-193b, Chapter 4 Test; 245c, Performance Expectation Activity |

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| **VARIATION OF TRAITS** | |
| Different organisms vary in how they look and function because they have different inherited information. (UE.LS3B.a) | **SE/TE:** 169, Both Alike and Different; 174-175, Small Differences in Traits<br>**TE Only:** 174, Professional Development Note; 175, 21st Century Learning; 245c, Performance Expectation Activity; 245c, ELA/Literacy |
| **Crosscutting Concepts** | |
| **PATTERNS** | |
| Similarities and differences in patterns can be used to sort, classify, communicate and analyze simple rates of change for natural phenomena and designed products. | **SE/TE:** 135, Science Careers; 154, Try It!; 161-167, Lesson 1; 170, At-Home Lab; 184-185, Investigate It!; 195, Science in Your Backyard, 245, Matching Traits<br>**TE Only:** 152, CCC: Patterns; 170, Differentiated Instruction; 176, Explore It!; 185c, Guided Inquiry; 245c, Performance Expectation Activity |
| **3-LS3-2 HEREDITY: INHERITANCE AND VARIATION OF TRAITS** | |
| **Performance Expectation** | |
| Use evidence to support the explanation that traits can be influenced by the environment. | TE Only: Chapter 4 Performance Expectation Activity, 245d |
| **Clarification Statement** | |
| Examples of the environment affecting a trait could include normally tall plants grown with insufficient water are stunted or an animal that is given too much food and little exercise may become overweight. | |
| **Science & Engineering Practices** | |
| **6. Constructing explanations and designing solutions:** Constructing explanations (science) and designing solutions (engineering) in 3–5 builds on K–2 experiences and progresses to the use of evidence in constructing explanations that specify variables that describe and predict phenomena and in designing multiple solutions to design problems. | |
| • Use evidence (e.g., measurements, observations, patterns) to construct or support an explanation or design a solution to a problem. | **SE/TE:** 102, Try It!; 106, Test the Prototype; 107, Communicate Results; 116, Explore It!; 176, Explore It!; 307, Interpret and Explain Data; 328, Observe Insect Behavior<br>**TE Only:** 121a, Explore It!; 183a, Explore It!; 245b, Performance Expectation Activity; 245d, Performance Expectation Activity; 245g, Performance Expectation Activity; 245g, ELA/Literacy |

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| **Disciplinary Core Ideas** | |
| **INHERITANCE OF TRAITS** | |
| Other characteristics result from individuals' interactions with the environment, which can range from diet to learning. Many characteristics involve both inheritance and environment. (UE.LS3A.b) | **SE/TE:** 170, Inherited Characteristics; 171, Acquired Characteristics; 172, Inherited Behavior; 173, Learned Behavior; 192, Chapter Review - Questions 5, 6<br>**TE Only:** 171, Science Notebook; 175b, Lesson 2 Check - Questions 3, 4, 5, 6; 193a-193b, Chapter 4 Test - Questions 2, 10; Performance Expectation Activity, 245b |
| **VARIATION OF TRAITS** | |
| The environment also affects the traits that an organism expresses. (UE.LS3B.b) | **SE/TE:** 171, Acquired Characteristics; 173, Learned Behaviors; 245, Matching Traits<br>**TE Only:** 245d, Performance Expectation Activity; 245d, ELA/Literacy |
| **Crosscutting Concepts** | |
| **CAUSE AND EFFECT** | |
| Cause and effect relationships are routinely identified, tested, and used to explain change. | **SE/TE:** 116, Explore It!; 171, Acquired Characteristics; 174-175, Small Differences in Traits; 244, Animals and Seasons<br>**TE Only:** 121a, Explore!; 121b, Lesson 2 Check – Question 5; 171, Demonstrate/Decide; 171, Science Notebook; 174, Conclude/Execute; 174, Professional Development Note; 245b, Performance Expectation Activity; 245b, ELA/Literacy; 245d, ELA/Literacy |

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| **3-LS4-1 BIOLOGICAL EVOLUTION: UNITY AND DIVERSITY** | |
| **Performance Expectation** | |
| Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago. | **TE Only: 245e,** Chapter 5 Performance Expectation Activity |
| **Clarification Statement** | |
| Examples of data could include type, size, and distributions of fossil organisms. Examples of fossils and environments could include major fossil types such as marine fossils found on dry land, tropical plant fossils found in arctic areas, or fossils of extinct organisms and relative ages. | |
| **Science & Engineering Practices** | |
| **4. Analyzing and interpreting data:** Analyzing data in 3–5 builds on K–2 experiences and progresses to introducing quantitative approaches to collecting data and conducting multiple trials of qualitative observations. When possible and feasible, digital tools should be used. | |
| • Analyze and interpret data to make sense of phenomena, using logical reasoning, mathematics, and/or computation. | **SE/TE:** 224, Explore It!; 227, Lightning Lab; 228-229, Investigate It!; 342-345, STEM Activity<br>**TE Only:** 227, Differentiated Instruction; 245e, Performance Expectation Activity; 245e, ELA/Literacy; 245f, ELA/Literacy |
| **Disciplinary Core Ideas** | |
| **EVIDENCE OF COMMON ANCESTRY AND DIVERSITY** | |
| Some kinds of plants and animals that once lived on Earth are no longer found anywhere. (UE.LS4A.a) | **SE/TE:** 225, Fossils; 237, Chapter Review – Question 10<br>**TE Only:** 219, 21st Century Learning; 227b, Lesson 4 Check - Question 2 |
| Fossils provide evidence about the types of organisms that lived long ago and also about the nature of their environment. (UE.LS4A.b) | **SE/TE:** 224-227, Lesson 4; 237, Chapter Review – Lesson 4; 238, Benchmark Practice – Question 6<br>**TE Only:** 227, Differentiated Instruction; 227a, Explore It!; 227b, Lesson 4 Check – Questions 1-5; 237b, Chapter 5 Test – Question 10; 245e, Performance Expectation Activity; 245e, ELA/Literacy; 245e, Mathematics |

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| **Crosscutting Concepts** | |
| **SCALE, PROPORTION, AND QUANTITY** | |
| Natural objects and/or observable phenomena exist from the very small to the immensely large or from very short to very long time periods. | **SE/TE:** 219, Do the Math; 220, Natural Events Cause Change; 221, Seasonal Change; 222-223, Living Things Return<br>**TE Only:** 207, Differentiated Instruction; 245h, Performance Expectation Activity; 245h, ELA/Literacy |
| **3-LS4-2 BIOLOGICAL EVOLUTION: UNITY AND DIVERSITY** | |
| **Performance Expectation** | |
| Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing. | **TE Only: 245b,** Chapter 4 Performance Expectation Activity |
| **Clarification Statement** | |
| Examples of cause and effect relationships could be plants that have larger thorns than other plants may be less likely to be eaten or animals that have better camouflage coloration than other animals may be more likely to survive and therefore more likely to leave offspring. | |
| **Science & Engineering Practices** | |
| **6. Constructing explanations and designing solutions:** Constructing explanations (science) and designing solutions (engineering) in 3–5 builds on K–2 experiences and progresses to the use of evidence in constructing explanations that specify variables that describe and predict phenomena and in designing multiple solutions to design problems. | |
| • Use evidence (e.g., measurements, observations, patterns) to construct or support an explanation or design a solution to a problem. | **SE/TE:** 102, Try It!; 106, Test the Prototype; 107, Communicate Results; 116, Explore It!; 176, Explore It!; 307, Interpret and Explain Data; 328, Observe Insect Behavior<br>**TE Only:** 121a, Explore It!; 183a, Explore It!; 245b, Performance Expectation Activity; 245d, Performance Expectation Activity; 245g, Performance Expectation Activity; 245g, ELA/Literacy |

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| **Disciplinary Core Ideas** | |
| **NATURAL SELECTION** | |
| Sometimes the differences in characteristics between individuals of the same species provide advantages in surviving, finding mates, and reproducing. (UE.LS4B.a) | **SE/TE:** 170, Inherited Characteristics; 171, Acquired Characteristics; 174-175, Small Differences in Traits<br>**TE Only:** 174, Science –Writing; 174, Professional Development Note; 175, 21st Century Learning; 245b, Performance Expectation Activity; 245c, Performance Expectation Activity |
| **Crosscutting Concepts** | |
| **CAUSE AND EFFECT** | |
| Cause and effect relationships are routinely identified, tested, and used to explain change. | **SE/TE:** 116, Explore It!; 171, Acquired Characteristics; 174-175, Small Differences in Traits; 244, Animals and Seasons<br>**TE Only:** 121a, Explore!; 121b, Lesson 2 Check – Question 5; 171, Demonstrate/Decide; 171, Science Notebook; 174, Conclude/Execute; 174, Professional Development Note; 245b, Performance Expectation Activity; 245b, ELA/Literacy; 245d, ELA/Literacy |

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| **3-LS4-3 BIOLOGICAL EVOLUTION: UNITY AND DIVERSITY** | |
| **Performance Expectation** | |
| Construct and support an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all. | **TE Only:** 245g, Chapter 5 Performance Expectation Activity |
| **Clarification Statement** | |
| Examples of evidence could include needs and characteristics of the organisms and habitats involved. The organisms and their habitats make up a system in which the parts depend on each other. | |
| **Science & Engineering Practices** | |
| **7. Engaging in argument from evidence:** Engaging in argument from evidence in 3–5 builds on K–2 experiences and progresses to critiquing the scientific explanations or solutions proposed by peers by citing relevant evidence about the natural and designed world(s). | |
| • Construct and/or support an argument with evidence, data, and/or a model. | **SE/TE:** 216, Explore It!; 244, Animals and Seasons; 245, Matching Traits<br>**TE Only:** xlvi-xlvii, STEMQuest; 197, SEP: Engaging in Argument from Evidence; 223a, Explore It!; 245f, Performance Expectation Activity; 245f, ELA/Literacy; 245g, Performance Expectation Activity; 245g, ELA/Literacy |
| **Disciplinary Core Ideas** | |
| **ADAPTATION** | |
| For any particular environment, some kinds of organisms survive well, some survive less well, and some cannot survive at all. (UE.LS4C.a) | **SE/TE:** 217, Ecosystem Change; 221, Seasonal Change; 228-229, Investigate It!; 237, Chapter Review – Lesson 4; 239, Science Careers; 240-243, Apply It!; 244, Germinating Seeds/Animals and Seasons<br>**TE Only:** 196C, Adaptations; 196D, Plant Adaptations/Trees During the Seasons/Grasslands; 196G-196H, Leveled Content Reader Support; 229a-229d, Activity Card Support; 245b, Performance Expectation Activity; 245g, Performance Expectation Activity; 245g, ELA/Literacy |

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| **Crosscutting Concepts** | |
| **CAUSE AND EFFECT** | |
| Cause and effect relationships are routinely identified, tested, and used to explain change. | **SE/TE:** 199, Let's Read Science; 210, Explore It!; 216-217, Envision It!; 215, Lightning Lab; 216, Explore It!; 216-223, Lesson 3;<br>**TE Only:** xlvi-xlvii, STEMQuest; 215, Differentiated Instruction; 215a, Explore It!; 215b, Lesson 2 Check – Question 6; 223a, Explore It!; 223b, Lesson 3 Check – Questions 4, 5; 245h, Performance Expectation Activity; 245h, ELA/Literacy |
| **3-LS4-4 BIOLOGICAL EVOLUTION: UNITY AND DIVERSITY** | |
| **Performance Expectation** | |
| Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change. | Chapters 3 and 5 Performance Expectation Activity, 245h |
| **Clarification Statement** | |
| Examples of environmental change(s) could include changes in land characteristics, water distribution, temperature, food, and other biological communities. Louisiana specific examples could include impacts related to levees, dams, crop rotations, irrigation systems, hunting limits, diversion canals, or sea level rise. | |
| **Science & Engineering Practices** | |
| **7. Engaging in argument from evidence:** Engaging in argument from evidence in 3–5 builds on K–2 experiences and progresses to critiquing the scientific explanations or solutions proposed by peers by citing relevant evidence about the natural and designed world(s). | |
| • Make a claim about the merit of a solution to a problem by citing relevant evidence about how it meets the criteria and constraints of a problem. | **SE/TE:** 156-159, STEM Activity; 198, Try It!, 200-203, STEM Activity; 345, Communicate Results<br>**TE Only:** xlvi-xlvii, STEMQuest;198, Lab Support; 245h, Performance Expectation Activity; 245h, ELA/Literacy |

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| **Disciplinary Core Ideas** | |
| **ECOSYSTEM DYNAMICS, FUNCTIONING, AND RESILIENCE** | |
| When the environment changes in ways that affect a place's physical characteristics, temperature, or availability of resources, some organisms survive and reproduce, others move to new locations, yet others move into the transformed environment, and some die. (UE.LS2C.a) | **SE/TE:** 209, Ecosystems Change; 215, Changes in Food Webs; 216-223, Lesson 3; 230, Field Trip; 237, Chapter Review – Lesson 3; 238, Benchmark Practice, Question 3<br>**TE Only:** xlvi-xlvii, STEMQuest; 196G-196H, Leveled Content Reader Support; 196, Professional Development Note; 215, Differentiated Instruction; 219, 21st Century Learning; 223a, Explore It!; 223b, Lesson 3 Check- Questions 4, 5; 230, Professional Development Note; 237a-237b, Chapter 5 Test – Questions 6; 8, 9; 245h, Performance Expectation Activity |
| **BIODIVERSITY AND HUMANS** | |
| Populations live in a variety of habitats, and change in those habitats affects the organisms living there. (UE.LS4D.a) | **SE/TE:** 205, Places for Living Things; 208, Habitats; 209, At-Home Lab; 219, Do the Math; 220, Natural Events Cause Change; 222-223, Living Things Return; 238, Benchmark Practice – Question 3<br>**TE Only:** 156-157, Background; 196G-196H, Leveled Content Reader Support; 196, Professional Development Note; 237b, Chapter 5 Test – Question 9; 245h, Performance Expectation Activity; 245h, ELA/Literacy |
| **DEVELOPING POSSIBLE SOLUTIONS** | |
| At whatever stage, communicating with peers about proposed solutions is an important part of the design process, and shared ideas can lead to improved designs. (ETS.UE.1B.b) | **TE Only:** 376, Develop a Proposed Solution |

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| **Crosscutting Concepts** | |
| **SYSTEMS AND SYSTEM MODELS** | |
| A system can be described in terms of its components and their interactions. | **SE/TE:** 204-209, Lesson 1; 210-215, Lesson 2; 228-229, Investigate It!; 230, Field Trip; 236; Chapter Review – Lesson 1; 238, Benchmark Practice – Question 5<br>**TE Only:** xlvi-xlvii, STEMQuest; 196G-196H, Leveled Content Reader Support; 196, CCC: Systems and System Models; 209b, Lesson 1 Check – Questions 1-7; 229a-229d, Activity Card Support; 237a, Chapter 5 Test – Question 1 |
| **3-ESS2-1 EARTH'S SYSTEMS** | |
| **Performance Expectation** | |
| Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season. | **TE Only: 289a,** Chapter 6 Performance Expectation Activity |
| **Clarification Statement** | |
| Examples of data could include average temperature, precipitation, and wind direction. Examples of data representations could include pictographs and bar graphs. | |
| **Science & Engineering Practices** | |
| **4. Analyzing and interpreting data:** Analyzing data in 3–5 builds on K–2 experiences and progresses to introducing quantitative approaches to collecting data and conducting multiple trials of qualitative observations. When possible and feasible, digital tools should be used. | |
| • Represent data in tables and/or various graphical displays (bar graphs, pictographs and/or pie charts) to reveal patterns that indicate relationships. | **SE/TE:** 258, Explore It!; 268, Lightning Lab; 276-277, Investigate It!; 289, Measure Rainfall; 306, Do the Math<br>**TE Only:** 247, SEP: Analyzing and Interpreting Data; 265a, Explore It!; 277a-277d, Activity Card Support; 289a, Performance Expectation Activity; 289a, Mathematics; 319a, Explore It! |

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| **Disciplinary Core Ideas** | |
| **WEATHER AND CLIMATE** | |
| Scientists record patterns of the weather across different times and areas so that they can make predictions about what kind of weather might happen next. (UE.ESS2D.a) | **SE/TE:** 258, Explore It!; 259, Weather; 260-261, Climate; 266-269, Lesson 3; 282, Chapter Review – Lesson; 283, Chapter Review – Lesson 3; 284, Benchmark Practice – Question 2; 289, Measure Rainfall; 303, Science Skills; 307, Interpret and Explain Data<br>**TE Only:** 246G-246H, Leveled Content Reader Support; 246, Predict; 265a, Explore It!; 265b, Lesson 2 Check – Questions 1, 4; 269a, Explore It!; 269b, Lesson 3 Check – Questions 3, 4; 283a, Chapter 6 Test – Question 4; 283b, Chapter 6 Test – Question 10 |
| **Crosscutting Concepts** | |
| **PATTERNS** | |
| Patterns of change can be used to make predictions. | **SE/TE:** 248, Try It!; 258, Explore It!; 269, Predict; 283, Chapter Review – Lesson 3<br>**TE Only:** 246D, Under Pressure; 246G-246H, Leveled Content Reader Support; 246, CCC: Patterns; 265a, Explore It!; 269, Science Notebook; 289a, Performance Expectation Activity; 289b, Performance Expectation Activity |

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| **3-ESS2-2 EARTH'S SYSTEMS** | |
| **Performance Expectation** | |
| Obtain and combine information to describe climates in different regions around the world. | **TE Only:** Chapter 6 Performance Expectation Activity, 289b |
| **Clarification Statement** | |
| Information could include rainfall and temperature data. | |
| **Science & Engineering Practices** | |
| **8. Obtaining, evaluating, and communicating information:** Obtaining, evaluating, and communicating information in 3–5 builds on K–2 experiences and progresses to evaluating the merit and accuracy of ideas and methods | |
| • Obtain and combine information from books and/ or other reliable media to explain phenomena or solutions to a design problem. | **SE/TE:** 250-253, STEM Activity; 358, Do Research<br>**TE Only:** 254, 21st Century Learning; 261, 21st Century Learning; 262, Differentiated Instruction – Advanced; 289a, Performance Expectation Activity; 289b, Performance Expectation Activity; 289b, ELA/Literacy; 289c, Performance Expectation Activity; 289c, ELA/Literacy |
| **Disciplinary Core Ideas** | |
| **WEATHER AND CLIMATE** | |
| Climate describes a range of an area's typical weather conditions and the extent to which those conditions vary over years. (UE.ESS2D.b) | **SE/TE:** 254, My Planet Diary; 260-261, Climate; 262-263, Factors That Affect Climate; 264-265, Seasonal Weather Patterns; Chapter Review – Lesson 2; 284, Benchmark Practice – Questions 1, 3<br>**TE Only:** 246D, Climate Classification/Did You Know? (CloudSat); 246G-246H, Leveled Content Reader Support; 260, Professional Development Note; 261, Science Notebook; 265b, Lesson 2 Check – Questions 2, 3; 283a, Chapter 6 Test – Question 3; 283b, Chapter 6 Test – Questions 3, 9; 289b, Performance Expectation Activity |

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| **Crosscutting Concepts** | |
| **PATTERNS** | |
| Patterns of change can be used to make predictions. | **SE/TE:** 248, Try It!; 258, Explore It!; 269, Predict; 283, Chapter Review – Lesson 3<br>**TE Only:** 246D, Under Pressure; 246G-246H, Leveled Content Reader Support; 246, CCC: Patterns; 265a, Explore It!; 269, Science Notebook; 289a, Performance Expectation Activity; 289b, Performance Expectation Activity |
| **3-ESS3-1 EARTH AND HUMAN ACTIVITY** | |
| **Performance Expectation** | |
| Make a claim about the merit of a design solution that reduces the impact of a weather-related hazard. | **TE Only: 289c,** Chapter 6 Performance Expectation Activity |
| **Clarification Statement** | |
| Examples of design solutions to weather-related hazards could include barriers to prevent flooding (including levees), wind-resistant roofs, tornado shelters and lightning rods. | |
| **Science & Engineering Practices** | |
| **7. Engaging in argument from evidence:** Engaging in argument from evidence in 3–5 builds on K–2 experiences and progresses to critiquing the scientific explanations or solutions proposed by peers by citing relevant evidence about the natural and designed world(s). | |
| • Make a claim about the merit of a solution to a problem by citing relevant evidence about how it meets the criteria and constraints of the problem | **SE/TE:** 250-253, STEM Activity; 361, Evaluate and Redesign; 362-363, Investigate It!<br>**TE Only:** 289c, Performance Expectation Activity; 289c, ELA/Literacy; 363a-363d, Activity Card Support |
| **Disciplinary Core Ideas** | |
| **NATURAL HAZARDS** | |
| A variety of natural hazards result from natural processes. Humans cannot eliminate natural hazards but can take steps to reduce their impacts. (UE.ESS3B.a) | **SE/TE:** 249, Let's Read Science; 250-253, STEM Activity; 270-275, Lesson 4; 283, Chapter Review – Lesson 4; 284, Benchmark Practice – Question 6; 288, Make a Poster; 303, Science Skills; 307, Interpret and Explain Data<br>**TE Only:** 246G-246H, Leveled Content Reader Support; 250, Background; 275a, Explore It!; 275b, Lesson 4 Check – Questions 1-6; 283a, Chapter 6 Test – Question 5; 289c, Performance Expectation Activity |

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| **DEVELOPING POSSIBLE SOLUTIONS** | |
| Research on a problem should be carried out before beginning to design a solution. Testing a solution involves investigating how well it performs under a range of likely conditions. (ETS.UE.1B.a) | **SE/TE:** 4-5, 42, 104-105, 156-157, 200-201, 250-251, 294-295, 342-343, 358, 374, Do Research<br>**TE Only:** 55, 21st Century Learning |
| **Crosscutting Concepts** | |
| **CAUSE AND EFFECT** | |
| Cause and effect relationships are routinely identified, tested, and used to explain change. | **SE/TE:** 248, Try It!; 250-253, STEM Activity; 256-257, Water Cycle; 262-263, Factors That Affect Climate; 288, Make a Booklet<br>**TE only:** 246C, The Water Cycle; 246, Lab Support; 257b, Lesson 1 Check, Question 6; 265b, Lesson 2 Check – Question 5 |