**­Grade 6 Science Scope and Sequence 2024-2025**

**TEKS Distribution among Units**

**Priority Standards are Bold**

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| **Content TEKS** | | | | | | | | | | | | | | | | | | | | | | | | |
|  | 6.6A | **6.6B** | 6.6C | 6.6D | **6.6E** | 6.7A | **6.7B** | 6.7C | 6.8A | 6.8B | **6.8C** | **6.9A** | 6.9B | **6.10A** | 6.10B | 6.10C | 6.11A | 6.11B | **6.12A** | 6.12B | **6.12C** | **6.13A** | 6.13B | **6.13C** |
| **Unit 1** | X | X | X | X | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Unit 2** |  |  |  |  |  | X | X | X |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Unit 3** |  |  |  |  |  |  |  |  | X | X | X |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Unit 4** |  |  |  |  |  |  |  |  |  |  |  | X | X |  |  |  |  |  |  |  |  |  |  |  |
| **Unit 5** |  |  |  |  |  |  |  |  |  |  |  |  |  | X | X | X |  |  |  |  |  |  |  |  |
| **Unit 6** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X | X |  |  |  |  |  |  |
| **Unit 7** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X | X |  |
| **Unit 8** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | X | X | X |  |  | X |

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| **Scientific and Engineering Practices (SEPs) TEKS** | | | | | | | | | | | | | | | | | | |  | **Recurring Themes and Concepts (RTCs) TEKS** | | | | | | | |
|  | 6.1A | 6.1B | 6.1C | 6.1D | 6.1E | 6.1F | 6.1G | 6.1H | 6.2A | 6.2B | 6.2C | 6.2D | 6.3A | 6.3B | 6.3C | 6.4A | 6.4B | 6.4C |  |  | 6.5A | 6.5B | 6.5C | 6.5D | 6.5E | 6.5F | 6.5G |
| **Unit 1** | X | X | X | X |  |  | X |  |  | X |  |  | X | X | X |  |  |  |  | **Unit 1** | X | X | X |  | X |  |  |
| **Unit 2** |  | X | X | X |  | X | X |  |  |  |  | X |  | X |  |  |  |  |  | **Unit 2** |  | X | X |  |  |  | X |
| **Unit 3** |  | X | X |  | X | X | X |  |  |  |  | X | X |  | X |  |  |  |  | **Unit 3** |  | X | X | X | X |  |  |
| **Unit 4** |  |  | X |  |  |  | X |  |  | X |  |  |  | X | X |  |  |  |  | **Unit 4** | X |  |  | X |  |  |  |
| **Unit 5** | X |  | X |  |  |  | X |  | X |  |  |  |  | X | X |  |  |  |  | **Unit 5** |  |  |  | X | X |  | X |
| **Unit 6** | X | X | X | X |  | X | X |  |  | X | X | X | X | X |  | X |  | X |  | **Unit 6** | X | X |  |  |  |  | X |
| **Unit 7** | X | X | X | X |  | X |  | X |  |  |  |  | X |  | X | X | X | X |  | **Unit 7** | X | X |  |  |  |  |  |
| **Unit 8** | X | X | X |  |  | X | X |  | X | X |  |  | X | X |  |  |  |  |  | **Unit 8** | X | X | X | X |  | X | X |

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| **Grade 6 Science**  **Scope and Sequence 2024-2025** | |
| **Integrated Standards:** | |
| **Scientific and Engineering Practices (SEPs)** | |
| 6.1A | Ask questions and define problems based on observations or information from text, phenomena, models, or investigations. |
| 6.1B | Use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems. |
| 6.1C | Use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards. |
| 6.1D | Use appropriate tools such as graduated cylinders, metric rulers, periodic tables, balances, scales, thermometers, temperature probes, laboratory ware, timing devices, pH indicators, hot plates, models, microscopes, slides, life science models, petri dishes, dissecting kits, magnets, spring scales or force sensors, tools that model wave behavior, satellite images, hand lenses, and lab notebooks or journals. |
| 6.1E | Collect quantitative data using the International System of Units (SI) and qualitative data as evidence. |
| 6.1F | Construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data. |
| 6.1G | Develop and use models to represent phenomena, systems, processes, or solutions to engineering problems. |
| 6.1H | Distinguish between scientific hypotheses, theories, and laws. |
| 6.2A | Identify advantages and limitations of models such as their size, properties, and materials. |
| 6.2B | Analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations. |
| 6.2C | Use mathematical calculations to assess quantitative relationships in data. |
| 6.2D | Evaluate experimental and engineering designs. |
| 6.3A | Develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories. |
| 6.3B | Communicate explanations and solutions individually and collaboratively in a variety of settings and formats. |
| 6.3C | Engage respectfully in scientific argumentation using applied scientific explanations and empirical evidence. |
| 6.4A | Relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content. |
| 6.4B | Make informed decisions by evaluating evidence from multiple appropriate sources to assess the credibility, accuracy, cost-effectiveness, and methods used. |
| 6.4C | Research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers. |

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| **Recurring Themes and Concepts (RTCs)** | |
| 6.5A | Identify and apply patterns to understand and connect scientific phenomena or to design solutions. |
| 6.5B | Identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems. |
| 6.5C | Analyze how differences in scale, proportion, or quantity affect a system's structure or performance. |
| 6.5D | Examine and model the parts of a system and their interdependence in the function of the system. |
| 6.5E | Analyze and explain how energy flows and matter cycles through systems and how energy and matter are conserved through a variety of systems. |
| 6.5F | Analyze and explain the complementary relationship between the structure and function of objects, organisms, and systems. |
| 6.5G | Analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems. |

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| **Grading Period 1** | |
| **Unit 1 Matter**  Estimated Date Range: August 8 – September 11  Estimated Time Frame: 24 days  Note: Includes 2 days for Re-engagement and Assessment | |
| **Concepts within the Unit** | **TEKS** |
| Concept #1 Safety  Suggested Days: 3 (ongoing; embedded throughout the course) | **Integrated Standards:**  *Scientific and Engineering Practices (SEPs)*  6.1C use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards. |
| Concept #2: Physical Properties  Suggested Days: 9 | **Priority Standards**  **6.6B investigate the physical properties of matter to distinguish between pure substances, homogeneous mixtures (solutions), and heterogeneous mixtures.**  **Important Standards**  6.6A compare solids, liquids, and gases in terms of their structure, shape, volume, and kinetic energy of atoms and molecules.  6.6C identify elements on the periodic table as metals, nonmetals, metalloids, and rare Earth elements based on their physical properties and importance to modern life.  6.6D compare the density of substances relative to various fluids.  **Integrated Standards:**  *Scientific and Engineering Practices (SEPs)*  6.1A ask questions and define problems based on observations or information from text, phenomena, models, or investigations.  6.1B use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems.  6.1C Use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards.  6.1D use appropriate tools such as graduated cylinders, metric rulers, periodic tables, balances, scales, thermometers, temperature probes, laboratory ware, timing devices, pH indicators, hot plates, models, microscopes, slides, life science models, petri dishes, dissecting kits, magnets, spring scales or force sensors, tools that model wave behavior, satellite images, hand lenses, and lab notebooks or journals.  6.1G develop and use models to represent phenomena, systems, processes, or solutions to engineering problems.  6.2B analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations.  6.3A develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories.  *Recurring Themes and Concepts (RTCs)*  6.5A identify and apply patterns to understand and connect scientific phenomena or to design solutions.  6.5E analyze and explain how energy flows and matter cycles through systems and how energy and matter are conserved through a variety of systems.  6.5C analyze how differences in scale, proportion, or quantity affect a system’s structure or performance. |
| Concept #3: Evidence of Chemical Change  Suggested Days: 10 | **Priority Standards**  **6.6E identify the formation of a new substance by using the evidence of a possible chemical change, including production of a gas, change in thermal energy, production of a precipitate, and color change.**  **Important Standards**  There is not an important standard for this concept.  **Integrated Standards**  *Scientific and Engineering Practices (SEPs)*  6.1C Use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards.  6.1D use appropriate tools such as graduated cylinders, metric rulers, periodic tables, balances, scales, thermometers, temperature probes, laboratory ware, timing devices, pH indicators, hot plates, models, microscopes, slides, life science models, petri dishes, dissecting kits, magnets, spring scales or force sensors, tools that model wave behavior, satellite images, hand lenses, and lab notebooks or journals.  6.2B analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations.  6.3B communicate explanations and solutions individually and collaboratively in a variety of settings and formats.  6.3C engage respectfully in scientific argumentation using applied scientific explanations and empirical evidence.  *Recurring Themes and Concepts (RTCs)*  6.5B identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems. |
| **Unit 2 Forces**  Estimated Date Range: September 12 – October 9  Estimated Time Frame: 18 days  Note: Includes 2 days for Re-engagement and Assessment | |
| **Concepts within the Unit** | **TEKS** |
| Concept #1 Types of Forces  Suggested Days: 8 | **Priority Standards**  **6.7A identify and explain how forces act on objects, including gravity, friction, magnetism, applied forces, and normal forces, using real-world applications.**  **Important Standards**  There is not an important standard for this concept.  **Integrated Standards**  *Scientific and Engineering Practices (SEPs)*  6.1C Use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards.  6.1D use appropriate tools such as graduated cylinders, metric rulers, periodic tables, balances, scales, thermometers, temperature probes, laboratory ware, timing devices, pH indicators, hot plates, models, microscopes, slides, life science models, petri dishes, dissecting kits, magnets, spring scales or force sensors, tools that model wave behavior, satellite images, hand lenses, and lab notebooks or journals.  6.1F construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data.  6.1G develop and use models to represent phenomena, systems, processes, or solutions to engineering problems.  6.2B analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations.  6.3B communicate explanations and solutions individually and collaboratively in a variety of settings and formats.  *Recurring Themes and Concepts (RTCs)*  6.5B identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems. |
| Concept #2: Newton’s Third Law of Motion  Suggested Days: 8 days | **Priority Standards**  **6.7B calculate the net force on an object in a horizontal or vertical direction using diagrams and determine if the forces are balanced or unbalanced.**  **Important Standards**  6.7Cidentify simultaneous force pairs that are equal in magnitude and opposite in direction that result from the interactions between objects using Newton's Third Law of Motion.  6.7A identify and explain how forces act on objects, including gravity, friction, magnetism, applied forces, and normal forces, using real-world applications.  **Integrated Standards**  *Scientific and Engineering Practices (SEPs)*  6.1B use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems.  6.1C Use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards.  6.2D evaluate experimental and engineering designs.  6.3B communicate explanations and solutions individually and collaboratively in a variety of settings and formats.  *Recurring Themes and Concepts (RTCs)*  6.5B identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems.  6.5G analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems.  6.5C analyze how differences in scale, proportion, or quantity affect a system's structure or performance. |

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| **Grading Period 2** | |
| **Unit 3 Energy**  Estimated Date Range: October 16 – November 22  Estimated Time Frame: 26 days  Note: Includes 3 days for Re-engagement and Assessment | |
| **Concepts within the Unit** | **TEKS** |
| Concept #1 Kinetic and Potential Energy  Suggested Days: 7 | **Priority Standards**  There is not a priority standard for this concept.  **Important Standards**  6.8A compare and contrast gravitational, elastic, and chemical potential energies with kinetic energy.  **Integrated Standards**  *Scientific and Engineering Practices (SEPs)*  6.1F construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data.  6.1B use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems.  6.1C Use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards.  6.1G develop and use models to represent phenomena, systems, processes, or solutions to engineering problems.  *Recurring Themes and Concepts (RTCs)*  6.5C analyze how differences in scale, proportion, or quantity affect a system's structure or performance.  6.5B identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems. |
| Concept #2: Waves  Suggested Days: 8 | **Priority Standards**  **6.8C explain how energy is transferred through transverse and longitudinal waves.**  **Important Standards**  There is not an important standard for this concept.  **Integrated Standards**  *Scientific and Engineering Practices (SEPs)*  6.1C Use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards.  6.1E collect quantitative data using the International System of Units (SI) and qualitative data as evidence.  6.3A develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories.  6.3C engage respectfully in scientific argumentation using applied scientific explanations and empirical evidence.  *Recurring Themes and Concepts (RTCs)*  6.5D examine and model the parts of a system and their interdependence in the function of the system.  6.5E analyze and explain how energy flows and matter cycles through systems and how energy and matter are conserved through a variety of systems. |
| Concept #3: Energy Conservation  Suggested Days: 8 | **Priority Standards**  There is not a priority standard for this concept.  **Important Standards**  6.8Bdescribe how energy is conserved through transfers and transformations in systems such as electrical circuits, food webs, amusement park rides, or photosynthesis.  **Integrated Standards**  *Scientific and Engineering Practices (SEPs)*  6.1C Use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards.  6.1G develop and use models to represent phenomena, systems, processes, or solutions to engineering problems.  6.2D evaluate experimental and engineering designs.  6.3A develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories.  *Recurring Themes and Concepts (RTCs)*  6.5E analyze and explain how energy flows and matter cycles through systems and how energy and matter are conserved through a variety of systems. |
| **Unit 4 Seasons and Tides**  Estimated Date Range: December 2 – December 20  Estimated Time Frame: 15 days  Note: Includes 2 days for Re-engagement and Assessment | |
| **Concepts within the Unit** | **TEKS** |
| Concept #1 Seasons  Suggested Days: 7 | **Priority Standards**  **6.9A model and illustrate how the tilted Earth revolves around the Sun, causing changes in seasons.**  **Important Standards**  There is not an important standard for this concept.  **Integrated Standards**  *Scientific and Engineering Practices (SEPs)*  6.1C Use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards.  6.1G develop and use models to represent phenomena, systems, processes, or solutions to engineering problems.  6.3B communicate explanations and solutions individually and collaboratively in a variety of settings and formats.  6.3C engage respectfully in scientific argumentation using applied scientific explanations and empirical evidence.  *Recurring Themes and Concepts (RTCs)*  6.5A identify and apply patterns to understand and connect scientific phenomena or to design solutions.  6.5D examine and model the parts of a system and their interdependence in the function of the system. |
| Concept #2: Tides  Suggested Days: 6 days | **Priority Standards**  There is not a priority standard for this concept.  **Important Standards**  6.9Bdescribe and predict how the positions of the Earth, Sun, and Moon cause daily, spring, and neap cycles of ocean tides due to gravitational forces.  **Integrated Standards**  *Scientific and Engineering Practices (SEPs)*  6.1C Use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards.  6.2B analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations.  6.3B communicate explanations and solutions individually and collaboratively in a variety of settings and formats.  *Recurring Themes and Concepts (RTCs)*  There is not a RTC for this concept. |

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| **Grading Period 3** | |
| **Unit 5 The Earth**  Estimated Date Range: January 9 – February 7  Estimated Time Frame: 21 days  Note: Includes 3 days for Re-engagement and Assessment | |
| **Concepts within the Unit** | **TEKS** |
| Concept #1 Earth’s Spheres  Suggested Days: 6 | **Priority Standards**  **6.10A differentiate between the biosphere, hydrosphere, atmosphere, and geosphere and identify components of each system**.  **Important Standards**  There is not an important standard for this concept.  **Integrated Standards**  *Scientific and Engineering Practices (SEPs)*  6.1A ask questions and define problems based on observations or information from text, phenomena, models, or investigations.  6.1C Use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards.  6.1G develop and use models to represent phenomena, systems, processes, or solutions to engineering problems.  6.2A identify advantages and limitations of models such as their size, properties, and materials.  *Recurring Themes and Concepts (RTCs)*  6.5D examine and model the parts of a system and their interdependence in the function of the system.  6.5E analyze and explain how energy flows and matter cycles through systems and how energy and matter are conserved through a variety of systems. |
| Concept #2: Earth’s Layers  Suggested Days: 6 | **Priority Standards**  There is not a priority standard for this concept.  **Important Standards**  6.10B model and describe the layers of Earth, including the inner core, outer core, mantle, and crust.  **Integrated Standards**  *Scientific and Engineering Practices (SEPs)*  6.1C Use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards.  6.1G develop and use models to represent phenomena, systems, processes, or solutions to engineering problems.  6.2A identify advantages and limitations of models such as their size, properties, and materials.  6.3C engage respectfully in scientific argumentation using applied scientific explanations and empirical evidence.  *Recurring Themes and Concepts (RTCs)*  6.5D examine and model the parts of a system and their interdependence in the function of the system.  6.5E analyze and explain how energy flows and matter cycles through systems and how energy and matter are conserved through a variety of systems. |
| Concept #3: The Rock Cycle | **Priority Standards**  There is not a priority standard for this unit.  **Important Standards**  6.10C describe how metamorphic, igneous, and sedimentary rocks form and change through geologic processes in the rock cycle.  **Integrated Standards**  *Scientific and Engineering Practices (SEPs)*  6.1C Use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards.  6.3B communicate explanations and solutions individually and collaboratively in a variety of settings and formats.  *Recurring Themes and Concepts (RTCs)*  6.5E analyze and explain how energy flows and matter cycles through systems and how energy and matter are conserved through a variety of systems.  6.5G analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems. |
| **Unit 6 Resource Management**  Estimated Date Range: February 10 – March 7  Estimated Time Frame: 17 days  Note: Includes 2 days for Re-engagement and Assessment | |
| **Concepts within the Unit** | **TEKS** |
| Concept #1 Air and Water Resources  Suggested Days: 8 days | **Priority Standards**  There is not a priority standard for this concept.  **Important Standards**  6.11A research and describe why resource management is important in reducing ~~global energy~~, ~~poverty~~, ~~malnutrition~~, and air and water pollution, and  6.11B explain how conservation, increased efficiency, and technology can help manage air, water, ~~soil, and energy~~ resources.  **Integrated Standards**  *Scientific and Engineering Practices (SEPs)*  6.1A ask questions and define problems based on observations or information from text, phenomena, models, or investigations.  6.1B use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems.  6.1C Use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards.  6.1D use appropriate tools such as graduated cylinders, metric rulers, periodic tables, balances, scales, thermometers, temperature probes, laboratory ware, timing devices, pH indicators, hot plates, models, microscopes, slides, life science models, petri dishes, dissecting kits, magnets, spring scales or force sensors, tools that model wave behavior, satellite images, hand lenses, and lab notebooks or journals.  6.1G develop and use models to represent phenomena, systems, processes, or solutions to engineering problems.  6.2D evaluate experimental and engineering designs.  6.3A develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories.  *Recurring Themes and Concepts (RTCs)*  6.5A identify and apply patterns to understand and connect scientific phenomena or to design solutions.  6.5B identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems. |
| Concept #2 Soil and Energy Resources  Suggested Days: 7 | **Priority Standards**  There is not a priority standard for this concept.  **Important Standards**  6.11A research and describe why resource management is important in reducing global energy, poverty, malnutrition, and ~~air and water pollution~~, and  6.11B explain how conservation, increased efficiency, and technology can help manage ~~air, water,~~ soil, and energy resources.  **Integrated Standards**  *Scientific and Engineering Practices (SEPs)*  6.1B use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems.  6.1C Use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards.  6.1F construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data.  6.2B analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations.  6.2C use mathematical calculations to assess quantitative relationships in data.  6.3B communicate explanations and solutions individually and collaboratively in a variety of settings and formats.  6.4A relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content.  6.4C research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers.  *Recurring Themes and Concepts (RTCs)*  6.5B identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems.  6.5G analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems. |

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| **Grading Period 4** | | |
| Unit 7 Organisms – Living Things  Estimated Date Range: March 17 – May 6  Estimated Time Frame: 14 days  Note: Includes 2 days for Re-engagement and Assessment; 2 days for STAAR testing | |
| **Concepts within the Unit** | **TEKS** |
| Concept #1 Cell Theory  Suggested Days: 6 | **Priority Standards**  **6.13A describe the historical development of cell theory and explain how organisms are composed of one or more cells, which come from pre-existing cells and are the basic unit of structure and function.**  **Important Standards**  There is not an important standard for this concept.  **Integrated Standards**  *Scientific and Engineering Practices (SEPs)*  6.1A ask questions and define problems based on observations or information from text, phenomena, models, or investigations.  6.1B use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems.  6.1C Use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards.  6.1D use appropriate tools such as graduated cylinders, metric rulers, periodic tables, balances, scales, thermometers, temperature probes, laboratory ware, timing devices, pH indicators, hot plates, models, microscopes, slides, life science models, petri dishes, dissecting kits, magnets, spring scales or force sensors, tools that model wave behavior, satellite images, hand lenses, and lab notebooks or journals.  6.1F use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems.  6.1H distinguish between scientific hypotheses, theories, and laws.  6.3A develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories.  6.3C engage respectfully in scientific argumentation using applied scientific explanations and empirical evidence.  6.4A relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content  6.4C research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers.  *Recurring Themes and Concepts (RTCs)*  6.5B identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems. | |
| Concept #2: Characteristics of Living Things  Suggested Days: 6 | **Priority Standards**  There is not a priority standard for this concept.  **Important Standards**  6.13B identify and compare the basic characteristics of organisms, including prokaryotic and eukaryotic, unicellular, and multicellular, and autotrophic and heterotrophic.  **Integrated Standards**  *Scientific and Engineering Practices (SEPs)*  6.1A ask questions and define problems based on observations or information from text, phenomena, models, or investigations.  6.1B use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems.  6.1C Use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards.  6.1D use appropriate tools such as graduated cylinders, metric rulers, periodic tables, balances, scales, thermometers, temperature probes, laboratory ware, timing devices, pH indicators, hot plates, models, microscopes, slides, life science models, petri dishes, dissecting kits, magnets, spring scales or force sensors, tools that model wave behavior, satellite images, hand lenses, and lab notebooks or journals.  6.1F construct appropriate tables, graphs, maps, and charts using repeated trials and means to organize data.  6.1H distinguish between scientific hypotheses, theories, and laws.  6.3A develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories.  6.4A relate the impact of past and current research on scientific thought and society, including the process of science, cost-benefit analysis, and contributions of diverse scientists as related to the content.  6.4B make informed decisions by evaluating evidence from multiple appropriate sources to assess the credibility, accuracy, cost-effectiveness, and methods used.  6.4C research and explore resources such as museums, libraries, professional organizations, private companies, online platforms, and mentors employed in a science, technology, engineering, and mathematics (STEM) field to investigate STEM careers.  *Recurring Themes and Concepts (RTCs)*  6.5A identify and apply patterns to understand and connect scientific phenomena or to design solutions.  6.5B identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems. | |
| **Unit 8 Interactions within an Ecosystem**  Estimated Date Range: April 7 – May 29  Estimated Time Frame: 50 days  Note: Includes 4 days for Re-engagement and Assessment; 2 days for State Testing | |
| **Concepts within the Unit** | **TEKS** |
| Concept #1 Ecosystem Organization  Suggested Days: 8 | **Priority Standards**  **6.12C describe the hierarchical organization of organism, population, and community within an ecosystem.**  **Important Standards**  There is not an important standard for this concept.  **Integrated Standards**  *Scientific and Engineering Practices (SEPs)*  6.1A ask questions and define problems based on observations or information from text, phenomena, models, or investigations.  6.1B use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems.  6.1C Use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards.  6.1G develop and use models to represent phenomena, systems, processes, or solutions to engineering problems.  6.3A develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories.  6.3B communicate explanations and solutions individually and collaboratively in a variety of settings and formats.  *Recurring Themes and Concepts (RTCs)*  6.5A identify and apply patterns to understand and connect scientific phenomena or to design solutions.  6.5B identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems.  6.5D examine and model the parts of a system and their interdependence in the function of the system. | |
| Concept #2 Competition Among Organisms  Suggested Days: 7 | **Priority Standards**  **6.12A investigate how organisms and populations in an ecosystem depend on and may compete for biotic factors such as food and abiotic factors such as availability of light and water, range of temperatures, or soil composition.**  **Important Standards**  There is not an important standard for this concept.  **Integrated Standards**  *Scientific and Engineering Practices (SEPs)*  6.1A ask questions and define problems based on observations or information from text, phenomena, models, or investigations.  6.1C Use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards.  6.1F use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems.  6.1G develop and use models to represent phenomena, systems, processes, or solutions to engineering problems.  6.3A develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories.  6.3B communicate explanations and solutions individually and collaboratively in a variety of settings and formats.  *Recurring Themes and Concepts (RTCs)*  6.5B identify and investigate cause-and-effect relationships to explain scientific phenomena or analyze problems.  6.5C analyze how differences in scale, proportion, or quantity affect a system's structure or performance.  6.5D examine and model the parts of a system and their interdependence in the function of the system.  6.5G analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems. | |
| Concept #3 Interactions within an Ecosystem  Suggested Days: 8 | **Priority Standards**  There is not a priority standard for this concept.  **Important Standards**  6.12B describe and give examples of predatory, competitive, and symbiotic relationships between organisms, including mutualism, parasitism, and commensalism.  **Integrated Standards**  *Scientific and Engineering Practices (SEPs)*  6.1A ask questions and define problems based on observations or information from text, phenomena, models, or investigations.  6.1C Use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards.  6.1F use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems.  6.1G develop and use models to represent phenomena, systems, processes, or solutions to engineering problems.  6.3A develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories.  6.3B communicate explanations and solutions individually and collaboratively in a variety of settings and formats.  *Recurring Themes and Concepts (RTCs)*  6.5A identify and apply patterns to understand and connect scientific phenomena or to design solutions. | |
| Concept #4 Variations in Populations  Suggested Days: 7 | **Priority Standards**  **6.13C describe how variations within a population can be an advantage or disadvantage to the survival of a population as environments change.**  **Important Standards**  There is not an important standard for this concept.  **Integrated Standards**  *Scientific and Engineering Practices (SEPs)*  6.1C Use appropriate safety equipment and practices during laboratory, classroom, and field investigations as outlined in Texas Education Agency-approved safety standards.  6.1F use scientific practices to plan and conduct descriptive, comparative, and experimental investigations and use engineering practices to design solutions to problems.  6.1G develop and use models to represent phenomena, systems, processes, or solutions to engineering problems.  6.2A identify advantages and limitations of models such as their size, properties, and materials.  6.2B analyze data by identifying any significant descriptive statistical features, patterns, sources of error, or limitations.  6.3A develop explanations and propose solutions supported by data and models and consistent with scientific ideas, principles, and theories.  6.3B communicate explanations and solutions individually and collaboratively in a variety of settings and formats.  *Recurring Themes and Concepts (RTCs)*  6.5F analyze and explain the complementary relationship between the structure and function of objects, organisms, and systems.  6.5G analyze and explain how factors or conditions impact stability and change in objects, organisms, and systems. | |