

**Content Area: Science**  
**Grade: 2**

| Unit                                                            | Enduring Understandings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Essential Questions                                                                                                                                                                                                                                                                     | Objectives                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Skills                                                                                                                                                                                                                                                                                                                                                                                                               |
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| <p style="text-align: center;">Module 1<br/>My Journey West</p> | <p>Students will understand Investigative Phenomena:</p> <ul style="list-style-type: none"> <li>Students are introduced to landforms and learn that maps are models of the real world. By creating two-dimensional paper maps and three-dimensional clay models, students learn both how to create a map and how to read one, as well as finding out about symbols.</li> <li>Students focus on the patterns of where water is found in a landscape, how it flows and collects. In addition to learning to spot water on a map,</li> </ul> | <ul style="list-style-type: none"> <li>How can we use models to understand and describe the land?</li> <li>Where is water found in a landscape?</li> <li>How can we describe the water around the world?</li> <li>How can we use our understanding of maps in our own lives?</li> </ul> | <p>Students will be able to:</p> <ul style="list-style-type: none"> <li>Use modeling clay to represent land</li> <li>Orally describe their landform creations.</li> <li>Listen to a read-aloud about how landscapes change</li> <li>Orally describe imagined landscapes</li> <li>Connect the word landscape to their own descriptive language for this idea</li> <li>Use a text to learn about a variety of landforms</li> <li>Compare landforms using academic terms and descriptions.</li> <li>Listen to a read-aloud about landforms</li> </ul> | <ul style="list-style-type: none"> <li>Asking questions and defining problems</li> <li>Developing and using models</li> <li>Planning and carrying out investigations</li> <li>Analyzing and interpreting data</li> <li>Using math and computational thinking</li> <li>Constructing explanations</li> <li>Engaging in argument from evidence</li> <li>Obtaining, evaluating, and communicating information</li> </ul> |

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|  | <p>students learn that water can be found in both liquid and solid forms and can change between forms.</p> <ul style="list-style-type: none"> <li>• Students learn about oceans and continue to describe patterns of where and in what form water is found. In the process, they continue to practice interpreting maps.</li> <li>• Students explore maps online to discover landforms in their own area. As a final task, they use their learning to find a route between two points on a map, create a model of the landforms along the route, and describe the journey.</li> </ul> |  | <ul style="list-style-type: none"> <li>• Participate in collaborative conversations with partners to describe and compare landforms</li> <li>• Connect the words landform, coast, ocean, beach, bay, island, river, ocean, lake, waterfall, glacier, canyon, valley, desert, grassland, prairie, plains, mountain, mesa, hill, and mountain range to their own descriptive language for these ideas.</li> <li>• Explore and observe the shapes of the land around them or the land in a series of visuals</li> <li>• Represent and describe the shapes of land with words and drawings.</li> <li>• Describe landforms orally to a peer</li> </ul> |  |
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|  |  |  | <ul style="list-style-type: none"><li>● Connect the words steep, steepness, slope, and flat to their own descriptive language for these ideas.</li><li>● Listen to a verbal description and determine which landform is being described</li><li>● Watch a video to find out information about landforms</li><li>● Practice using academic vocabulary to identify landforms.</li><li>● Listen to and interpret verbal descriptions</li><li>● Describe landforms in writing.</li><li>● Begin to work toward the Performance Task as they create three-dimensional landscape models, each including at least three</li></ul> |  |
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|  |  |  | <p>landforms</p> <ul style="list-style-type: none"><li>• Describe their models using academic vocabulary</li><li>• Discover that scientists can use physical models and diagrams to help them understand land.</li><li>• Describe models using academic vocabulary.</li><li>• Practice looking at a map and recognizing the landforms and features represented on it</li><li>• Describe the land that they see on the map.</li><li>• Read and discuss a text to gain information about features shown on different types of maps</li><li>• Locate places and the physical features of a</li></ul> |  |
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|  |  |  | <p>landscape on a map</p> <ul style="list-style-type: none"><li>● Identify features on a map using a key.</li><li>● Listen to a read-aloud about maps and the kinds of information maps can include</li><li>● Participate in collaborative conversations with partners about different maps</li><li>● Connect the words key, location, compass rose, north, south, east, west, and symbol to their own descriptive language for these ideas.</li><li>● Match maps to aerial photos and satellite imagery of the same locations</li><li>● Use evidence from observations of land and water shapes to support their choices.</li><li>● Read and interpret</li></ul> |  |
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|  |  |  | <p>maps.</p> <ul style="list-style-type: none"><li>• Continue to work toward the Performance Task as they draw maps of their three dimensional landscape models</li><li>• Discuss the essential elements of maps and how they help readers to understand them.</li><li>• Continue to work toward the Performance Task as they use another group's map to create a three-dimensional landscape model</li><li>• Identify the strengths and weaknesses of a given map</li><li>• Describe important features that make a map easy to understand.</li><li>• Complete the Performance Task as they evaluate</li></ul> |  |
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|                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                      | <p>and discuss the maps and landscapes they created in previous lessons</p> <ul style="list-style-type: none"> <li>● Explain a feature that makes a map easy to read.</li> </ul>                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <p>Module 2<br/>Master of Materials</p> | <p>Students will understand Investigative Phenomena:</p> <ul style="list-style-type: none"> <li>● Students discover that all things are made of materials and materials have different properties. Using hands-on exploration, video, and text, students observe, classify, compare, and contrast materials. Students also realize that objects with specific properties can be used for specific purposes.</li> <li>● Students test materials for specific properties: hardness, flexibility,</li> </ul> | <ul style="list-style-type: none"> <li>● How are different kinds of materials similar and different?</li> <li>● How can testing materials help us to understand their properties and how they can be used?</li> <li>● What materials are best for building a strong structure?</li> <li>● How can the properties of materials change?</li> <li>● How can we use the same materials to make something new?</li> </ul> | <p>Students will be able to:</p> <ul style="list-style-type: none"> <li>● Recognize that materials used in human-made objects have particular properties</li> <li>● Describe the observable properties of different kinds of materials</li> <li>● Complete a class chart based on their observations</li> <li>● Begin to identify the observable properties of different materials.</li> <li>● Find examples of objects in the classroom with specific properties</li> </ul> | <ul style="list-style-type: none"> <li>● Asking questions and defining problems</li> <li>● Developing and using models</li> <li>● Planning and carrying out investigations</li> <li>● Analyzing and interpreting data</li> <li>● Using math and computational thinking</li> <li>● Constructing explanations</li> <li>● Engaging in argument from evidence</li> <li>● Obtaining, evaluating, and communicating information</li> </ul> |

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|  | <p>absorbency, and strength. They also discover that there can be varying degrees of a given property.</p> <ul style="list-style-type: none"> <li>• This Driving Question focuses on selecting a material for a particular purpose: building a structure that won't collapse under weight. Student design and build three towers with different materials and test them to determine which materials are best suited to the purpose.</li> <li>• The focus shifts from determining observable properties of materials to how material properties can undergo changes, both reversible and irreversible.</li> </ul> |  | <ul style="list-style-type: none"> <li>• Discuss what they have learned about materials and their properties</li> <li>• Understand that materials are used for a purpose</li> <li>• Listen to and identify new information about materials and their properties</li> <li>• Organize information about materials and their properties in a concept map</li> <li>• Identify objects with particular properties</li> <li>• Classify materials according to their properties</li> <li>• Watch videos about particular materials (steel and wool), listening for and observing their properties</li> <li>• Work with a partner to identify the ways in which the</li> </ul> |  |
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|  | <p>Through hand-on exploration and videos, students explore changes, and make arguments about whether a given change is reversible or irreversible.</p> <ul style="list-style-type: none"> <li>Students observe that objects made of smaller pieces can be taken apart and reassembled in different ways. They design and build two different bridges from the same set of materials.</li> </ul> |  | <p>properties of two different materials are similar and different</p> <ul style="list-style-type: none"> <li>Record their findings about the similarities and differences of the properties of two materials using a Venn Diagram</li> <li>Devise a way of testing materials for hardness</li> <li>Observe, discuss, and evaluate the hardness of different materials</li> <li>Devise a way of testing materials for flexibility</li> <li>Evaluate the flexibility of different materials</li> <li>Identify materials that are flexible</li> <li>Conduct a test to evaluate the absorbency of different materials</li> <li>Identify materials that are absorbent</li> </ul> |  |
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|  |  |  | <ul style="list-style-type: none"><li>● Create a bar graph to reflect the findings of the test</li><li>● Conduct a test to evaluate the strengths of different materials</li><li>● Create a bar graph to reflect the findings of the test</li><li>● Complete the Performance Task as they create a design for a structure that has a particular purpose</li><li>● Choose materials for the structure based on the properties of materials and on how suitable those properties are to particular purposes</li><li>● Use observations from previous tests to make decisions about material uses.</li><li>● Analyze a familiar tale from a new perspective</li></ul> |  |
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|  |  |  | <ul style="list-style-type: none"> <li>• Determine the strength of material properties from reported “testing” data</li> <li>• Sketch a plan for a tower made of paper</li> <li>• Build a tower made of paper, with the intention of making it as strong as possible</li> <li>• Sketch a plan for a tower made of dry spaghetti</li> <li>• Build a tower made of dry spaghetti, with the intention of making it as strong as possible</li> <li>• Sketch a plan for a tower made of craft sticks</li> <li>• Build a tower made of craft sticks with the intention of making it as strong as possible</li> <li>• Make predictions about whether changes made to</li> </ul> |  |
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|  |  |  | <p>particular materials are reversible or irreversible</p> <ul style="list-style-type: none"> <li>● Observe and explain evidence of the reversible or irreversible nature of changes made to materials</li> <li>● Make and describe observations about changes to the properties of crayons that are heated to the point of melting</li> <li>● Make predictions about whether melting crayons is a reversible or irreversible change, and give reasons for these predictions</li> <li>● Observe and describe crayons that were melted and have solidified</li> <li>● Determine whether melting crayons is a reversible or an irreversible change</li> <li>● Identify the</li> </ul> |  |
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|  |  |  | <p>properties of the materials in crayons</p> <ul style="list-style-type: none"><li>• Recount the steps in the process of changing wax to crayons</li><li>• Recognize that the change of wax from solid to liquid is reversible (although the shape may change)</li><li>• Identify materials in two different states of matter</li><li>• Make predictions about whether changes made to certain materials' states of matter are reversible or irreversible</li><li>• Analyze videos for evidence of reversible or irreversible changes made to specific materials</li><li>• Compare their predictions about the reversibility and irreversibility of</li></ul> |  |
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|  |  |  | <p>changes the results of testing</p> <ul style="list-style-type: none"> <li>• Reveiw the results of the investigation changes</li> <li>• Make a claim based on evidence</li> <li>• Complete the Performance Task as they write a report explaining what happened to a shipment of ice pops</li> <li>• Observe and replicate to tower made of cubes</li> <li>• Use the same set of cubes to construct a different tower</li> <li>• Describe how an object can be disassembled and reassembled in a different way</li> <li>• Use the same set of cubes to construct two different objects</li> <li>• Compare the ways in which the two objects made of</li> </ul> |  |
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|  |  |  | <p>identical pieces are similar and different</p> <ul style="list-style-type: none"><li>• Listen to a text to identify types of bridges</li><li>• Make inferences about the materials from which bridges are made</li><li>• Predict what properties make materials good for building bridges</li><li>• Begin working on a Performance Task as they draw a sketch of a bridge based on information from the reading</li><li>• Choose materials to use for a building project based on the suitability of the materials' properties for a particular use</li><li>• Continue working toward a Performance Task as they plan and create designs for</li></ul> |  |
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|  |  |  | <p>two different bridges</p> <ul style="list-style-type: none"><li>• Continue to work toward a Performance Task as they build a specific type of bridge with a chosen set of materials</li><li>• Present and evaluate the bridges they built, and consider how the pieces can be used to build a new bridge</li><li>• Continue to work toward a Performance Task as they implement tests to gain information about the strength of the first bridge they built</li><li>• Analyze data from the tests to determine the strength of their bridge</li><li>• Continue to work</li></ul> |  |
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|  |  |  | <p>toward a Performance Task as they build a specific type of bridge with a particular set of materials</p> <ul style="list-style-type: none"> <li>• Present and evaluate the bridge they built</li> <li>• Explain that their second bridge was constructed from the same set of pieces they used to build their first bridge</li> <li>• Continue to work toward a Performance Task as they implement tests to gain information about the strength of the second bridge they built</li> <li>• Analyze data from the tests to determine the strength of their second bridge</li> <li>• Compare the results</li> </ul> |  |
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|                                     |                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                     | <p>of the tests of both bridges they had built</p> <ul style="list-style-type: none"> <li>• Complete the Performance Task as they analyze and compare multiple model bridges to understand their strengths and weaknesses</li> <li>• Discuss how various materials and shapes contributed to the successful building and testing of model bridges</li> </ul> |                                                                                                                                                                                                                                                                                   |
| <p>Module 3<br/>Save the Island</p> | <p><b>Students will understand Investigative Phenomena:</b></p> <ul style="list-style-type: none"> <li>• Students learn that some changes to landscapes happen quickly, while other changes are slow and continuous. In this context, they study Earth events such as volcanic eruptions, landslides, and glacier valley formation. Students</li> </ul> | <ul style="list-style-type: none"> <li>• How long does it take landscapes to change?</li> <li>• How do water and wind change landscapes?</li> <li>• How can we protect places from erosion by water and wind?</li> <li>• How can we save Tangier Island?</li> </ul> | <p><b>Students will be able to:</b></p> <ul style="list-style-type: none"> <li>• Ask questions based on observations of various landforms and landscapes</li> <li>• Engage with questions about how landscapes can change and how long the changes can take.</li> <li>• Listen to a read-aloud about</li> </ul>                                              | <ul style="list-style-type: none"> <li>• Asking questions and defining problems</li> <li>• Developing and using models</li> <li>• Planning and carrying out investigations</li> <li>• Analyzing and interpreting data</li> <li>• Using math and computational thinking</li> </ul> |

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|  | <p>are introduced to Tangier Island and its erosion problem.</p> <ul style="list-style-type: none"> <li>• Demonstrations, hands-on investigations, and texts give students a deeper understanding of eroding landscapes; they apply this understanding in order to define the situation on Tangier Island.</li> <li>• Students explore eight potential engineering solutions to erosion problems. Students work in teams to research, discuss, and evaluate the solutions.</li> <li>• Student teams choose the engineering solution they think will work best for Tangier Island. They sketch and build models, and simulate waves to see how effective their solutions are. Finally, teams</li> </ul> |  | <p>land shapes and forms</p> <ul style="list-style-type: none"> <li>• Ask questions about landforms.</li> <li>• Make observations about a volcanic eruption by watching a video</li> <li>• Describe changes to landscapes as seen in the video, and discuss the time frame/duration of the changes</li> <li>• Describe an example of a quickly occurring event that changes a landscape.</li> <li>• Ask questions about volcanoes</li> <li>• Record observations in writing</li> <li>• Connect the words <i>volcano</i>, <i>erupt</i>, <i>eruption</i>, and <i>quickly</i> to their own descriptive language for these ideas.</li> <li>• Listen to and</li> </ul> | <ul style="list-style-type: none"> <li>• Constructing explanations</li> <li>• Engaging in argument from evidence</li> <li>• Obtaining, evaluating, and communicating information</li> </ul> |
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|  | create posters and present their work. |  | <p>discuss a scientific article</p> <ul style="list-style-type: none"><li>● Visualize information in a text to better understand it</li><li>● Draw to explain the changes described in the article, and whether those changes occurred quickly or slowly.</li><li>● Listen to a read-aloud about about expanding islands</li><li>● Participate in collaborative conversations with partners about landscape change.</li><li>● Compare two volcanic eruption events they studied in the previous two lessons</li><li>● Record observations in graphic organizers for each volcanic event, describing the results of the</li></ul> |  |
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|  |  |  | <p>event and the amount of time it took</p> <ul style="list-style-type: none"><li>● Use evidence to support a statement that natural events which change the Earth can occur quickly or slowly.</li><li>● Fill out a graphic organizer.</li><li>● Observe images of erosion to look for differences in a landform at different points in time.</li><li>● Analyze a set of images to determine their correct sequence</li><li>● Determine that erosion can be a type of change that occurs slowly.</li><li>● Ask questions about eroded landforms</li><li>● Describe landforms in writing</li><li>● Connect the words <i>erosion</i> and <i>erode</i> to their own</li></ul> |  |
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|  |  |  | <p>descriptive language for these ideas.</p> <ul style="list-style-type: none"><li>● Make observations from images and videos of flooding to determine whether it changes a landscape quickly or slowly</li><li>● Organize observations and ideas in a graphic organizer.</li><li>● Connect the word and phrase <i>flood</i> and <i>flash flood</i> to their own descriptive language for these ideas.</li><li>● Identify evidence in a text to support their answers to questions about glaciers</li><li>● Use text and video information to determine whether changes caused by glaciers happen quickly or slowly.</li></ul> |  |
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|  |  |  | <ul style="list-style-type: none"> <li>● Read and annotate a text about glaciers</li> <li>● Participate in collaborative conversations with partners to refine scientific explanations</li> <li>● Connect the word <i>glacier</i> to their own descriptive language for this idea.</li> <li>● Analyze and record observations of sets of glacier photos from different points in time</li> <li>● Make predictions about how glaciers might affect landscapes in the future</li> <li>● Make observations and evaluations of a melting glacier model.</li> <li>● Describe images in writing.</li> <li>● Identify multiple examples of Earth events that occur</li> </ul> |  |
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|  |  |  | <p>quickly and slowly by viewing different types of media</p> <ul style="list-style-type: none"><li>● Provide evidence for determining whether an event occurs quickly or slowly.</li><li>● Apply their understanding of landscape changes and time frames to the Tangier Island problem</li><li>● Determine whether the land on Tangier Island is changing quickly or slowly, and provide evidence</li><li>● Close read an article to gain information about the problem on Tangier Island.</li><li>● Read and annotate a text about Tangier Island</li><li>● Participate in collaborative conversations with partners to develop claims.</li></ul> |  |
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|  |  |  | <ul style="list-style-type: none"> <li>● Use evidence from a text to write an argument about whether the changes on Tangier Island are occurring slowly or quickly.</li> <li>● Write a scientific argument.</li> <li>● Review the idea that Earth events can happen quickly or slowly</li> <li>● Observe a series of beach photos and write questions about why the beach disappeared</li> <li>● Ask questions about beaches.</li> <li>● Observe a demonstration of wave erosion</li> <li>● Illustrate a “before and after” drawing to show changes observed during the wave erosion demonstration</li> <li>● Complete a graphic organizer identifying cause</li> </ul> |  |
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|  |  |  | <p>and effect for wave erosion.</p> <ul style="list-style-type: none"> <li>• Connect the words <i>waves</i> and <i>wave erosion</i> to their own descriptive language for these ideas.</li> <li>• Use a model to demonstrate wind erosion</li> <li>• Observe and record results in their Twig Books</li> <li>• Complete a cause-and effect graphic organizer about wind erosion.</li> <li>• Connect the phrase <i>wind erosion</i> to their own descriptive language for this idea.</li> <li>• Listen to, and discuss, a text about erosion</li> <li>• Determine how wind, water, and storms affect a landscape.</li> <li>• Listen to a</li> </ul> |  |
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|  |  |  | <p>read-aloud about erosion</p> <ul style="list-style-type: none"><li>● Participate in collaborative conversations with partners to improve scientific explanations</li><li>● Connect the word <i>storm</i> to their own descriptive language for these ideas.</li><li>● Collaborate with a team to read, discuss, and answer questions about a text</li><li>● Complete a Performance Task by determining criteria for a solution to the Tangier Island problem.</li><li>● Listen to and read along with a read-aloud about Tangier Island</li><li>● Participate in collaborative conversations with</li></ul> |  |
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|  |  |  | <p>partners to improve responses.</p> <ul style="list-style-type: none"><li>● Ask questions about the structure and function of an engineering solution</li><li>● Analyze various photos of erosion solutions to determine their function</li><li>● Understand that structures can be engineered to prevent coastal erosion.</li><li>● Ask questions about concrete armor</li><li>● Connect the words and phrases <i>protect</i>, <i>protection</i>, <i>solution</i>, <i>riprap</i>, <i>concrete armor</i>, and <i>prevent</i> to their own descriptive language for these ideas.</li><li>● Read and understand a text describing an engineering</li></ul> |  |
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|  |  |  | <p>solution to erosion</p> <ul style="list-style-type: none"> <li>● Use the information gained from text and video to determine whether a solution meets a set of criteria.</li> <li>● Participate in collaborative conversations with partners to refine ideas</li> <li>● Connect the words and phrases <i>levee</i>, <i>seawall</i>, <i>retaining wall</i>, and <i>breakwater</i> to their own descriptive language for these ideas.</li> <li>● Read and understand a text describing an engineering solution to erosion</li> <li>● Use the information gained from a text and a video to determine whether a solution meets a set of criteria.</li> <li>● Connect the words</li> </ul> |  |
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|  |  |  | <p>and phrases <i>beach nourishment</i>, <i>vegetation</i>, <i>managed retreat</i>, and <i>windbreak</i> to their own descriptive language for these ideas.</p> <ul style="list-style-type: none"><li>● Share key information about engineering solutions with their team members.</li><li>● Participate in collaborative conversations with partners to broaden understanding</li><li>● Make predictions about the effects of storms of various sizes and strengths</li><li>● Watch a video to identify important information about the effectiveness of an engineering solution.</li><li>● Discuss and compare a set of engineering</li></ul> |  |
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|  |  |  | <p>solutions</p> <ul style="list-style-type: none"><li>• Complete a Performance Task by evaluating the best engineering solution for a given erosion problem.</li><li>• Listen to and read along with a read-aloud about an erosion problem</li><li>• Write a design argument.</li><li>• Review the engineering solutions from previous lessons pertaining to erosion with their teams</li><li>• Evaluate possible solutions for the Tangier Island problem with a team, and decide on one solution</li><li>• Continue working towards the final Performance Task as they make a sketch of their chosen engineering</li></ul> |  |
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|  |  |  | <p>solution.</p> <ul style="list-style-type: none"><li>● Participate in collaborative conversations as a team to evaluate design solutions</li><li>● Continue working toward the final Performance Task as they write an explanation for why a certain solution will help solve a problem involving erosion</li><li>● Determine and describe the relationship between the solution's structure and its function.</li><li>● Choose appropriate materials to use in a model solution for the Tangier Island project</li><li>● Create a model of their chosen engineering solutions for the Tangier Island project with their</li></ul> |  |
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|  |  |  | <p>team.</p> <ul style="list-style-type: none"><li>● Test their model in a wave tank</li><li>● Draw the results of the test and compare it to how the model looked before the test</li><li>● Evaluate how well their solution model prevented erosion.</li><li>● Create a poster with their team to display their solution to the erosion problem on Tangier Island</li><li>● Organize writing, drawings, and photos for visual display on the poster.</li><li>● Make posters of design arguments as a team.</li><li>● Participate in a gallery walk to view other teams' solution posters</li><li>● Finish the final Performance Task</li></ul> |  |
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|                                   |                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                       | <p>as they complete a graphic organizer that evaluates two posters from the gallery walk, to determine if the models solved the Tangier Island problem</p> <ul style="list-style-type: none"> <li>• Self-assess their team's solution poster.</li> <li>• Present posters orally to peers.</li> </ul>                                                                                        |                                                                                                                                                                                                                                                                                                                                                             |
| <p>Module 4<br/>A Garden Life</p> | <p>Students will understand Investigative Phenomena:</p> <ul style="list-style-type: none"> <li>• Students will think about how the types of living things vary from habitat to habitat. Students observe the living things in three habitats (desert, rain, forest, farm) using an interactive. They design and execute a study comparing the biodiversity in tow areas of their</li> </ul> | <ul style="list-style-type: none"> <li>• How can we compare different habitats?</li> <li>• How can we help the plants in our garden grow?</li> <li>• How will the plants and animals in oru garden depend on each other?</li> <li>• How can we design a garden that will help pollinators?</li> </ul> | <p>Students will be able to:</p> <ul style="list-style-type: none"> <li>• Apply prior knowledge to create a representation of a habitat</li> <li>• Explain that a living thing's habitat provides everything it needs to survive</li> <li>• Identify living things and habitat details (non-living things) in a habitat</li> <li>• Use comparative language to describe habitats</li> </ul> | <ul style="list-style-type: none"> <li>• Asking questions and defining problems</li> <li>• Developing and using models</li> <li>• Planning and carrying out investigations</li> <li>• Analyzing and interpreting data</li> <li>• Using math and computational thinking</li> <li>• Constructing explanations</li> <li>• Engaging in argument from</li> </ul> |

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|  | <p>school.</p> <ul style="list-style-type: none"> <li>Students begin the process of designing a garden habitat for plants and animals. They plan and execute experiments to see if plants need water and light to grow, making predictions, drawing conclusions, and sharing their results with the class. They will apply their findings toward the creation of their garden plan.</li> <li>Students explore the interdependence of plants and animals (including humans) by investigating pollination in detail. Students discover how the structures of plant and pollinator parts are related to their functions and</li> </ul> |  | <ul style="list-style-type: none"> <li>Observe and record the types of living things found in a desert habitat</li> <li>Think about how different living things are found in different habitats</li> <li>Observe and record the types of living things found in a rain forest habitat</li> <li>Continue thinking about how different living things are found in different habitats</li> <li>Observe and record the types of living things found in a farm habitat</li> <li>Compare the types of living things found in different habitats</li> <li>Use a Venn diagram to compare the living things found in different habitats</li> <li>Analyze data they previously collected and draw</li> </ul> | <p>evidence</p> <ul style="list-style-type: none"> <li>Obtaining, evaluating, and communicating information</li> </ul> |
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|  | <p>influence their interactions.<br/>Students choose a pollinator and construct a model to show how it pollinates plants.</p> <ul style="list-style-type: none"> <li>• Students draw on learning from throughout the module to design pollinator gardens. In the final task, they build and present dioramas of their gardens using what they have learned about pollinators, plants and their habitats.</li> <li>• Students draw on learning from throughout the module to design pollinator gardens. In the final task, they build and present dioramas of their gardens using what they have learned about pollinators, plants</li> </ul> |  | <p>conclusions about different habitats</p> <ul style="list-style-type: none"> <li>• Use a model to observe and describe the biodiversity of three different habitats</li> <li>• Determine how the type and number of living things in a habitat can differ</li> <li>• Define biodiversity</li> <li>• Learn about studying a habitat by sampling</li> <li>• Identify examples of biodiversity in a backyard habitat described in a text</li> <li>• Apply the concept of looking at biodiversity by observing it in a backyard, then generalize this concept for other habitats</li> <li>• Understand the sampling method of studying biodiversity</li> <li>• Begin to work</li> </ul> |  |
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|  | and their habitats. |  | <p>toward the Performance Task by planning an investigation of the biodiversity in various habitats around the school</p> <ul style="list-style-type: none"><li>• Continue to work toward the Performance Task by carrying out a collaboratively developed investigation plan</li><li>• Observe and record the living things they find in different habitats/areas around the school</li><li>• Use a sampling method to study the biodiversity of an area</li><li>• Analyze the data they collected in the previous lesson</li><li>• Draw conclusions about the types of living things in each of the areas they observed</li></ul> |  |
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|  |  |  | <ul style="list-style-type: none"> <li>• Complete the Performance Task by comparing the living things they found in the two different areas</li> <li>• Read an informational text</li> <li>• Make textual inferences</li> <li>• Learn about cartoons as a text type</li> <li>• Discuss how to design an experiment to answer a question</li> <li>• Plan an investigation to determine what plants need to grow</li> <li>• Identify cause and effect in the relationship between plants' needs and growth</li> <li>• Begin to work toward the Performance task by starting an investigation into the effects of water</li> </ul> |  |
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|  |  |  | <p>and sunlight on plant growth</p> <ul style="list-style-type: none"><li>• Discuss how to observe and measure the growth of their plants</li><li>• Continue to work toward the Performance Task by interpreting the data they collected in their plant-growth investigation</li><li>• Determine that plants need both water and light to survive and grow</li><li>• Discuss how the absence of water or light prevents a plant from growing</li><li>• Complete the Performance Task by writing a report to share the findings of their investigations</li><li>• Use evidence to support a scientific claim</li><li>• Self-assess their</li></ul> |  |
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|  |  |  | <p>writing about their claim</p> <ul style="list-style-type: none"><li>● Identify various ecological relationships between plants and animals</li><li>● Discuss seed dispersal as an example of how plants depend on animals</li><li>● Use a role play to demonstrate how pollination occurs</li><li>● Discuss how the structure of an object can contribute to its function</li><li>● Determine that different flowers have different pollinators</li><li>● Identify relationships between specific plants and their pollinators</li><li>● Determine how the colors and shapes of flowers are</li></ul> |  |
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|  |  |  | <p>related to their pollinators</p> <ul style="list-style-type: none"><li>● Obtain information from a text about the relationship between plants and pollinators</li><li>● Read to determine which information is important and which is interesting</li><li>● Determine the main idea across multiple paragraphs</li><li>● Describe the significance of pollinators and human impact on pollinators</li><li>● Watch a video to identify important information and share ideas with team members</li><li>● Begin to work toward the Performance Task by designing a model of a pollinator and the plant it pollinates</li><li>● Explain how the</li></ul> |  |
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|  |  |  | <p>structures found on plants and pollinators are related to their functions</p> <ul style="list-style-type: none"><li>● Provide reasoning for hte choice of materials used in their models</li><li>● Continue to work toward the Performance Task by building models of plants and pollinators according to their designs</li><li>● Apply understanding of the pollination process and of the concept of structure and function</li><li>● Complete the Performance Task by writing reports about their pollination models</li><li>● Apply understanding of the pollination process and of the</li></ul> |  |
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|  |  |  | <p>concept of structure and function in their writing</p> <ul style="list-style-type: none"><li>● Demonstrate the function of an animal in pollinating plants, using the models built in Lesson 8</li><li>● Communicate knowledge of the pollination process</li><li>● Watch a video to obtain information about artificial pollination</li><li>● Design a garden habitat to support plants and pollinators</li><li>● Apply principles about habitats, biodiversity, pollination, and plant growth to a garden design</li><li>● Discuss how sketches are helpful when sharing ideas and planning</li><li>● Review previous garden designs</li></ul> |  |
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|  |  |  | <ul style="list-style-type: none"> <li>• Read in order to identify new information about pollinators and pollinator gardens</li> <li>• Revise garden designs based on this information</li> <li>• Begin to build garden dioramas based on their sketches</li> <li>• Apply principles about habitats, biodiversity, pollination, and plant growth to a garden design</li> <li>• Choose appropriate materials to represent ideas in a model</li> </ul> |  |
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